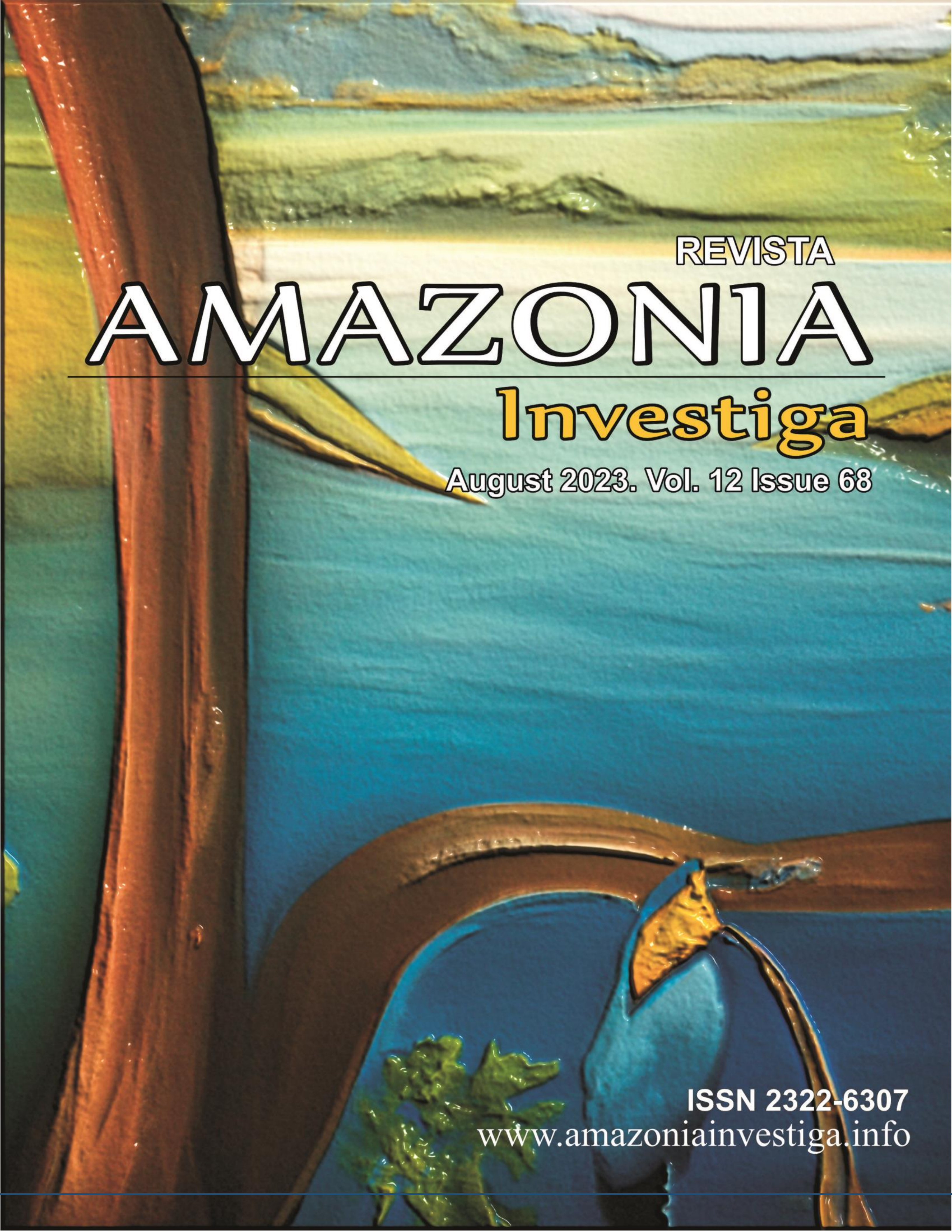


REVISTA

AMAZONIA Investiga

August 2023. Vol. 12 Issue 68

ISSN 2322-6307

www.amazoniainvestiga.info

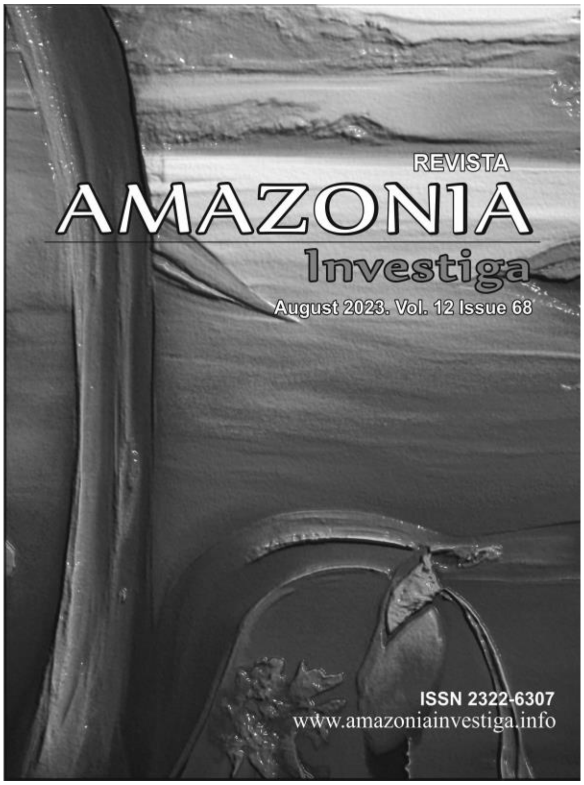
Periodicity
Montly
Since: 2012

 ISSN 2322- 6307

 ISSN 2322- 6307

Virtual, multidisciplinary and monthly scientific publication

VOLUME 12 - ISSUE 68



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AMAZONIA Investiga

Volume 12 - Issue 68 / August 2023

CONTENIDO

DOI: https://doi.org/10.34069/AI/2023.68.08.1

How to Cite:

Alam, F. (2023). Human Capital and Economic Growth in India: The ARDL Approach. *Amazonia Investiga*, *12*(68), 9-20. https://doi.org/10.34069/AI/2023.68.08.1

Human Capital and Economic Growth in India: The ARDL Approach

رأس المال البشري والنمو الاقتصادي في الهند :منهج ARDL

Received: January 16, 2023 Accepted: March 30, 2023

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Abstract

We used time series data on variables, real GDP, physical capital stock and human capital index of India to examine the relationship between these three variables oyer the period 1972-2019. The auto-regressive distributed lag (ARDL) model and the bound test of co-integration reveal that physical capital stock, human capital index and GDP are co-integrated only when GDP is used as the dependent variable. Moreover, the negative and statistically significant value of the coefficient of adjustment in the error correction model further reinforces that there is a long-run relationship between these variables. This long-run relationship also reveals that both physical capital stock and the human capital index positively impact GDP growth in India. Growth in the human capital index is not found to be dependent on either GDP or physical capital stock. Since the human capital index is constructed based on years of schooling and returns to education, we infer from it that education stimulates economic growth in India. Hence, India has reaped the benefits in the form of economic growth by adopting the policy of free and compulsory education for its populace.

Keywords: Human Capital, Physical Capital, Economic Growth, ARDL Model, Bound Test.

ملخص

لقد استخدمنا بيانات السلسلة الزمنية للمتغيرات، الناتج المحلي الإجمالي الحقيقي، ومخزون رأس المال الفيزيائي ومؤشر رأس المال البشري في الهند لفحص العلاقة بين هذه المتغيرات الثلاثة خلال الفترة 1972-2019 .أظهرت واختبار (ARDL) نموذج الخطأ الموزع الذاتي التأخيري حدود التكامل أن مخزون رأس المال الفيزيائي ومؤشر رأس المال البشري والناتج المحلي الإجمالي متكاملون فقط .عندما يتم استخدام الناتج المحلي الإجمالي كمتغير معتمد علاوة على ذلك، فإن القيمة السلبية والإحصائية المعنوية لمعامل التعديل في نموذج تصحيح الخطأ تعزز أكثر من ذلك أن هناك علاقة طويلة الأمد بين هذه المتغيرات .كما يكشف هذا العلاقة طويلة الأمد أن مخزون رأس المال الفيزيائي ومؤشر رأس المال البشري يؤثران إيجابياً على نمو الناتج المحلي الإجمالي في الهند .لم يتم العثور على نمو ري أن يكون معتمدًا علىxفي مؤشر رأس المال البش .الناتج المحلي الإجمالي أو مخزون رأس المال الفيزيائي حيث أن مؤشر رأس المال البشري يتم بناءه استنادًا إلى سنوات التعليم وعوائد التعليم، نستنتج من ذلك أن التعليم يحفز النمو الاقتصادي في الهند .وبالتالي، حققت الهند الفوائد في شكل نمو اقتصادي من خلال اعتماد سياسة التعليم المجاني والإلزامي لسكانها

،كلمات مفتاحية :رأس المال البشري، رأس المال الفيزيائي اختبار الحدود، ARDL النمو الاقتصادي، نموذج.

Introduction

The economic growth of a nation hinges on its growth of the stock of physical, and human capital and the level of technology it uses in the production of goods and services. Growth in physical capital stock is generally considered an important determinant of economic growth but the growth theories predict that long-run sustained growth is not possible only through capital accumulation. The modern endogenous growth theories rely on human capital growth for long-run sustained growth in a country. Endogenous growth theorists consider knowledge, education, research and development as the key drivers of technological changes that sustain growth in a country.

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The attributes of workers that can potentially enhance their productivity in any productive activity are called human capital. Workers accumulate these attributes mostly through investments. Becker (1965) and Mincer (1984) developed the early human capital theories. These theories explain the role of human capital in the production process and the incentives to invest in skills, in the form of schooling, on-the-job investments, and training. Their analysis emphasizes the productivity-enhancing role of human capital.

Schultz (1961) and Nelson & Phelps (1966) provided an alternative perspective on human capital. According to their perspectives, the main role of human capital is not to enhance productivity in current tasks, but to help workers cope with changes, disruptions and especially the adoption of new technologies. Nelson and Phelps's (1966) perspectives on the role of human capital are significant in many cases. For instance, a number of empirical evidence suggests that more educated farmers are more likely to adopt new technologies and seeds (Foster & Rosenzweig, 1996).

Some growth literature with empirical evidence supports Nelson and Phelps' perspectives on human capital. This literature found a stronger correlation between economic growth and levels of human capital than between economic growth and changes in human capital. Benhabib and Spiegel (1994) suggest that this may be for the reason that the most important role of human capital is not to increase the productive capacity in current activities but to facilitate the adoption of new technology.

Human capital represents people's investment in acquiring skills, education and training that raise their productivity. The theory that explains the economic behaviour of people towards the acquisition of education and training as an investment is called human capital theory. Human capital theories given by Schultz (1971), Sakamota & Powers (1995), and Psacharopoulos & Woodhall (1985) are founded on the premise that education plays a key role and is essential for improving the productive efficiency of people engaged in economic activities.

Nelson & Phelps (1966) and Benhabib & Spiegal (1994) observed that labour force with more education has the ability to make innovations faster. Lucas (1988) and Mankiw et al., (1992) found that the increase in human capital enhances the productivity of other factor inputs which raises economic growth. Their models explain that the rate of economic growth depends on the rate of human capital accumulation. Narayan & Smith (2004) found that human capital, income and export are co-integrated when export is used as a dependent variable, but they are not co-integrated when human capital or income is used as a dependent variable.

Thus, in economic growth literature, both bi-directional and unidirectional causality is suggested between human capital and economic growth.

The neoclassical growth models brought the role of technology into prominence for long-run economic growth. However, since the technology is assumed to be exogenous, they do not explain the mechanism through which technological change takes place in an economy.

In contrast to neoclassical growth models, the endogenous growth models put forward some explanations for technological change which is thought to be the key to long-run economic growth in a country. Intellectual property rights, scale and quality of research and education are the most important factors which cause technological changes. Scientific research and education are complements and reinforce each other. They are fountainheads of all types of innovations in a country. For a country with a large educated population base, it is much easier to learn, disseminate and adopt any new knowledge or innovation. India is one of the few countries which have successfully developed a big educated population base by adopting the policy of free and compulsory education for all children till the age of 14.

Hence, we aim to analyze if India has reaped the benefits of high economic growth from the policy of expanding education by providing free and compulsory education to its populace.

The primary objective of this article is to test causal relationships between physical capital, human capital and real GDP by applying the bond test of co-integration and the model of error correction using time series data for India from 1972 to 2019. The article makes some unique contributions to the strand of existing empirical literature linking physical capital, human capital and real GDP. This research endeavour is expected to further the understanding of the nature of this relationship and assist in policy-making and its execution.

Firstly, it uses the modern econometric technique of the ARDL bound testing model developed by Pesaran & Shin (1999) and Pesaran et al., (2001) to examine the long-run relationship among the above three variables. Secondly, it uses the Penn World Table data on the human capital index which is much broader than any other measure of it, as a substitute for human capital. Finally, it uses time series observations which are long enough to validate the estimated parameters.

The remaining article is organized as follows. In section 2, we discuss the theoretical underpinning and empirical evidence related to the estimated models and discuss the relationship among the above three variables. In section 3, we describe the variables included and how they have been constructed, the data sources for these variables and the econometric methods of data analysis adopted. Section 4 covers results and discussion. Finally, we conclude the paper in section 5.

Literature Review

The Solow (1956) model is the principal model to understand the long-run economic growth and cross-country variations in income. The production function in this model is expressed as $Y_t = A_t F(K_t, N_t)$ where A_t is an exogenous variable that measures productivity and K_t and N_t denote capital stock and labour force respectively in period t. This production function is believed to show diminishing marginal product to each factor input but constant returns to scale. The model also assumes perfect competition in the input market.

Given the above-mentioned properties of production function together with Solow's (1956) model assumptions predicts a positive relationship between capital and output per worker and between technological change and output per worker. However, the sustained increase in output per worker is determined only by exogenous technological growth. Thus, in the neoclassical growth model, the government or policymakers have no role to play in promoting long-run growth.

Lucas (1988) and Loening (2004) highlighted the role of human capital as an independent factor of production in their endogenous growth models. Mankiw et al., (1992) used the modified Solow model to directly incorporate human capital, in production functions and emphasized the need to adjust the labour force for all types of qualitative changes as in the course of time they acquire and embody the human capital with them.

The neoclassical growth models assume that productivity rises entirely exogenously and is not caused by any factor included in the model. The fact is that endogenous growth models are also based on the assumed growth relationships. However, as compared to neoclassical growth models, endogenous growth theories propose a mechanism within the model that gives rise to returns to scale which can potentially outweigh the diminishing marginal product. Thus, productivity may be assumed to be dependent on even size of capital per worker. The increasing returns to scale might be realized by a firm as people learn collectively from the experience gained through learning by doing as new capital is added (Arrow, 1962). In the same way as the accumulation of capital has the potential to increase productivity, growth in inputs like human capital, skills and technical knowledge can trigger a rise in productivity and cause sustained long-run growth by generating increasing returns to scale.

One of the earliest studies on the connection between education and economic growth is by Lucas (1988). He proposed that the development of human capital, which is dependent on the amount of time people devote to learning new skills, is essential for economic growth. Rebelo (1991) expanded this concept by adding physical capital as a second input to the function of accumulating human capital. Romer’s (1990) endogenous growth model makes the assumption that new ideas are results of human capital, which takes the form of knowledge. Investment in human capital therefore enhances physical capital, which in turn spurs economic growth. Benhabib & Spiegel (1994) identified human capital development as a source of economic progress.

Human capital, according to Mincer (1984), is essential for a nation to experience sustained economic growth and development since it is both the cause and the impact of growth and development. The Granger causality test was used by De Meulemeester & Rochat (1995) to determine whether there was a connection between higher education enrollments and economic growth in six nations (Australia, France, Italy, Japan, Sweden, and the United Kingdom) for various time periods between the year1885 and 1987. They discovered a short-run unidirectional causal relationship between higher education enrollment and economic growth in France, the United Kingdom, Sweden, and Japan as well as a bidirectional relationship in Italy and Australia.

Bils & Klenow (2000) also addressed the relationship between the above two variables and found that, in the cross-country correlation, the causal impact of education on economic growth is as strong as the reverse causation from economic growth to the acquisition of education. A uni-directional connection from education to economic growth in India was discovered by Pradham (2009) using annual data from year 1951 to 2002 and the error-correction modelling technique.

However, several studies (In & Doucouliagos, 1997; Asteriou & Agiomirgianakis, 2001; Bo-nai & Xiong-Xiang, 2006) also presented empirical evidence in support of a bi-directional correlation between education and economic growth.

In both Pakistan and India, Abbas (2000) discovered a large and positive correlation between human and material capital. Using the impulse response function, Haldar & Mallik (2010) discovered that investments in education had a positive and statistically significant influence on investments in health and increase GNP per capita. Tamura (2006) discovered that the young adult death rate was favourably correlated with the fertility rate, and adversely correlated with both education level and rate of return from education.

Hanushek (2013) contends that raising educational standards help emerging countries prosper economically over the long term. According to Zang & Lihuan (2011), postsecondary education is more crucial for boosting China's economic growth than primary or secondary education.

An extensive data set on regional human capital and other characteristics from the 19th and 20th centuries was investigated by Diebolt & Hippe (2019), who discovered that historical regional human capital was a significant factor in explaining current regional differences in innovation and economic development. As a result, unidirectional as well as bidirectional interactions between y, pc, and hc are suggested by economic theories and empirical evidence.

Methodology

The time series data on Gross Domestic Product (GDP) at constant 2011 national prices (in mil. 2011 US$), Physical Capital (PC) stock at constant 2011 national prices (in mil. 2011 US$), and Human Capital (HC) index, based on years of schooling and returns to education for the period 1972-2019, are analyzed in this article. Each of these three variables was transformed into the natural log and denoted by the letters y, pc, and hc, respectively. The data on all of the aforementioned variables were compiled from the Penn World Tables, version 10.01 (Feenstra et al., 2015).

In order to test the long-term associations between y, pc, and hc, a three-step technique is used. Each variable is subjected to the Dickey-Fuller unit root test in the first stage. After estimating the auto-regressive distributed lag (ARDL) model, we perform the bound test of co-integration if the variables are integrated of a different order, but no variable is integrated of order two provided that they are also co-integrated. For the purpose of confirming the equilibrating relationships between them, we additionally estimate the ARDL error correction model (ECM). We, thereafter, use a variety of model adequacy tests.

To perform the bounds test of co-integration among the variables y, pc and hc, the conditional ARDL error correction model involving variables y, pc and hc are specified as follows:

$$\Delta y_t = a_{11} + b_{11}t + \sum_{i=1}^{p} \alpha_{i1}\, \Delta y_{t-i} + \sum_{i=1}^{p} \beta_{i1}\, \Delta pc_{t-i} + \sum_{i=1}^{p} \gamma_{i1}\, \Delta hc_{t-i} + \sigma_{11} y_{t-1} + \sigma_{12} pc_{t-1} + \sigma_{13} hc_{t-1} + u_{1t} \quad (1)$$

$$\Delta pc_t = a_{21} + b_{22}t + \sum_{i=1}^{p} \alpha_{i2}\, \Delta pc_{t-i} + \sum_{i=1}^{p} \beta_{i2}\, \Delta y_{t-i} + \sum_{i=1}^{p} \gamma_{i2}\, \Delta hc_{t-i} + \sigma_{21} pc_{t-1} + \sigma_{22} y_{t-1} + \sigma_{23} hc_{t-1} + u_{2t} \quad (2)$$

$$\Delta hc_t = a_{31} + b_{32}t + \sum_{i=1}^{p} \alpha_{i3}\, \Delta hc_{t-i} + \sum_{i=1}^{p} \beta_{i3}\, \Delta y_{t-i} + \sum_{i=1}^{p} \gamma_{i3}\, \Delta pc_{t-i} + \sigma_{31} hc_{t-1} + \sigma_{32} y_{t-1} + \sigma_{33} pc_{t-1} + u_{3t} \quad (3)$$

Hypotheses:

H_0: $\sigma_{1j}=\sigma_{2j}=\sigma_{3j}$ (where j=1, 2, 3)

H_1: $\sigma_{1j} \neq \sigma_{2j} \neq \sigma_{3j} \neq 0$

Here, y is the log of real GDP, pc is the log of real physical capital stock, and hc is the human capital index. Δ is the first difference operator. For evaluating the significance of the lagged values of the variables, the F-test is used to examine long-run links between the variables. If a long-run association between the variables is present, the F-test identifies which variable needs to be normalized.

Based on the literature review and previous empirical research findings, we examine three different relationships, the first one with y as a dependent variable, the second one with pc as a dependent variable and the third one with hc as a dependent variable as follows:

$y_t = f_1(pc_t, hc_t)$ (4)

$pc_t = f_2(y_t, hc_t)$ (5)

$hc_t = f_2(y_t, pc_t)$ (6)

If the cointegration test suggests two cointegrating equations, we apply the vector error correction model to test the validity of these long-run relationships. Alternatively, the ARDL model will be applied if a single cointegrating equation is found with y as a dependent variable. Moreover, we also estimate the ARDL error correction model (ECM) which is specified below for checking the validity of the underlying long-run relationship:

$$\Delta y_t = a_{11} + b_{11}t + \sum_{i=1}^{p} \alpha_{i1} \Delta y_{t-i} + \sum_{i=1}^{p} \beta_{i1} \Delta pc_{t-i} + \sum_{i=1}^{p} \gamma_{i1} \Delta hc_{t-i} + \emptyset ECT_{t-1} + e_t \quad (7)$$

Toda and Yamamoto Test of Causality

We estimate the Toda & Yamamoto (1995) test of causality between variables if they are cointegrated based on the aforementioned relationships. The extended VAR model, which serves as the foundation for this test, is defined as follows:

$$y_t = a_{11} + \sum_{i=1}^{p} \alpha_{i1} y_{t-i} + \sum_{i=p+1}^{p+d_{max}} \alpha_{i1} y_{t-i} + \sum_{i=1}^{p} \beta_{i1} pc_{t-i} + \sum_{i=p+1}^{p+d_{max}} \beta_{i1} pc_{t-i} + \sum_{i=1}^{p} \gamma_{i1} hc_{t-i} + \sum_{i=p+1}^{p+d_{max}} \gamma_{i1} hc_{t-i} + u_{1t} \quad (8)$$

$$pc_t = a_{21} + \sum_{i=1}^{p} \alpha_{i2} pc_{t-i} + \sum_{i=p+1}^{p+d_{max}} \alpha_{i2} pc_{t-i} + \sum_{i=1}^{p} \beta_{i2} y_{t-i} + \sum_{i=p+1}^{p+d_{max}} \beta_{i2} y_{t-i} + \sum_{i=1}^{p} \gamma_{i2} hc_{t-i} + \sum_{i=p+1}^{p+d_{max}} \gamma_{i2} hc_{t-i} + u_{2t} \quad (9)$$

$$hc_t = a_{31} + \sum_{i=1}^{p} \alpha_{i3} hc_{t-i} + \sum_{i=p+1}^{p+d_{max}} \alpha_{i3} hc_{t-i} + \sum_{i=1}^{p} \beta_{i3} y_{t-i} + \sum_{i=p+1}^{p+d_{max}} \beta_{i3} y_{t-i} + \sum_{i=1}^{p} \gamma_{i3} pc_{t-i} + \sum_{i=p+1}^{p+d_{max}} \gamma_{i3} pc_{t-i} + +u_{3t} \quad (10)$$

where d_{max} is the maximum order of integration of a variable among all the variables.

Results and Discussion

Stationarity & Unit Root Test

Augmented Dickey-Fuller (Dickey & Fuller, 1979) and KPSS (Kwiatkowski et al., 1992) unit root tests are applied on the time series data of each variable. Both the tests show that only y is stationary at the first difference while the other two variables are not stationary at either level or the first difference (table 1).

Table 1.
Conventional Stationarity Test

	ADF Test Statistic	KPSS Test Statistic
Variables	Constant & Trend	Constant & Trend
y	0.25934 [0]	0.267675*[6]
pc	-1.72430 [1]	0.163011**[6]
hc	-2.45066 [1]	0.261547*[6]
Δy	-8.63207*[0]	0.120007[11]
Δpc	-2.182730 [1]	0.218061*[6]
Δhc	-2.24624 [0]	0.172501**[5]

* Shows level of significance at 1% and ** at 5%.
Source: Author's own calculation.

However, all the three variables are found to be stationary at the first difference when we apply Zivot-Andrews (Zivot & Andrews, 1992) unit root test allowing for one break in both intercept & trend. Hence, we find that the ARDL modelling is appropriate for examining a long-run relationships between these variables (Table 2).

Table 2.
Zivot-Andrew Unit Root Test Allowing for One Break in Intercept & Trend

Variables	Intercept & Trend
y	-3.38985[0]
pc	-4.90381[1]
hc	-3.77950[1]
Δy	-9.22192*[0]
Δpc	-5.21705**[0]
Δhc	-5.80606*[0]

*& ** denote the level of significance at 1%. & 5% respectively. Lags selected by the BCI criterion are given in the brackets.
Source: Author's own calculation.

Cointegration Analysis

For applying the ARDL model, variables must be integrated maximum of order 1. We applied Augmented Dickey Fuller test on each variable for ascertaining the order of integration of each variable. The results show that each of series pc and hc is I(0) but y is I(1). Therefore, we proceed to next step for applying ARDL model involving the above three variables.

Under the second step, we apply bounds test on each of y, pc and hc with separately y and pc as a dependent variable for checking the presence of co-integration among the variables. The results of bounds test with F-statistic reveal that there is co-integration among the variables only when y is used as a dependent variable.

The F-statistic value of 7.43961 with y as the dependent variable is higher than the 5% I(1) critical bound. Because y is the dependent variable, the null hypothesis that there is no long-run link between y, pc, and hc is rejected. The F-statistic value of 3.85872 with pc as the dependent variable is below the 5% I(0) critical bound. Since pc is the dependent variable, we could not reject the null hypothesis that there is no long-term link between y, pc, and hc. Similar to this, the value of F-statistic 2.99925 with hc as the dependent variable is below the 5% I(0) critical bound. As a result, the test does not successfully refute the null hypothesis that there is no long-term link between the three variables (Table 3).

Table 3.
The F-Bounds Test of Co-integration with Unrestricted Constant and Restricted Trend

Null Hypothesis: There is No Level Relationships						
Dependent Variable	F-statistic Value	Signif.	I(0)	I(1)	Co-integration	Decision
Δy	7.43961	5%	3.43	4.26	Yes	Estimate Error Correction Model
Δpc	3.85872	5%	3.43	4.26	No	Estimate ARDL short-run Model
Δhc	2.99925	5%	3.43	4.26	No	Estimate ARDL short-run Model

Source: Author's own calculation.

Results of the ARDL Error Correction Model

For checking the validity of the ARDL model involving co-integrated variables, we estimate the ARDL (8, 4, 8) Error Correction model and apply the diagnostics check for the model adequacy. Table 4 displays the outcomes of the error correction model. For the confirmation of a long-run relationship between the three variables y, pc, and hc with y as the dependent variable, the value of the Error Correction Term (ECTt-1) coefficient ϕ in equation (7) must be negative and significant (Table 4).

The value of coefficient of the error correction is -0.99210 which is negative as expected and also statistically significant at 1%. Moreover, the absolute value of it is very close to 1. Hence, the results of the estimated Error Correction Model validate the long-run relationship among these three variables (Table 4).

It is advisable to look at the rate of adjustment in the ARDL model. In the table below, CointEq(-1) is used to represent the Error Correction Term (ECT), and its coefficient is -0.99210. It is negative and statistically significant at 1%. It implies that about 99.2% of the deviation from the long-run relationship is corrected within a period of one year. Further, the large value -5.91692 of t-statistic of this coefficient is significant at 1% (Table 4).

Table 4.
ARDL (8, 4, 8) Error Correction Regression with Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y(-1))	0.649981	0.145837	4.456906	0.0003
D(Y(-2))	0.385203	0.126835	3.037049	0.0074
D(Y(-3))	0.693082	0.129855	5.337342	0.0001
D(Y(-4))	0.256853	0.109971	2.335637	0.0320
D(Y(-5))	0.617502	0.106781	5.782899	0.0000
D(Y(-6))	0.291044	0.081085	3.589389	0.0023
D(Y(-7))	0.427118	0.079566	5.368079	0.0001
D(K)	1.496388	0.25584	5.848909	0.0000
D(K(-1))	-2.596669	0.352445	-7.36758	0.0000
D(K(-2))	1.041373	0.432721	2.406569	0.0278
D(K(-3))	-0.854532	0.36466	-2.34337	0.0315
D(HC)	3.619642	0.459079	7.884579	0.0000
D(HC(-1))	-4.543449	0.741394	-6.12825	0.0000
D(HC(-2))	2.490531	0.706831	3.523519	0.0026
D(HC(-3))	-0.745108	0.607399	-1.22672	0.2366
D(HC(-4))	-0.873996	0.491118	-1.77961	0.0930
D(HC(-5))	0.296343	0.557731	0.531336	0.6021
D(HC(-6))	-2.187674	0.626971	-3.48928	0.0028
D(HC(-7))	2.786586	0.450589	6.184315	0.0000
CointEq(-1)*	-0.992102	0.167672	-5.91692	0.0000
R-squared	0.903398			
Adjusted R-squared	0.811626			
Durbin-Watson stat	1.969814			

*Denotes level of significance at 1%.
Source: Author's own calculation.

The table below shows the findings of the long-term associations between the three variables. The pc and hc coefficients are positive as predicted and significant at 1%. As a result, pc and hc have a positive relationship with y. To put it another way, increasing physical and human capital has a favourable effect on economic growth (Table 5).

Table 5.
Levels Equation with y as Dependent variable (Model with Restricted Constant and no Trend)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
pc	0.61536	0.05647	10.89666*	0.0000
hc	0.87709	0.15541	5.64374*	0.0000
c	3.33801	0.65571	5.09066*	0.0001

*Denotes significance at 1%.
Source: Author's own calculation.

The Diagnostic Check

First, we check to see if the model's residuals are homoscedastic and serially uncorrelated. To determine whether the model's residuals are serially uncorrelated, we perform the Breusch-Godfrey Serial Correlation LM Test. The null hypothesis of no serial connection is not rejected by the F-statistic's p-value of 0.4579. As a result, Table 6 shows that the errors are serially uncorrelated (Table 6).

Table 6.
Results of the Diagnostic Checks

Type of Test	Test Statistic	Value	df	Probability
Specification test	F-statistic	1.20647	(1, 16)	0.2883
Ramsey RESET (1)	Likelihood ratio	2.90787	1	0.0881
Ramsey RESET (2)	F-statistic	1.17253	(2, 15)	0.3364
	Likelihood ratio	5.81034	2	0.0547
Normality test	Jarque-Bera	3.22171		0.1997
Breusch-Godfrey Serial	F-statistic	0.82068	(2, 15)	0.4579
Correlation LM Test	Obs*R-squared	3.94528	2	0.1391
Breusch-Pagan-Godfrey Test of	F-statistic	0.76957	(22, 17)	0.7218
Heteroskedasticity	Obs*R-squared	19.9590	22	0.5856

Source: Author's own calculation.

Similarly, we use the Breusch-Pagan-Godfrey test of heteroskedasticity to see if there is heteroskedasticity in the residuals. That the errors are homoscedastic serves as the test's null hypothesis. The F-statistic has a value of 1.67301 and a corresponding p-value of 0.7218, neither of which even slightly rejects the null hypothesis. As a result, Table 6 shows that the residuals are homoscedastic.

We apply the Jarque-Bera test of normality on the residuals. Ede3r The value of the Jarque-Bera test statistic is 3.22171 which does not reject the null that the errors are normally distributed at 5% level of significance (Table 6).

For evaluating the stability of the model, we used the CUSUM test, which is based on the cumulative sum of the recursive residuals. It displays cumulative sum plots with 5% critical lines. If the graph of the cumulative total passes any of the two critical lines, this test shows parameter instability. The 5% significance lines are not crossed by the blue line graph. Hence, the model is found to be stable (Figure 1).

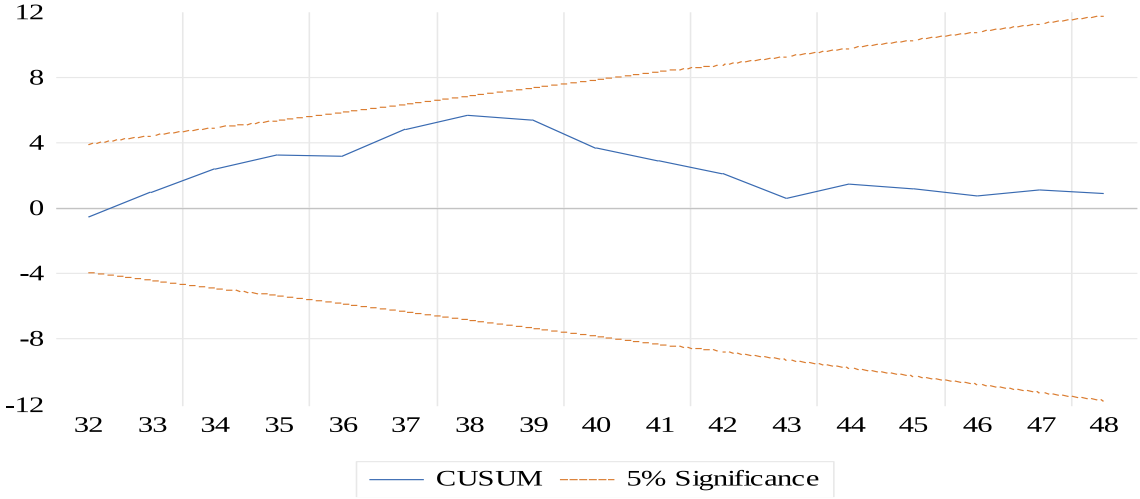

Figure 1. CUSUM Test of Model Stability
Source: Author's own construction.

Similarly, CUSUM of Squares test of model stability also reveals model stability as the middle blue line graph remains well within the 5% significance lines (Figure 2).

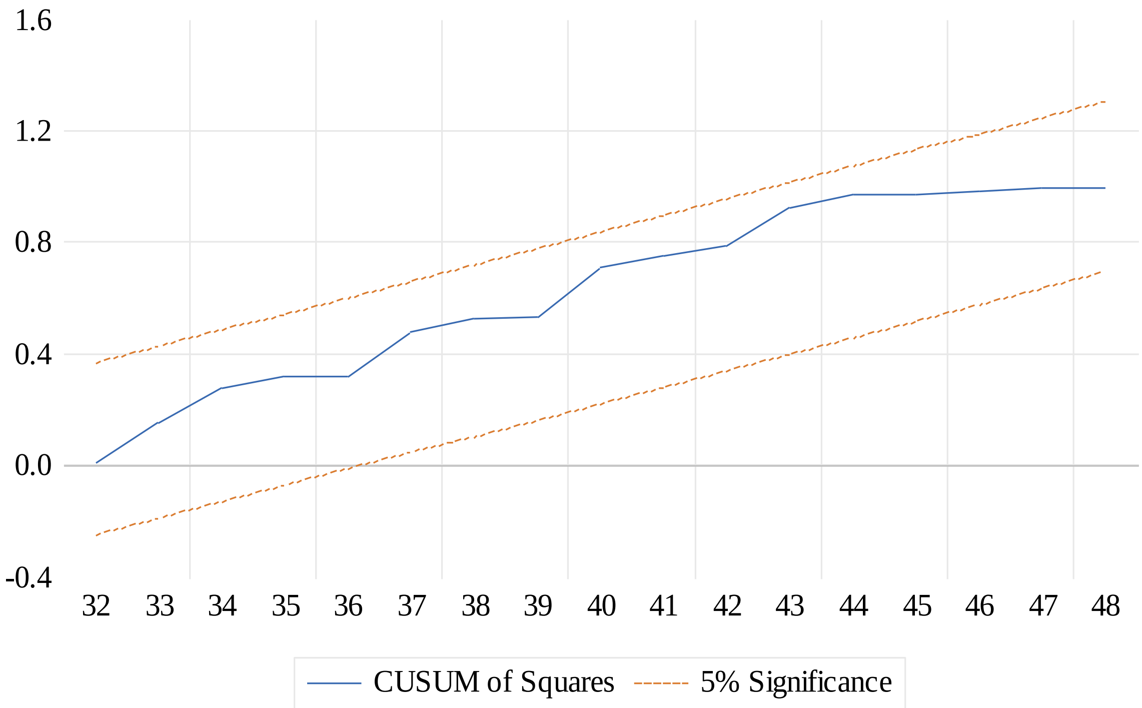

Figure 2. CUSUM of Squares Test of Model Stability
Source: Author's own construction.

Thus, we discover a long-run unidirectional relationships among y, pc and hc. Both pc and hc have a positive and significant effects on y. Besides factor accumulation through raising saving rate, increases in total factor productivity, driven by, among others, knowledge and technology transfers due to trade openness fueled the largest part of India's GDP growth (World Bank, 2018). Our findings also conform to it. However, our findings are not in agreement with the endogenous model of growth of Romer (1990) which argues that investments in human capital encourage growth in physical capital and boost economic growth. Our findings show that investments in human capital stimulate economic growth however its inverse is not true against the assertion of Mincer (1984) who argues that human capital is both cause and effect of economic growth and development. Bils & Klenow (2000) examined the causality and suggested that the causation from economic growth to acquisition of education and that from education to economic growth are equally important in the cross-country association. Some other studies (In & Doucouliagos, 1997; Asteriou & Agiomirgianakis, 2001; Bo-nai & Xiong-Xiang, 2006), however, found evidence in support of a bi-directional relationships between economic growth and human capital.

Toda and Yamamoto Causality Test

We run the VAR model for choosing the best lags using the lag order selection criteria before performing this causality test. The majority of the lag selection criteria (Table 7) advise including 3 lags. The VAR (3) model is augmented by the highest level of integration discovered between the variables for this causality test. Hence, we estimate an expanded VAR (4) model by adding lags equal to the maximum order of integration to each variable for the Toda & Yamamoto (1995) test of causality (Table 8).

Table 7.
VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	125.0803	NA	6.2555	-5.6781	-5.5552	-5.6328
1	414.8391	525.6091	9.0319	-18.7367	-18.2452	-18.5554
2	463.8899	82.1314	5.1761	-20.5995	-19.7394*	-20.2823
3	476.3102	19.0637*	4.4980*	-20.5995	-19.5298	-20.3054*
4	481.4321	7.14684	5.5604	-20.5995	-18.9808	-19.9891
5	491.5379	12.6909	5.5830	-20.5995	-18.6636	-19.9046

* Indicates lag order selected by a criterion.
Source: Author's own calculation.

Table 8.
Results of Toda & Yamamoto (1995) Causality Test

Hypothesis	Chi-sq	df	Prob.	Inference
hc does not Granger-cause y	15.96215	4	0.0031*	Causality from hc to y
pc does not Granger-cause y	9.270363	4	0.0547***	Causality from pc to y
y does not Granger-cause hc	2.625963	4	0.6222	No causality from y to hc
pc does not Granger-cause hc	4.493356	4	0.3433	No causality from pc to hc
y does not Granger-cause pc	4.811609	4	0.3072	No causality from y to pc
hc does not Granger-cause pc	3.474789	4	0.4817	No causality from hc to pc

*and **** show level of significance at 1% and 10% respectively.
Source: Author's own calculation.

Conclusion

Time series data on three variables namely, real GDP, physical capital stock and human capital index for India over the period 1972-2019 were used for examining the relationships among them. The Autoregressive Distributed Lag (ARDL) model was chosen after applying the various stationary tests. The ARDL model combined with the bound test of co-integration confirm that physical capital stock, human capital index and GDP are co-integrated only when GDP is used as a dependent variable. Additionally, the error correction model within the ARDL model's framework's negative and statistically significant value of the adjustment coefficient further substantiates the validity of the long-run relationship between the aforementioned variables with GDP as the dependent variable. Toda & Yamamoto (1995) causality test accounting for the maximum order of integration also reveals that the causality runs from both physical capital stock and human capital index towards the real GDP in India over the period 1972-2019. The reverse causality is not found either from GDP to human capital index or from GDP to physical capital stock. Since, human capital index is constructed by including years of schooling and returns to education, we infer that education has been stimulating economic growth in India during the period 1972-2019. Hence, India has reaped the benefits of high economic growth from expanding education by adopting the policy of free and compulsory education for its populace.

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DOI: https://doi.org/10.34069/AI/2023.68.08.2
How to Cite:
Knysh, I., Budanova, O., Vakulenko, S., Syrotina, O., & Popychenko, S. (2023). Innovative educational technologies as a way of higher education enhancement. *Amazonia Investiga*, *12*(68), 21-32. https://doi.org/10.34069/AI/2023.68.08.2

Innovative educational technologies as a way of higher education enhancement

Інноваційні освітні технології як засіб удосконалення вищої освіти

Received: June 10, 2023 Accepted: July 15, 2023

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Abstract

The article examines the interconnected functions of the innovative activity of the teacher, which contribute to the improvement of higher education. The purpose of the article is to consider innovative educational technologies as a means of improving higher education and to prove their impact on the training of a modern competitive specialist. The methodology shows the connection of the main methodological approaches of professional training of a modern competitive specialist with the help of innovative educational technologies as a means of improving higher education. The levels of training of the future specialist with innovative educational means are highlighted. The classification of innovative educational technologies was carried out. The importance of hybrid courses, which include a form of combination of distance learning and face-to-face learning, is shown. The features are identified and the necessity of innovative educational technologies for the improvement of

Анотація

У статті розглянуто взаємопов’язані функції інноваційної діяльності викладача, що сприяють удосконаленню вищої освіти. Метою статті є розгляд інноваційних освітніх технологій як засобу удосконалення вищої освіти та доказу їх впливу на підготовку сучасного конкурентоспроможного фахівця. Методологія показує зв’язок основних методичних підходів професійної підготовки сучасного конкурентоспроможного фахівця за допомогою інноваційних освітніх технологій як засобу вдосконалення вищої освіти. Виокремлено рівні підготовки майбутнього фахівця інноваційними освітніми засобами. Здійснено класифікацію інноваційних освітніх технологій. Показано важливість гібридних курсів (hybrid courses), що включають форму поєднання дистанційного навчання та очного. Визначено особливості та показано необхідність інноваційних освітніх технологій для удосконалення вищої освіти. Інноваційні освітні технології мають переваги у вищій

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higher education is shown. Innovative educational technologies have advantages in higher education. The criteria of innovations in the educational process are singled out. The features of innovative training are listed, which are of great importance for the improvement of higher education and, as a result, obtaining a competitive specialist.

Keywords: innovative educational technologies, improvement of higher education, specialist training, competitiveness, innovative professional activity.

освіті. Виокремлено критерії інновацій в освітньому процесі. Перераховано особливості інноваційного навчання, що мають велике значення для удосконалення вищої освіти і як результат, отримання конкурентоздатного фахівця.

Ключові слова: інноваційні освітні технології, удосконалення вищої освіти, підготовка фахівця, конкурентоздатність, інноваційна фахова діяльність.

Introduction

The higher school faces the task of creating conditions for the training of innovatively oriented specialists who were able to ensure the future accelerated development of high-tech industries with high export potential, which will allow for maintaining a high rate of development of the national economy. The importance and urgent possibility of fulfilling these tasks force higher educational institutions to actively search for effective forms and methods of training modern specialists. This process is not easy, as it requires new forms of organization and functioning of higher educational institutions, increasing their institutional flexibility, strengthening the adaptive potential of study programs, teaching methods, and deepening the scientific component in the educational process (Saukh, 2011).

The modern socio-cultural and socio-economic situation in the world requires a change in the quality requirements for a specialist of any profile for successful and qualified professional activity, competitive demand for a specialist in the labor market, constant promotion at work, social security, and fruitful life in general. And it is the use of opportunities in the educational field that is the main direction of personality formation. It is the educational sector with the help of innovative means that increases the level of human competence, develops intelligence, and makes a person competitive in any field of activity. Therefore, in today's world, there is a question about improving the system of training specialists and restructuring higher education. To this end, increasing the effectiveness of education, modernizing the content of education, and educating future specialists can be effective only with the help of innovative technologies. The educational process in institutions of higher education takes place from the material and educational and methodological base of the institution, taking into account the scientific and pedagogical potential and modern information technologies. At the same time, the focus is on the formation of a harmonious, educated, developed personality who can constantly update professional knowledge throughout his life, be a professionally mobile person and quickly adapt in the educational and social, and cultural spheres to dynamic processes, innovative technologies of work organization, in management systems in the conditions market economy (Bida et al., 2018). Therefore, the main task of higher education becomes the development of the student's abilities and qualities that would allow him to create a qualitatively new social space, readily implement and perceive innovations, and successfully adapt to constantly changing competitive conditions. A characteristic modern trend of higher education is innovativeness, which, relative to other fields of human activity, has an anticipatory character, and determines openness to new (Voloshyna, 2014). Therefore, we consider innovative educational technologies as a means of improving higher education.

Literature Review

The theoretical analysis of the problem indicates a wide range of scientific investigations, the results of which serve as a basis for further research.

The conceptual foundations of innovative educational processes are considered in the socio-philosophical context of civilizational changes, the justification of a new paradigm of education, and the search for ways to overcome its crisis state.

Scientists devoted their work to the study of theoretical and applied aspects of development as changes through innovation, building up innovative potential and strategic resources, increasing the competitiveness of business entities, taking into account the interests of current and future generations. In particular O. Bida, O. Shevchenko, & O. Kuchai (2018) consider the reform of the educational sector as a necessary condition of today, which makes possible the use of innovative technologies in higher education as one of the promising directions of society's development. Scientists clarified the meaning of the terms "pedagogical technology" and "innovation"; the need and importance of the introduction of innovative technologies into the education of modern society are shown, and the theoretical and pragmatic importance and implementation of "high technologies" is indicated. The study is aimed at improving the professional training of specialists using innovative technologies, which scientists conditionally divide into groups depending on the form of educational activity appropriate for their use.

Recently, the problem of innovations in education has been in the center of attention of many researchers.

O. Polievikova, & Zh. Shurda (2019) proposed a technology of innovative direction, which directs interactive training of young people in pairs of variable composition, which gives a person the opportunity to become an individual and make the student of education a formed value of humanity, creating an atmosphere of cooperation in the class, leads to interaction between the teacher and the future specialist. Methodical tips for the teacher and student are provided for working in pairs of variable composition.

I. Dychkivska (2004) examines the multifaceted and complex phenomenon of innovative activity; the content of innovative activity includes components of the interaction of personalities, individualizes the educational process, directs it to professional development, and the transition to a qualitatively new state. Represents innovative activity for combining various operations and actions systematically and as the main type of creative activity, directs it to the provision and acquisition of innovative knowledge, technologies, application and mastering of new means.

R. Hurevych (2014) showed the influence of innovative technologies on the training of a modern specialist, developed innovative technologies for the educational sector, showed the possibilities of applying innovative learning technologies in the modern educational space of higher education institutions, and the possibilities of integrating the use of Internet services, and proved the impact of innovative technologies on the quality of training of a future specialist.

Scientists emphasize that the implementation of informatization in the educational process and its digitization allows the implementation of a new format of education.

S. Sysoieva, & K. Osadcha (2019) analyzed innovative technologies in institutions of higher education; the modern innovative state of distance learning was investigated; features of distance learning technologies, and the possibilities of using distance learning in higher education institutions are shown.

M. Kyrychenko, & L. Serheieva (2018) present different approaches to innovative scientific developments, and innovative technologies in the field of education, show the influence of innovative technologies on the training of a modern competitive specialist, highlight trends, directions, technologies, conditions, and principles of open education. in the analysis of scientists, all aspects of the educational process of the institution of higher education are involved, because the modernity of the educational field indicates the need for significant innovative changes, unification of specialists from different fields of knowledge, for the existence of the open education movement; objectivity is proven and the content of the quality of higher education for education seekers, employers, and society is presented.

O. Onats (2018), the managerial activity of the head of a higher education institution was investigated; features of management technologies are highlighted; recommendations were developed and the essence of the content of innovative technologies for managerial activities was shown; the areas of application of management technologies are shown; proposed standards developed for management technologies in the field of economics and business, which can be useful for higher education institutions in the management process to ensure the effectiveness of the educational space on a global scale.

O. Chubukova, & I. Ponomarenko (2018) reflected on the specifics, highlighted both the newest and most significant technologies, as well as common and distinctive features of virtual and augmented reality; their necessity and significance for the educational process, the creation of appropriate products and their use by companies is revealed.

T. Desiatov (2020) made an analysis of the content of the educational process and outlined the ways of its modernization when using digital content. Recommendations for the high-quality implementation of innovative technologies are offered, which enable students to leave contact time to acquire knowledge, independently study professional material, learn the practice of knowledge, conduct subject discussions, acquire practical skills, and improve laboratory practices.

System, scientifically based implementation technology innovations in educational institutions in both domestic and foreign pedagogical innovations are not presented. Effective methods of examination, selection and monitoring of innovations are practically not used. Issues of development remain insufficiently covered innovative potential of educational institutions, in particular, innovative competence of teachers to implement innovations. Mechanisms for forming innovative missions, strategies, and the environment of educational institutions require further development and roles in these processes of subjects of innovative activity. The difficulties that pedagogical teams constantly face when implementing innovations actualize the need for scientific, methodological and informational support innovations.

In view of the above, it can be stated that the problem of high-quality training of future specialists as a means of introducing innovative teaching methods in the educational process of a higher education institution is urgent and requires its scientific and practical solution.

The purpose of the article. Consider innovative educational technologies as a means of improving higher education and show their impact on the training of a modern competitive specialist.

Methodology

To achieve the goal, the following research methods were used: theoretical, analysis of psychological, philosophical, scientific and methodical pedagogical literature, foreign authors and domestic scientists to determine the categorical and conceptual apparatus of research, analysis of programs, methodological materials, training manuals, methodological documentation; synthesis, generalization, comparison, design, modeling, to determine the structure and essence of innovative educational technologies as a means of improving higher education and showing their impact on the training of a modern competitive specialist.

The essence of the study stems from the content and nature of the professional training of a modern competitive specialist with the help of innovative educational technologies as a means of improving higher education.

The research is based on the idea that the fundamentalization of the educational space of specialist training is considered the main direction of improving the quality of professional and general professional training of the future specialist, its modernization, which contributes to the development of a personality capable of assimilating innovative knowledge, self-education, self-study throughout life.

The implementation of such an idea in the conditions of a higher education institution is based on the following interconnected concepts: methodological, theoretical, and methodical.

The methodological concept substantiates the connection between the main methodological approaches of professional training of a modern competitive specialist with the help of innovative educational technologies as a means of improving higher education. In the context of their potential opportunities, the main approaches are used to develop and substantiate the specified problem.

The systematic approach is applied with the aim of professional training of a modern competitive specialist with the help of innovative educational technologies as a means of improving higher education, the pedagogical system, since the systematic approach involves consideration of all elements of the system to each other: the theory and paradigm of education, the methodology of education, content, goals, organizational systems, the learning process, the content of education.

The synergistic approach shows the idea of non-linearity, openness, multivariate innovation systems, self-realization, self-development, the implementation of reproductive and transformative innovation processes in interaction with the educational innovation space and all innovative educational systems. The provisions of synergetic make it possible for the entire educational space to single out the regularities of the educational system, which are subordinated to each other.

System-synergistic approach to the innovativeness of education is a multivariate style of thinking (conceptual and methodological pluralism, the ambiguity of theoretical constructions, a combination of abstract-logical, rational, figurative-intuitive, irrational; postulating chaos as a necessary innovative moment of reality that realizes itself, arises; the combination of knowledge innovativeness of the external world in its innovative development with internal knowledge.

From the standpoint of the activity approach, which is extremely important for education, innovativeness has the same structural elements as the content of education: the experience of cognitive activity fixed in the form of results; in the form of the ability to make innovative decisions in problem situations; in the form of the ability to act according to the model, experience in implementing innovative methods of activity; experience of emotional relationships; in the form of personal orientations, experience of creative and innovative activity. Each previous element is a prerequisite for the next one, so these elements are interconnected.

The competency approach is the basis of ensuring the professional training of a modern competitive specialist with the help of innovative educational technologies, considers general professional competence as a dynamic integral property of an individual, which reflects his innovative attitude to fundamental and applied disciplines, and considers the professional quality training of a modern competitive specialist with the help of innovative educational technologies mainly in the improvement of higher education.

The prognostic approach made it possible to solve the tasks of innovative educational technologies, improvement, modernization, transformation, and pedagogical educational innovation processes aimed at a promising innovative future.

The personally-oriented approach was used for the holistic study of the role of innovative educational technologies as a means of improving higher education and the joint activities of the teacher and the learner, aimed at the formation of the general and professional culture and creative abilities of the personality of a competitive specialist.

The information approach provides an opportunity for the formation of innovative orientation in the educational space, to operate with innovative information based on the use of modern innovative educational technologies as a means of improving higher education, information, and communication technologies for the effective performance of professional duties in accordance with market needs.

The theoretical concept provides an opportunity to define and substantiate the leading concepts of the study, including the organizational and pedagogical principles of substantiating the importance for the educational sector of innovative educational technologies as a means of improving higher education.

The methodological concept involves checking the effectiveness of the system of introducing innovative educational technologies into the educational process as a means of improving higher education.

Results and Discussion

The reason for educational reforms in the global space is the development of innovative educational technologies as a means of improving higher education, which improves the sector of the economy and turns education into an innovative space. Following the market principles of the economy, democratic values, scientific and technical achievements in the world by organizing the educational process, updating the content of the educational field, innovative, accelerated development of education takes place (Slushnyi, 2021).

Innovative educational technologies ensure the competitiveness of the institution of higher education in the market of educational services and create all the conditions for improving the quality of education. By innovative educational technologies, as a means of improving higher education, we mean technologies created based on innovations. Innovative educational technology is a technology aimed at improving the quality of education, thought out in every detail, with the help of which the main educational goals are achieved (Polishchuk et al., 2022).

We will distinguish the levels of training of the future specialist with innovative educational means:

– first level – existing education;
– second level – direct training in an innovative educational environment, basic courses, classes, master classes, modular courses, seminars;

- third level – approbation of educational results using innovative methods;
- fourth level – implementation of the results of educational activities, using innovative educational technologies (Strilets, 2015).

Innovative educational technologies are classified by groups.

Digital technologies. They are used to create digitization processes in society, digitalization of the consciousness of future specialists, and integration with informatics of subject industries in a professional competitive aspect. With the help of the introduction of digital technologies, a radical restructuring of the educational process is taking place, where computer software and innovative tools are of primary importance in the study of professional disciplines. This approach forms the digital culture of a specialist, improves educational motivation, increases the productivity of a specialist in any field and the results of education, and makes it mandatory to include in the curriculum educational disciplines aimed at mastering digital technologies. (Shuliak et al., 2022)

Management of the quality of education and information and analytical support of the educational process. The use of such innovative technology is the main means of monitoring, general control of education seekers, the study of the system of work of a higher education institution, study of the state of teaching of professional disciplines, etc.; objectively allows to help in the development of each student, educational institution, course, group (Kuchai & Kuchai, 2019).

Personally oriented technologies put the individual at the center of the educational system, provide conflict-free, comfortable, safe conditions for the educational process, contribute to the development of education seekers and the realization of human natural potential. With this approach, Man is not a means of achieving the proposed goal, but the main goal of a quality education system (Kuchai, 2013).

Educational technologies. In modern educational conditions, the training of a competitive specialist is implemented in the form of innovative educational technologies, and additional forms of personality development: participation in mass cultural events, self-government, etc.

Monitoring of the intellectual development of the individual. This innovative technology includes quality diagnostics and analysis of the education of each future specialist with the help of testing and construction of graphs of the dynamics of the success rate of education seekers (Puhach et al., 2021).

Didactic technologies. Innovative educational technologies as a means of improving higher education are used in the implementation of group work, independent work of students, differentiated learning methods – project protection, didactic game, "consultant" system, "small group" system, learning using audiovisual technical means. Various combinations of educational techniques are used to improve the educational process (Vovk & Matvienko, 2020).

In the modern process of education, innovative pedagogical methods are widely used. Their basis is the maximum proximity to the real professional activity of the future specialist, interactivity: information technologies; technologies of collective and group training; "case method" technology; simulation technologies; computer modeling; interactive technologies; video training method; technologies for processing debatable issues; technologies of situational modeling; text-centric learning technology; project technology; differentiated learning technologies and others. Innovative educational technologies are considered to be: distance technologies, E-Learning, and technologies of anticipatory learning. Nowadays, the use of modern means of communication is mandatory: chat rooms; e-mail; websites; multimedia products; forums; portals; video conferences and internet broadcasts; electronic teaching aids; search services for electronic encyclopedias, textbooks, dictionaries, reference books, exercisers, photos, blogs, documents, audio and video recordings, etc. (Slushnyi, 2021).

In institutions of higher education, learning technologies and innovative forms of organization of the educational process are inextricably linked with the creation of innovative tools for the creative activity of teachers and students (material and technical support). Internet networks and computer classes with wide access to the Internet have the main importance in this approach (Artiomov et al., 2015).

Innovative educational technologies that serve as a mandatory improvement of higher education include:

– electronic database on innovations in higher education;
– generalization of the learned best professional experience and its distribution in the educational sphere on a domestic, European, and global scale;
– organization of works on the problems of professional education: applied, fundamental, educational, and methodical;
– organization and holding of seminars, conferences, and training courses for the professional public from innovative methods of teaching professional disciplines.

Recently, hybrid courses have been used in foreign educational institutions, which include a combination of distance learning and face-to-face learning. With this educational approach, students independently study individual courses in an electronic format, which does not exclude direct contact between students and the teacher. When integrating distance education into face-to-face education, there is a new formulation of the concept of "distance of the student from the teacher", which emphasizes the pedagogical aspect, not the physical phenomenon of distance. With the help of distancing, there is an opportunity to provide the student with autonomy, which allows him to significantly improve the organization of independent work. In distance education, the information-analytical system is an educational complex in which the advantages of all forms of teaching educational material are manifested – a study guide and a textbook for independent study of the material; manuals for explaining the content of practical classes, lecture notes; methods of innovative direction; course design; laboratory work; reference literature.

This process is provided by two subsystems:

1) an information system for analyzing the degree of assimilation of professional material and monitoring the entire educational process;
2) applied programming and a multimedia complex of theoretical material, laboratory work, and practical classes for solving problems in the educational field (Saukh, 2011).

Innovative educational technologies, in particular, distance learning technology, are relevant and necessary, require greater self-organization, provide an opportunity to choose their rhythm of education, provide students with the opportunity to carry out high-quality continuous independent work, provide opportunities for self-expression, and form an information culture among students. Such technology improves the content of carrying out and performing laboratory and practical tasks, systematizes materials, provides an opportunity at any convenient time to acquire knowledge in a professional field, and improves professional skills throughout life. Innovative technologies contribute to education seekers in mobilizing forces for interest during education; professional orientation of the individual, formation of creativity of education seekers; increase their motivation to work; orient students to the formation of their own methods of activity. Thus, there are favorable circumstances in the educational space for providing educational programs with digital content (Desiatov, 2020).

We will identify the features and show the need for innovative educational technologies to improve higher education:

– optimality: the ability to achieve educational goals with the least expenditure of time, effort, and resources;
– modernity: constant improvement of the content of the professional discipline, striving for innovations, reducing the gap between the latest achievements in production and science;
– scientificity: refusal to intuitively determine the forms and methods of education, the content of education, the implementation of a fully comprehensive analysis of educational achievements based on the latest professional achievements in the scientific field of knowledge;
– integrality: synthesis of interdisciplinary knowledge;
– optimality of the material and technical base of training;
– reproduction of the educational process and results of monitoring of the educational sector;
– programming activities for higher education applicants and teachers;
– comprehensive use of didactic teaching aids, and modern technical developments, which provide a possible activation of the professional activity of those obtaining higher education;
– qualitative and quantitative monitoring of education and assessment of learning outcomes.

Innovative educational technologies have advantages in higher education:

- the technology of modular-rating training provides an opportunity to organize independent educational activities for education seekers to master the content of training;
- technologies of scientific research, creative and project activities contribute to the inclusion of higher education students in innovative types of active activities;
- distance learning technologies, information and communication technologies, problem-based learning technology, and critical thinking development technology allow working in an innovative format with various sources of information;
- the technology of organizing a discussion, the technology of moderating group work orients to group interaction in the qualitative innovative process of providing higher education;
- reflexive learning technology, game technologies, self-control technology, portfolio technology, and self-education technology create conditions for realizing the subject position of education seekers;
- the technology of analyzing specific practical situations, the technology of contextual learning, the technology of organizing simulation games, and the technology of the case method form a coherent structure for the future innovative professional activity of higher education students (Dolhopol & Kirianova, 2021).

Experts of the New Media Consortium (Adams et al., 2017) innovative technologies of artificial intelligence, neural networks, and machine learning to create perfect natural user interfaces are of great importance for higher education.

Artificial intelligence directs all the innovative potential for the development of online learning and allows for improving the research processes of software and adaptive learning, and as a result, there is the possibility of obtaining intuitive interaction with the learners of education. Jenzabar and IBM SPSS with machine learning functionality, is enterprise software that helps interpret data to improve higher education financial aid programs, reduce dropouts, and predict future enrollment (Sysoieva & Osadcha, 2019)

Let's highlight the most important interrelated functions of the teacher's innovative activity, which contribute to the improvement of higher education:

- analytical and evaluative;
- orientational and prognostic;
- organizational;
- research-creative;
- communicative and stimulating;
- informative and explanatory;
- diagnostic;
- constructive and design.

The level of preparation of a specialist for innovative professional activity in conditions of continuous education with the help of innovative educational technologies increases if the following positions are provided:

- development of a training program for an innovative specialist, a theoretical model for improving higher education;
- consistent implementation of a set of methods and forms of education to improve the education of a student of higher education;
- selection of a set of optimal innovative methods and forms of organization of professional activity in structural subdivisions of the system of continuous professional education;
- constant adjustment of the learned components of innovative activity with the help of innovative educational technologies to improve the education of competitive specialists (Hrechanovska, 2019).

We justify 7 criteria of innovations in the educational process:

1) novelty – a method of innovative teaching, which differs from usual practice in that it surprises students and stimulates their cognitive activity;
2) changes – organizational changes of adaptation, innovative forms of material submission, which are temporary and manageable;
3) reflection – intellectual, pedagogical, and psychological reflection during self-analysis, testing, and creativity;
4) application – an element of the integration of educational technologies into the general educational process, which is related to various levels and influences of educational activity, to the educational discipline, to the audience;
5) improvement – qualitative motivation, improvement of understanding of educational information, success;
6) educational focus is not a technological innovation, but a pedagogical innovation;

7) human relations – the educational process of a higher school includes personal and human changes in the activities of students and teachers (Walder, 2014).

The features of innovative education are of great importance for the improvement of higher education and, as a result, obtaining a competitive specialist. They should be taken into account when studying. Let's list them:

– openness to the future of innovative higher education;
– work on prediction and programming of personality development;
– concentration on a personally oriented position, on human development;
– partnership relations using innovative educational technologies: mutual assistance, co-creation, cooperation, etc.;
– the mandatory presence of elements of creativity in higher education;
– the instability of the educational system, the constant contradiction of the person himself (Mynbayeva et al., 2018).

Systematic use of innovative educational technologies by teachers to improve higher education is a requirement of today. The more teaching methods and educational strategies a teacher possesses, the better he motivates the cognitive activity of the learner, the more diverse, interesting, and effective he conducts classes, encourages solving non-standard tasks and situations, promotes sustainable assimilation of innovative professional technologies, practical activities, and in-depth learning. A competitive specialist constantly improves his didactic skills, develops innovative strategies, and chooses new innovative technologies, and teaching methods (Vinnyk, 2021).

Let's consider the main trends in the field of educational innovative technologies, which are necessary for high-quality training of the student of education:

1) e-learning, which requires online educational platforms for synchronous, live streaming, real-time or group meetings using Microsoft Teams or Zoom, or using asynchronous recorded educational methods with a wide range of digital features and multimedia;
2) education through video learning: availability of innovative material through animated videos, and digital displays;
3) blockchain – data storage technology, used in open mass online courses (MOOC) and portfolios to monitor the quality of the educational process, check the skills and knowledge of education seekers, allow solving problems of scale, authentication, cost of e-learning and can help students education at the job search stage to publish and present their achievements;
4) artificial intelligence can automate the main types of activities in the field of education, such as counseling students, evaluation, providing feedback between students and teachers, monitoring the quality of education, and preventing crisis problems in education;
5) big data will become bigger for the personalization of the educational process and meeting the needs of education seekers through the expansion of information on the enrollment of education seekers, course topics, success, and monitoring of students (course completion time, test result, completion), and feedback of education seekers (survey, rating);
6) educational analytics helps teachers to analyze and measure the educational results of students to optimize quality education: to determine the popularity of educational information (images, text, videos, infographics) among students; to find out the main fragments of educational information that need to be systematized and repeated, to single out students of higher education who, due to behavioral or academic problems, require additional attention;
7) STEAM – a trend that applies technological, scientific, artistic (new element), engineering, and mathematical content to real solutions to educational problems with the help of creative design and practical classes; enables students of higher education to better cooperate with other people, show greater interest in the world around them, implement their ideas and express their opinions by thinking outside the box;
8) gamification allows higher education students to study and practice in game professional situations;
9) virtual reality (VR) and augmented reality (AR) learning facilitates the explanation of complex concepts that, even in the laboratory, cannot be demonstrated to higher education students by simple images or hands-on experiments;
10) social networks with the help of innovative educational technologies are used in education as a means of distribution of educational videos, exchange of educational materials, communication, and discussions (Bui, 2020).

The Internet and digital technologies significantly affect higher education, which leads to significant changes in all areas – from teaching and learning to management of the educational process, from the development of educational programs to personnel support (Stratan-Artyshkova et al., 2022).

Studies prove the effectiveness of modernization and renewal of the educational sector in the context of the introduction of innovative educational technologies as a means of improving higher education, meeting the professional needs of modern education seekers, and spreading innovative educational practices. The University of the Future is a hybrid, flexible educational environment that harmoniously combines both tradition and innovation, effectively and quickly adapting to trends and innovative changes. Blockchain, video learning, e-learning, big data, educational analytics, artificial intelligence, gamification, social networks, and virtual and augmented reality are relevant trends in the field of innovative educational technologies for higher education. The introduction of innovative educational technologies into the educational process creates the necessary conditions for the attractiveness, flexibility, contextuality, intellectuality, and distribution of higher education (Vinnyk, 2021).

Conclusions

Innovative educational technologies ensure the competitiveness of the institution of higher education in the market of educational services and create all the conditions for improving the quality of education. Innovative educational technologies are considered as a means of improving higher education and their influence on the training of a modern competitive specialist is shown.

The levels of training of the future specialist with innovative educational means are highlighted. The classification of innovative educational technologies was carried out. In the modern world, hybrid courses are used, which include a form of a combination of distance learning and face-to-face learning. With the help of distancing, there is an opportunity to provide the student with autonomy, which allows him to significantly improve the organization of independent work. This process is provided by the subsystems disclosed in the article.

The features are identified and the necessity of innovative educational technologies for the improvement of higher education is shown.

Innovative educational technologies have advantages in higher education. The interconnected functions of the teacher's innovative activity, which contribute to the improvement of higher education, are considered.

The level of preparation of a specialist for innovative professional activity in the conditions of continuous education with the help of innovative educational technologies increases if the proposed positions presented in the article are provided.

7 criteria of innovation in the educational process are identified and substantiated.

The features of innovative training are listed, which are of great importance for the improvement of higher education and, as a result, obtaining a competitive specialist. They should be taken into account when studying.

The main trends in the field of educational innovative technologies, which are necessary for the high-quality training of the student of education, are considered.

Further research will be aimed at revealing the features of the application of hybrid courses, which include a form of a combination of distance learning and face-to-face learning.

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DOI: https://doi.org/10.34069/AI/2023.68.08.3
How to Cite:
Teremetskyi, V., Boiko, V., Malyshev, O., Seleznova, O., & Kelbia, S. (2023). Electronic judiciary in Ukraine: Problems of implementation and possible solutions. *Amazonia Investiga*, *12*(68), 33-42. https://doi.org/10.34069/AI/2023.68.08.3

Electronic judiciary in Ukraine: Problems of implementation and possible solutions

Електронне судочинство в Україні: проблеми впровадження та можливі шляхи їх вирішення

Received: June 5, 2023 Accepted: July 20, 2023

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Abstract

The purpose of the article is to study the possibilities to administer judicial proceedings with the use of information technologies at the current stage of judicial reform in Ukraine. The research methods are: formal and logical, analysis and synthesis, comparative and legal, generalization, forecasting, etc. The issue of the possibility and expediency of introducing full-fledged electronic justice in Ukraine in terms of the martial law has been considered. The authors have characterized the Strategy for the Development of the Justice System and Constitutional Judiciary for 2021-2023 in the context of ensuring the development of e-judiciary. The organizational and legal, financial and technical problems on the implementation of the Electronic Court and the Unified Judicial Information and Telecommunication System have been defined. The authors have characterized the factors that must be taken into account while adopting a law on the effective regulation of remote and electronic justice in terms of the martial law or the state of emergency. It has been emphasized that

Анотація

Метою статті є дослідження можливостей здійснення судочинства з використанням інформаційних технологій на сучасному етапі судової реформи в Україні. Методами дослідження є: формально-логічний, аналізу та синтезу, порівняльно-правовий, узагальнення, прогнозування тощо. Розглянуто питання можливості та доцільності запровадження повноцінного електронного судочинства в Україні в умовах воєнного стану. Автори охарактеризували Стратегію розвитку системи правосуддя та конституційного судочинства на 2021-2023 роки в контексті забезпечення розвитку електронного судочинства. Визначено організаційно-правові, фінансові та технічні проблеми впровадження Електронного суду та Єдиної судової інформаційно-телекомунікаційної системи. Автори охарактеризували чинники, які необхідно враховувати при ухваленні закону щодо ефективного регулювання дистанційного та електронного правосуддя в умовах воєнного чи надзвичайного стану. Наголошено, що основним

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the main indicator for the effective functioning of remote justice should be maintaining a balance between ensuring the right to access to justice and ensuring the safety of court proceedings participants.

Key words: access to justice, electronic court, electronic office, information technologies, unified judicial information and telecommunication system, electronic document, electronic evidence.

показником ефективного функціонування дистанційного правосуддя має бути дотримання балансу між забезпеченням права на доступ до правосуддя та забезпеченням безпеки учасників судового процесу.

Ключові слова: доступ до правосуддя, електронний суд, електронний кабінет, інформаційні технології, єдина судова інформаційно-телекомунікаційна система, електронний документ, електронний доказ.

Introduction

Access to justice covers a complex of human rights (the right to a fair trial, the right to an effective remedy, etc.), an integral part of which is the right to justice through various means and forms of electronic justice that is important for certain groups of the population, who have certain restrictions, who are in special conditions or live on a territory with a special legal regime (persons with disabilities, victims of crime, prisoners, persons in custody, martial law or state of emergency, etc.).

Introduction of the martial law in Ukraine related to the military aggression of the Russian Federation influenced on all the functioning spheres of Ukrainian society. In particular, the access of citizens to justice has become much more difficult. There are frequent cases of impossibility for judges and other court proceedings participants to be in courtrooms due to air alarms, blackouts, etc. Besides, many courts do not have the conditions to ensure at least minimal protection from shelling. Some courts are located in emergency buildings or located near strategic facilities, police stations, military units, etc. Holding court hearings in such premises does not guarantee the safety of visitors (LB.ua website, 2022).

The problem of ensuring the safety of court proceedings participants and timely hearing of cases under such conditions brought up the issue of the possibility of using modern information technologies during judicial proceedings, in particular, the execution of all procedural actions through electronic means of communication with the appropriate identification and security mechanisms (Filatov, 2017, p. 8). Besides, Ukraine has recently demonstrated significant results of digital transformation in the field of public service provision.

Therefore, it is offered to solve the difficulties associated with access to justice in this case by building fully functioning subsystems “Electronic Court” and “Electronic Office” (Kibenko, 2023), by making amendments to the procedural legislation in terms of simplifying the interaction between the population and the court and by creating appropriate technical capabilities in the courts themselves (in particular, in terms of requirements for the form of procedural documents that are sent to the court in electronic form, at least during a certain “transitional period”, guaranteeing the possibility of participating in the court hearing in videoconference mode, etc.) (Verkhovna Rada of Ukraine, 2023, p. 99).

Therefore, clarification of the issue regarding the possibility and expediency of introducing full-fledged electronic justice in Ukraine is currently relevant and needs to be resolved. Herewith, the success of the modern stage of judicial reform in Ukraine depends on its proper scientific and practical solution. At the same time, it should be remembered that online services provided by judicial agencies, remote court hearings and video conferences, as well as the further development of digital justice must always be carried out in accordance with the fundamental rights and principles of a fair trial (CEPEJ, 2020, principle 5).

Given the above, the purpose of the article is a thorough study of the possibility of implementing judiciary by using modern information technologies, in particular, by studying the effectiveness of the mechanisms for the implementation and full functioning of the “electronic court” at this stage of the judicial reform in Ukraine in terms of the military aggression of the Russian Federation.

Literature Review

The issue of improving public relations in the sphere of judicial administration in Ukraine has recently become quite popular. It is related to the judicial reform aimed at finding optimal and effective mechanisms for the functioning of the judicial system. Special attention is paid to the development and implementation of new or additional means of ensuring a person's access to justice. The implementation of electronic justice by using various forms and means, which is important in terms of the martial law in Ukraine, is among such means.

The scientific and theoretical basis of this research is the works of modern Ukrainian lawyers from various branch disciplines, focused on the problems of access to justice at the current stage of judicial reform in Ukraine, as well as focused on debatable issues of the introduction of the latest information technologies in this area.

Thus, the authors of the article studied and used the works of Ukrainian scholars, focused on: the characteristics of reformation processes in the sphere of justice in Ukraine, as well as problems that arise during the implementation of the main provisions of the Strategy for the Development of the Justice System and possible ways to eliminate them (Bandurka et al., 2023); on the analysis of the availability of justice within Ukrainian administrative judicial system, its specific features in terms of the martial law and the possibilities of its improvement due to the implementation of European standards into the legislation of Ukraine (Krupchan et al., 2023); on the research of existing judicial and extrajudicial methods of applying to compensate for damages caused by armed conflicts on the example of Ukrainian legislation (Onishchenko et al., 2023, pp. 522-537).

Scientific and expert, analytical and legal publications of leading Ukrainian lawyers have been also used while writing the article, which are posted on well-known analytical and news websites (for example, *LB.ua Website*, 2022; *Sudovo-yurydychna hazeta Website*, 2022b; Sudova vlada Ukrainy; High Council of Justice), etc.

Methodology

The object of the research is public relations in the sphere of justice administration in Ukraine. The subject matter of the research is the analysis of the problems for implementing electronic justice in Ukraine and forming authors' suggestions for their solution within the scientific and practical plane.

The regulatory basis of the research is: the main provisions of the Strategy for the Development of the Justice System and Constitutional Judiciary for 2021-2023, which relate to the introduction of digital technologies during the administration of justice in Ukraine; draft laws on the implementation of judicial proceedings in terms of the martial law or the state of emergency, in particular, focused on the introduction of remote judicial proceedings in terms of the martial law in Ukraine; certain provisions of the Concept for reforming the court system with the aim of improving the access to justice, prepared by the Research Service of the Verkhovna Rada of Ukraine; draft Resolution of the Verkhovna Rada of Ukraine "On approval of the list of tasks and projects of the National Informatization Program for 2023"; other national and international regulatory legal acts that regulate legal relations in the field of electronic justice. Generalization of the practice of the Supreme Court, analysis of the position of the High Council of Justice in the context of the researched issues in the article, political and legal journalism, etc. constitute the information and empirical basis of the article.

The methodological basis of the article is a set of general scientific and special methods of scientific cognition that relate to the subject matter of the research. Thus, the dialectical method is applied to the general characteristic of electronic justice as an additional mean of ensuring access to justice. The methods of abstraction and generalization were used to find out the specifics of the implementation of full-fledged electronic justice in Ukraine in terms of the martial law. The methods of analysis and synthesis made it possible to identify organizational and legal, financial and technical problems associated with the implementation of the Electronic Court and the Unified Judicial Information and Telecommunication System and to summarize the information regarding understanding. Modeling and forecasting methods made it possible to determine the ways to improve the implementation of remote and electronic justice in terms of the martial law or the state of emergency. The comparative and legal method was used to generalize the experience of different countries in solving the issue of the physical location of judges, the secretary of the court session and other participants in the proceedings during the remote hearing of the case. The method of analysis and generalization made it possible to draw conclusions based on the conducted research.

Results and Discussion

Electronic judiciary as an additional mean of ensuring access to justice

The following factors are current obstacles to improving access to justice in Ukraine, in the context of the effective functioning of electronic judiciary: the slow development of digitalization of judicial proceedings, new online platforms for resolving disputes, as well as organizational and legal, financial and technical problems with the implementation of the Electronic Court and the Unified Judicial Information and Telecommunication System (hereinafter – UJITS).

The Chairman of the Supreme Court V. Kniaziev defined the main tasks for the judicial power for the next five years at the solemn meeting of the Plenum of the Supreme Court on December 15, 2022. Digitization of justice was called one of those tasks (Sudova vlada Ukrainy website, 2023). At the same time, the insufficient level of implementation of digital technologies in the administration of justice is recognized as the main problem in the Strategy for the Development of the Justice System and Constitutional Judiciary for 2021-2023 (hereinafter referred to as the Strategy) (Decree of the President of Ukraine No. 231/2021, 2021), which necessitates further improvement of the functioning of judicial power and the administration of justice in Ukraine.

The Strategy is currently the legal basis for judicial reform in Ukraine. According to clause 4.1 of the Strategy improving access to justice can be ensured through the development of electronic justice taking into account world standards in the field of information technologies by:

- introduction of the possibility of online hearings of certain categories of cases regardless of the location of the parties and the court and other electronic judicial services;
- introduction of modern electronic record keeping in the court, electronic case management, electronic communications with the court, the judge’s office and the office of a proceedings participant;
- improvement and development of the official web portal of the judicial power of Ukraine for obtaining information about courts and cases (proceedings) with regular updates of court statistics (Decree of the President of Ukraine No. 231/2021, 2021).

It should be noted that the introduction of an electronic system to ensure the movement of materials through court authorities in a paperless form (UJITS) was provided by the Law of Ukraine “On Amending the Commercial Procedural Code of Ukraine, Civil Procedural Code of Ukraine, Code of Administrative Proceedings of Ukraine and other legislative acts” dated from October 3, 2012 No. 2147-VIII (Law of Ukraine No. 2147-VIII, 2017). The main purpose of the adoption of the specified Law is the gradual introduction of the tools of “electronic justice”, in particular, giving any person the opportunity to apply to court, pay a court fee, participate in the case hearings and receive the necessary information and documents by electronic means, standardizing the procedure for providing and researching electronic evidence, etc. (Filatov, 2017, p. 3).

The UJITS according to the provisions of the current procedural codes in Ukraine was supposed to operate in 2017. However, the specified system actually started working only in January 2019. According to the plan, it should gradually ensure the automation of the lion’s share of proceedings taking place in courts: document circulation, in particular between participants in cases, centralized storage of materials, automated distribution of cases, video conferencing, collection and processing of statistical data, etc. It was planned that 8 out of 18 modules of the system would start working in a test mode in March 2019. However, only three were fully operational as of 2021 for some reasons, namely: the subsystem “Electronic Office”, “Electronic Court”, as well as the videoconferencing module (LB.ua website, 2023).

D. Maslov, who is the Chairman of the Committee on legal policy of the Verkhovna Rada of Ukraine, noted that the processes of introducing electronic justice are the priority in the field of judicial reform for 2023. However, the Ruling of the Cabinet of Ministers of Ukraine dated from December 23, 2022 No. 1191-r, which approved the Action Plan for 2023 regarding the transfer of public services to electronic form (Ruling of the Cabinet of Ministers of Ukraine No. 1191-r, 2022), does not provide for some reason the transfer of executive documents into electronic form and the full-fledged launch of the UJITS.

We would like to note that the digitalization of the judicial branch of power involves the implementation and full functioning of electronic justice. At the same time, in accordance with the Order of the Head of the State Judicial Administration of Ukraine O. Salnikova dated from January 13, 2023, which approved a new edition of the Anti-Corruption Measures Plan in the State Judicial Administration of Ukraine entitled **“**Tasks and measures for the implementation of the principles of the anti-corruption policy of the State Judicial Administration of Ukraine" (Order 14, 2023) the main changes in the digitalization of the judicial branch of power will come only in 2024-2025. At the same time, full-fledged electronic justice should start working only at the beginning of 2025. Until now, the following measures have been gradually introduced:

1) the implementation of the Unified State Register of Executive Documents is planned by August 2023, taking into account the architectural requirements for further application of data array technologies;
2) it is provided by December 2023:

– development of software and introduction of technical equipment necessary to ensure the formation and maintenance of judges' files (file of a candidate for the position of a judge) in electronic form in the UJITS;
– creation and implementation of the electronic procedural record keeping system as part of the UJITS;
– implementation of the Unified State Register of Executive Documents as part of the UJITS;

3) provision of data exchange and technical possibility of the interaction between the Automated System of Executive Proceedings and the Unified State Register of Executive Documents until February 2024;
4) preparation and approval of the Provision that determines the procedure for functioning of the subsystem by March 2024, which ensures the formation and maintenance of judges' files (file of a candidate for the position of a judge) in electronic form in the UJITS (the SJA – is co-executor);
5) development and approval of the Regulation on the UJITS by June 2024 by the State Judicial Administration of Ukraine, which determines the procedure for the functioning and application of all subsystems (modules).

Therefore, the UJITS is currently not working properly. The COVID-19 pandemic, military aggression of the Russian Federation against Ukraine, as well as corruption among the employees of the State Judicial Administration of Ukraine were among the objective obstacles that prevented the full functioning of electronic justice in Ukraine (Bandurka et al., 2023, p. 65). The last factor led to the need to:

1) conducting a technical audit of the UJITS aimed at obtaining specific recommendations regarding the further development of the electronic justice system, in particular the unification of the UJITS with the system of executive proceedings and with the systems of law enforcement agencies;
2) transferring the processes of creating electronic justice to the Ministry of Digital Transformation of Ukraine;
3) coordinating the specified processes by the Committee on Legal Policy of the Verkhovna Rada of Ukraine (Sudovo-yurydychna hazeta website, 2022a).

It should be noted that more than 4 years have passed since the launch of the UJITS. The system is partially outdated during this time and no longer fully meets the current needs of users: some of its modules do not interact well with each other, have problems with updates, because they were developed at different times and by different contractors. Therefore, there is currently an urgent need to conduct a full-fledged independent audit of the UJITS. It should not only determine the technical capabilities of the existing system and the functional needs of users, but also plan further actions on the path of digitalization of court processes in Ukraine (LB.ua website, 2023).

A positive step in this direction is the draft Resolution No. 9523 "On approval of the list of tasks and projects of the National Informatization Program for 2023" registered by the Cabinet of Ministers of Ukraine on July 24, 2023 in the Verkhovna Rada of Ukraine (Draft Resolution No. 9523, 2023). The Government suggests to the Verkhovna Rada of Ukraine to adopt a new Resolution instead of the current one, where to establish the list of tasks in details related to the digitalization of justice. At the same time, we are talking about the allocation of a specific amount for the informatization of the justice system within the limits of expenditures provided in the Law of Ukraine "On the State Budget of Ukraine for 2023" (Law of Ukraine No. 2710-IX, 2022).

The role of remote justice in ensuring the safety of court proceedings participants in terms of the martial law

The aggression of the Russian Federation against Ukraine has been going on for over one and a half year. As a result, part of the territory of our country was under occupation, and millions of citizens were forced to move to other regions of Ukraine and abroad. Despite this, as well as under the introduction of the martial law, the agencies and institutions of the justice system continue to work, and the courts continue to administer justice.

The legislator has been recently trying to offer the Ukrainian society such amendments to the national legislation that would allow the introduction of effective mechanisms for the implementation of justice in terms of the martial law or emergency situations. First of all, it is about maintaining a balance between ensuring the right of access to justice and ensuring the safety of participants in court proceedings.

The Ukrainian Parliament has tried three times to regulate the implementation of remote justice at the legislative level since the full-scale invasion. However, the first draft Law of Ukraine dated from May 24, 2022 No. 7404 “On Amending the Code of Ukraine on Administrative Offenses Regarding the Implementation of Judicial Proceedings in Terms of the Martial Law” was rejected on August 16, 2022 (Draft Law of Ukraine No. 7404, 2022). The second draft Law was rejected by the Verkhovna Rada of Ukraine on July 1, 2022 (Draft Law of Ukraine No. 7316, 2022). The third draft Law is only at an intermediate stage of its development and review and has many comments (Draft Law of Ukraine No. 8358, 2023).

Such a slow state of solving the outlined problem is related to some fears that the introduction of remote justice may lead to an increase in abuses by judges, negatively affect the compliance with the requirements of public hearings of cases, as well as increase the risks of disruption of court sessions due to technical problems of communication means, etc. (Sobol, 2023, p. 11). At the same time, the idea of introducing full-fledged remote justice finds its support both among the experts and among the majority of the country’s population. Besides, the European Commission for the Efficiency of Justice (CEPEJ) of the Council of Europe noted that further expansion of remote justice meets the needs of modern times, since it gives the judicial system the opportunity to act where a complete shutdown of the courts would be the alternative (CEPEJ, 2022, p. 4). In addition, the CEPEJ emphasized in its previous report that ensuring the safety of all employees of the justice system, as well as court visitors, should be a priority. Employees must be able to work remotely and be provided with the necessary secure IT equipment (CEPEJ, 2020).

As one knows, the Constitution of Ukraine does not directly regulate the format of remote justice, but it does not contain its prohibitions either. At the same time, Part 3 of the Art. 129 of the Constitution of Ukraine specifies that “Other principles of judiciary may also be determined by law” (Law of Ukraine No. 254k/96-VR, 1996). According to the opinion of the Administrative Court of Cassation as part of the Supreme Court, it means that the list of principles for judicial proceedings can be specified at the legislative level, in particular detailed or supplemented by new provisions that meet the needs of modern times that they do not conflict with the Constitution of Ukraine. Judges of this court insist on the introduction of a remote format of judicial proceedings, at least during the martial law (Sudovo-yurydychna hazeta website, 2022a). The High Council of Justice also supported the need for the earliest possible introduction of remote justice during the war (High Council of Justice website, 2022).

There is already a positive experience of using the latest information and communication technologies and other technical innovations in Ukraine like in many world countries due to the global pandemic of COVID-19 while hearing various categories of cases in courts. However, such factors and problems must be taken into account when adopting the law for the effective regulation of remote and electronic justice in terms of the martial law or the state of emergency.

The use of communication means (mobile network, Internet resource, etc.) by court proceedings participants may be impossible (for example, due to the damage to power lines, communication lines, hacker attacks, power outages, the presence of a person in the area of hostilities or on temporarily occupied territory, which does not ensure free and uninterrupted access to the Internet or the availability of mobile communications). Therefore, the ability to timely receive or familiarize with the relevant call or message through a telephone message, SMS, etc. can become significantly more difficult.

Besides, access to the Register of Court Decisions has been limited for almost a year in order to prevent threats to the life and health of judges and court proceedings participants. And in case of detection of cyber threat signs, access to the Register or certain decisions there may be restricted at any time. Therefore, the implementation of the practice of mandatory notifications (summons, notices, etc.) on the official web portal of the judicial power of Ukraine is impractical (Apparatus of the Supreme Council of Ukraine, 2023, pp. 3-4).

Further expansion of remote (online) hearings, including the remote participation of judges, court secretaries, witnesses and experts and the admission of new forms of recording court hearings, as well as giving the court the opportunity to make decisions in electronic form or to publish them on court websites is possible and expedient, if the remote hearings meet the basic requirements that guarantee its fairness (CEPEJ, 2022 p. 4-5). At the same time, we note that the possibility of conducting dispute resolution in the mode of videoconference outside the court premises by using its own technical means cannot adequately protect against the transpiration about the progress and results of dispute resolution with the participation of the judge (Apparatus of the Supreme Council of Ukraine, 2023, p. 7). Indicative in this aspect is the decision of the Criminal Court of Cassation as part of the Supreme Court, which annulled the decision of the Court of Appeal in the case of seizure of property, during the hearing of which the Court of Appeal allowed the defence attorney of one of the accused to participate in the hearing by means of a telephone call (The Supreme Court of Ukraine, 2023). Returning the case for a new hearing, the Criminal Court of Cassation noted that the Court of Appeal did not make a decision regarding the participation of the defence attorney in the mode of videoconference, as it is required by the Criminal Procedural Code of Ukraine.

It is necessary to decide on the issue of the physical location of judges, the secretary of the court session and other participants in the proceedings during the remote hearing of the case. To accomplish this, the experience of different countries in solving this issue should be studied. Thus, the physical presence of the judge in the court premises is required in some countries, in others it is not required. Some countries find intermediate solutions, such as requiring the presence of only the chairman of the panel of judges (CEPEJ, 2022 p. 4). Therefore, Ukraine, taking into account the positive international experience, should regulate the issue of physical absence of judges in the court premises during the remote hearing of cases at the legislative level, provided that such hearing meets the basic requirements that guarantee its fairness.

In accordance with the requirements of Recomm endation CM/Rec (2010)12 of the Committee of Ministers of the Council of Europe (Council of Europe, 2010), judges must be provided with the information necessary to take appropriate procedural decisions, if such decisions have financial consequences. In particular, it is about granting judges the right of direct access to automated information and telecommunications and reference systems, registers, data banks, the holders (administrators) of which are state agencies or local self-government agencies (Decree of the President of Ukraine No. 231/2021, 2021).

Besides, the possibility of remote access of judges to the document management system should be introduced, in case if the access to this system is ensured by using the judge's own qualified electronic signature. The appropriate procedure and conditions for remote access must be approved by the State Judicial Administration and agreed by the High Council of Justice (Explanatory notice 47d9/1-2023/4698, 2023, p. 3).

It is also important to prescribe in details the procedure of remote judicial proceedings in the new Law, i.e. a clear algorithm of actions both for judges and court proceedings participants.

It should be noted that the position regarding the administration of justice by judges during military aggression outside the court is actively supported by the High Council of Justice. The main argument is the need to ensure the safety of judges, staff of court apparatus and court proceedings participants. Moreover, the High Council of Justice insists on the importance of the immediate settlement of this issue in the legislation of Ukraine, since several disciplinary complaints are currently pending against judges who administered justice in this way (High Council of Justice website, 2022).

The Law of Ukraine No. 3200-IX regarding mandatory registration and use of electronic offices within the Unified Judicial Information and Telecommunication System for the participation in court proceedings (Law of Ukraine No. 3200-IX, 2023) came into force on June 29, 2023. At the same time, the Law states that defence attorneys, notaries, state and private enforcement employees, arbitration managers, judicial experts, state authorities, other state agencies, local self-government agencies, and other legal entities must register their electronic offices in the Electronic Court.

Registration and use of the electronic office is free of charge; an electronic digital signature and a little time are required for the registration. The electronic office is the only one, regardless of the jurisdiction and instance of the court, where you participate in the case. The court will currently apply the procedural consequences to the new categories of persons specified in the Law and to the case participants, who were obliged to register their electronic offices in the UJITS since 2017, but have not yet done so. The consequences are the following: the court does not consider, but leaves it motionless or returns the procedural documents submitted by them. It also concerns cases, when the interests of such persons are represented by a defence attorney.

Therefore, the gradual transition from the paper form of the exchange of procedural documents between the court and court proceedings participants to the electronic form significantly simplifies the access of citizens to justice, saves time and money for the participants, speeds up the consideration of cases, makes it possible to carry out all procedural actions through electronic communication means with appropriate identification and security mechanisms, etc.

Conclusions

The introduction of electronic justice is an important component of judicial reform in Ukraine. Herewith, the functioning of the "Electronic Office" and "Electronic court" subsystems, as well as the videoconference mode are additional means of ensuring access to justice. Ensuring the access to justice, which became much more difficult during the war, and the potential reduction of state expenditures on financial and technical support for judicial power depend on its full-fledged implementation.

The main purpose of introducing electronic justice should be to establish a process of operational exchange of information in electronic form between judicial institutions, court proceedings participants, as well as other state agencies in order to ensure fair and impartial justice in Ukraine. At the same time, it is important to ensure the maximum dissemination of information about court hearings, generalization of case-law, other legal information by overcoming the existing gap between a person and the court.

We believe that the full functioning of electronic justice is possible only after the end of the war during the post-war reconstruction of Ukraine. A significant part of the population of Ukraine due to military actions and other objective factors (for example, the lack of proper telecommunications equipment in certain regions of Ukraine, the low level of financial support of part of the country's population) does not currently have access to the specified electronic resource. Therefore, the implementation of this procedural mechanism as mandatory one, in particular the execution of all procedural actions through electronic means, is premature and objectively impossible at this stage of judicial reform. In practice, it may lead to violations of the rights of court proceedings participants and violations of the principles of transparency and openness of the legal process.

The authors of the article stand on the position of the need to accelerate the introduction of the latest information technologies as important and effective tools for the organization of judicial proceedings. To accomplish this, we should increase the funding for the development of additional electronic measures to ensure the access to the court (in particular, the "Electronic Court" system, means of conducting remote court hearings, etc.). At the same time, the priority should be to ensure cyber security and to protect personal data.

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DOI: https://doi.org/10.34069/AI/2023.68.08.4

How to Cite:
Alay, H.K., & Şener, Z. (2023). Investigation of the role of individual creativity of employees in the relationship of learning organization and business performance. *Amazonia Investiga*, *12*(68), 43-51. https://doi.org/10.34069/AI/2023.68.08.4

Investigation of the role of individual creativity of employees in the relationship of learning organization and business performance

Öğrenen Organizasyon ve İşletme Performansı İlişkisinde Çalışanların Bireysel Yaratıcılık Rolünün İncelenmesi

Received: July 1, 2023 Accepted: August 18, 2023

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Abstract

This study aims to examine the role of individual creativity of employees in the relationship between the learning organization and business performance.
Quantitative patterned research methods were used in the study. A survey method was used to collect first-hand data. The research sample consists of a group of 301 employees operating in various sectors and working in different positions in the province of Istanbul, Turkey. The questionnaire consists of appropriate scales to measure learning organization characteristics, individual creativity and business performance. Data analysis was carried out using statistical methods and regression analysis via SPSS 2.0 statistical program.
Findings show that learning organization characteristics positively affect the individual creativity role of employees. In addition, it has been revealed that the individual creativity level of the employees has a positive relationship with the business performance. The mediating effect of the individual creativity variable in the relationship between the learning organization and the job performance has also been found.
These findings highlight that the learning organization is an effective strategy in increasing business performance and that the individual creativity of employees is a critical factor in this process.

Keywords: Learning organizations, individual creativity, business performance, mediating effect.

Özet

Bu çalışma, öğrenen organizasyon ve işletme performansı arasındaki ilişkide çalışanların bireysel yaratıcılığının rolünü incelemeyi amaçlamaktadır.
Araştırmada nicel desenli araştırma yöntemleri kullanılmıştır. Birinci elden veri toplamak için anket yöntemi kullanılmıştır. Araştırmanın örneklemini İstanbul ilinde çeşitli sektörlerde faaliyet gösteren ve farklı pozisyonlarda çalışan 301 kişilik bir grup oluşturmaktadır. Araştırmada öğrenen organizasyon özelliklerini, bireysel yaratıcılığı ve iş performansını ölçmek için uygun ölçeklerden yararlanılmıştır. Verilerin analizi istatistiksel yöntemler ve regresyon analizi ile SPSS 2.0 istatistik programı kullanılarak yapılmıştır.
Bulgular, öğrenen organizasyon özelliklerinin çalışanların bireysel yaratıcılık rolünü olumlu yönde etkilediğini göstermektedir. Ayrıca çalışanların bireysel yaratıcılık düzeylerinin işletme performansı ile pozitif bir ilişkisi olduğu ortaya çıkmıştır. Öğrenen örgüt ile iş performansı arasındaki ilişkide bireysel yaratıcılık değişkeninin aracılık etkisi de bulunmuştur.
Bu bulgular, öğrenen organizasyonun iş performansını artırmada etkili bir strateji olduğunu ve çalışanların bireysel yaratıcılığının bu süreçte kritik bir faktör olduğunu vurgulamaktadır.

Anahtar Sözcükler: Öğrenen organizasyonlar, bireysel yaratıcılık, iş performansı, aracılık etkisi

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Introduction

In today's business environment, rapidly changing market conditions and increasing competition have brought along the need for businesses to constantly produce innovative solutions and adopt learning processes. In this context, organizations aim to produce new ideas and solutions by utilizing the creativity potential of their employees, rather than relying only on existing knowledge. Individual creativity of employees is accepted as a critical factor for organizations to achieve innovation and competitive advantage (Parjanen, 2012; Wang & Nickerson, 2017).

The learning organization approach expresses a management approach in which businesses continuously encourage learning and focus on the development of skills such as sharing information, critical thinking and problem solving (Edmondson & Moingeon, 1998; Garavan, 1997). This approach supports the learning processes of employees in order to reveal their creativity potential and enable them to produce innovative solutions. Learning organizations create a culture that encourages the flow of information, helping employees develop new ideas and improve business performance (Mills & Friesen, 1992; Huysman, 2000).

This study aims to understand the relationship between learning organization management and business performance and to examine the role of individual creativity of employees in this relationship. It includes the individual creativity of employees, their ability to generate new and original ideas and their ability to cope with problems. In particular, this study aims to investigate how the learning organization approach affects individual creativity of employees and the effect of this effect on business performance. In this context, it will be investigated how the characteristics of organizations such as learning culture, knowledge sharing, encouraging critical thinking and problem solving skills affect the creative potential of employees. Secondly, it is aimed to evaluate the relationship between the individual creativity level of the employees and the performance of the business. In this way, it will be tried to understand how the learning organization approach affects business performance and how important the individual creativity of employees plays in this relationship. In this context, the analysis of the data collected by the survey method was carried out by using quantitative research methods. It is thought that the findings will contribute to the process of determining the strategies to increase business performance by encouraging individual creativity**.**

Literature Review

Learning Organization

A learning organization is an organization that constantly acquires new knowledge and skills, shares this knowledge, applies it, and adapts itself for continuous development and improvement. This type of organization effectively uses internal and external sources of information to adapt to change (Antunes & Pinheiro, 2020). When the literature is examined, it is seen that learning organizations are defined in different ways. The concept of learning organization was used for the first time in Peter Senge's book "The Fifth Discipline" published in 1990 (Yoon & Park, 2023). Peter Senge defines this concept as “organizations in which people constantly improve themselves in order to achieve the result they want, and learn collectively by pushing their own limits” and talks about the five basic disciplines that these organizations should have. He stated these 5 disciplines as personal mastery, thinking models, shared vision, team learning and systems thinking (Senge, 1990). However, Bowles (1993) defined the concept of learning organization as 'the formation of institutions, the organization of knowledge and activities, and the improvement of individual abilities and job skills of employees'. Gratton (1993: 55) defines this concept as 'an organization capable of creating, acquiring and transferring knowledge and changing behavior in order to create new knowledge and this understanding'. The learning organization is the process of developing organizational activities with better knowledge and understanding, and it is an organization that constantly expands its capacity to create the future (Antunes & Pinheiro, 2020). Learning organization is also the process of dynamically creating knowledge within the organization for the development of distinctive competencies in order to improve the organization's performance and results (Kumar et al., 2021).

Individual Creativity

Individual creativity is a person's ability to come up with new and valuable ideas, solutions or products. This ability supports to put forward original and innovative ideas based on existing knowledge and experience, to deal with problems from different perspectives and to produce alternative solutions (Egan, 2005). In addition, individual creativity is based on human imagination, different perspectives, originality, flexibility, problem-solving skills, risk taking, critical thinking and independence (Taggar, 2002). A creative individual overcomes conventional thought patterns, pushes the limits and produces creative solutions (Yu et al., 2019). Individual creativity plays a critical role for innovation, progress and development. Creative thoughts and ideas lead to the emergence of new products, services or business models (Alikaj et al., 2021). Creative individuals can produce new and effective solutions to problems, gain competitive advantage and differentiate. Individuals with individual creativity have more interesting and original ideas than individuals with low creativity (Asif et al., 2019).

Business Performance

Business performance refers to the degree and level of success of a business in achieving the determined goals (Pathiranage, 2019). Business performance can be evaluated using various criteria and indicators and is often associated with financial and operational performance (Bourne et al., 2003). Business performance evaluation is a system used to understand the current state of the business, identify weak points and identify opportunities for improvement (Marr & Schiuma, 2003). There are various methods for evaluating performance (Ghouri et al., 2020). Performance evaluation method, evaluation results vary according to the field and nature of the task to be used. Performance measurement is carried out in two ways, financial and non-financial (Beuren et al., 2022). The criteria used to measure an organization's performance are often financial considerations. Considering today's global competitive conditions, non-financial performance criteria such as quality, reputation, satisfaction, etc. we can add criteria, they are important elements used to measure the performance of a workplace (Helmold and Samara, 2019, Lima et al., 2021).

Methodology

This study aims to understand the relationship between learning organization management, business performance and the individual creativity role of employees. In this context, firstly, the basic theoretical framework has been established, and the hypotheses and model of the research are presented below.

It is frequently emphasized in the literature that the learning organization approach has a positive effect on the individual creativity of employees (Purwanto, 2020; Zhao et al., 2021; Parjanen, 2012; Ismail, 2005; Syam et al., 2018). Learning organizations support individual creativity by creating a learning culture and knowledge sharing environment that encourages employees to generate new ideas (Hirst et al, 2009; Huang and Yao, 2017; Tesluk et al.,1997). In this context, factors such as the organization's culture of learning, knowledge sharing, critical thinking and problem-solving skills can affect the creative potential of employees. The learning organization approach is expected to increase the individual creativity level of the employees. In this context, the H1 hypothesis is expressed as follows.

H_1: Learning organization management affects the individual creativity level of employees.

The relationship between individual creativity and business performance is also an important area of research. The ability of employees to think creatively, solve problems and innovate is a critical factor for businesses to gain competitive advantage. Studies in the literature show that individual creativity of employees has a positive effect on business performance (Barrett et al., 2005; Zhao et al., 2021; Moulang, 2015; Frare & Beuren, 2021; Hahn et al., 2015). Employees with high individual creativity can produce innovative solutions, increase productivity, ensure customer satisfaction and gain competitive advantage.

The H_2 hypothesis developed in this direction can be expressed as follows:

H_2: There is a significant relationship between individual creativity and business performance.

Considering that the learning organization reveals and supports the creative potentials of the employees, it is predicted that this approach may have an increasing effect on business performance. Developing creative thinking skills of employees, producing innovative solutions to problems and using their innovation skills can contribute to a sustainable competitive advantage for the business. In this context, the H_3 hypothesis developed can be expressed as follows:

***H$_3$*: Individual creativity variable has a mediating effect on the relationship between learning organization and business performance**

The universe of the study consists of employees participating in the employment network in Istanbul, Turkey. Yazıcıoğlu and Erdoğan (2004) and De Winter et al., (2009) state that with a sampling error of 0.05, a sample size of 384 is sufficient for the population size of 1 million and above in the calculation of sample sizes that should be drawn from different universe sizes. In this context, 301 data from the questionnaires sent to 4800 employees with convenience sampling method and included in the analysis constitute the sample of this study.

This research is limited to the perceptions of the learning organization, individual creativity and business performance variables of 301 insured employees in the employment network in Istanbul, Turkey, between June 2022 and January 2023. As in all academic studies, time and cost constraints are other important limitations in this study, such as the prejudices developed by the employees against the survey method.

The Learning Organization scale developed by Basım et al., (2009) was used to measure the perceptions of the employees towards the Learning Organization. The scale developed by Özer (2011) was used to measure business performance. The creativity scale developed by Pıçakçı (2013) was used to measure the individual creativity variable. In order to get information about demographic data in the research, employees were asked to answer open-ended questions about age, gender, marital status, educational status, field of activity of the institution, working time in the institution, position in the institution and the number of personnel in the institution.

Results and Discussion

In this section, the statistical analyzes used in the analysis of the data and the findings related to the data are given.

Normality Analysis

The skewness and kurtosis coefficients were checked in order to determine the compatibility of the scale parameters with the normal distribution. Accordingly, since the skewness and kurtosis coefficients were in the range of ±2, it was accepted that the parameters met the assumption of conformity to the normal distribution.

Findings Regarding the Characteristics of the Participants

58% of the participants included in the study were female and 42% were male. 45% of the participants are in the 21-30 age range, 42% are in the 31-40 age range, and 13% are 41.

47% are married and 52% are single. 57% of the participants are undergraduate and 43% graduate. Looking at the position, it was seen that 72% of the participants were employees, 25% were mid-level managers, and 3% were senior managers. Considering the working period, 33% of the participants have 0-2 years, 24% 3- 5 years, 30% 6-10 years, and 13% 11 years and more.

Findings Regarding Validity and Reliability Analysis

In order to measure the reliability of the scales, the Cronbach Alpha coefficient was calculated. The interpretation of the Cronbach Alpha coefficient values is given in the table above. Accordingly, as a result of the reliability analysis applied to the scale items, the Cronbach Alpha coefficient of the individual creativity scale was calculated as 0.869, and the Cronbach Alpha coefficient of the work performance scale was calculated as 0.888. The learning organization variable is divided into 4 sub-dimensions The Cronbach Alpha coefficient for the continuous learning sub-dimension, which is one of the learning organization sub-dimensions, was calculated as 0.824, the Cronbach Alpha coefficient for the supportive leadership sub-dimension was 0.935, the Cronbach Alpha coefficient for the innovative approaches sub-dimension was 0.691, and the Cronbach Alpha coefficient for the open-mindedness sub-dimension was 0.926, and all scales were found to be reliable.

Findings for Correlation between Variables and Regression Analysis

First of all, correlation and regression analyzes were used to test the hypotheses in the research model. The larger the absolute value of the correlation coefficient, the stronger the relationship between the variables (Newbold, 2013, 321). The regression models obtained, on the other hand, show the direction and effect level of the relationship for the variables (Durmuş et al., 2013, 154). The correlation coefficients and descriptive statistics between the research variables are shown in Table 1.

Table 1.
Findings on Correlation Coefficients Between Variables.

	Individual Creativity	Continuous Learning	Supportive Leadership	Innovative Approaches	Open Mindeed	Business Performance	Learning Oganization
Individual Creativity	1	,403**	,318**	,312**	,374**	,449**	,409**
Continuous Learning		1	,581**	,559**	,566**	,545**	,740**
Supportive Leadership			1	,657**	,760**	,548**	,893**
Innovative Approaches				1	,635**	,418**	,793**
Open Minded					1	,611**	,931**
Business Performance						1	,637**
Learning Oganization							1

Source: Prepared by the authors.

According to Table 1, individual creativity and continuous learning (r=0.403;p<0.01), supportive leadership (r=0.318;p<0.01), innovative approaches (r=0.312; p<0.01), A positive and moderate relationship between open-mindedness (r=0.374;p<0.01) job performance (r=0.449,p<0.01) and learning organization general scores (r=0.409;p<0.01) has. There is a positive and strong relationship between job performance and learning organization (r=0.637; p<0.01).

After the correlation analysis, multiple regression analysis was performed to understand the role of the individual creativity variable in the relationship between learning organization management and business performance and to determine the effect of the variables in this model numerically. Table 2 shows the Regression Analysis Results for the Research Model.

Table 2.
Findings for Regression Analysis.

		B	S.E.	β	t	p
1	Constant	1,479	0,332		4,46	0
	Individual Creativity	0,557	0,079	0,449	7,06	0
R^2=0,202, F=49,841, p<0,001						
2	Constant	0,548	0,294		1,863	0,064
	Individual Creativity	0,258	0,072	0,208	3,57	0
	Continuous Learning	0,223	0,067	0,232	3,314	0,001
	Supportive Leadership	0,115	0,073	0,136	1,561	0,12
	Innovative Approaches	-0,092	0,073	-0,094	-1,263	0,208
	Open Minded	0,323	0,077	0,358	4,176	0
	R^2=0,474, F=34,780, p<0,001					

Source: Prepared by the authors.

Hierarchical regression analysis was applied to determine the predictive effect of individual creativity and learning organization sub-dimensions on job performance. Two models were created based on the hierarchical regression analysis. In the first model, only the individual creativity parameter was included in the model as an independent variable, and the established model was found to be significant (F=49.841; p<0.001). Accordingly, individual creativity has a positive effect on job performance (B=0.557; p<0.001). Considering the R2 value depending on the model, it was seen that individual creativity significantly explained 20.2% of the change in job performance. In the second step, the parameters of continuous learning, supportive leadership, innovative approaches and open-mindedness were added to the model along with individual creativity, and it was seen that this model was also significant (F=0.474; p<0.001). In the second model, individual creativity (B=0.258;p<0.001), continuous learning (B=0.223; p=0.001) and open-mindedness (B=0.323;p<0.001) variables were found to have predictive effects on job performance. These parameters explain 47.4% of the change in job performance significantly ($R2=0.474, p<0.001$).

Table 3.
3-Step Regression Analysis

Predictor	Model 1: Individual Creativity			Model 2: Business Performance			Model 3: Business Performance		
	β	SE	p	β	SE	p	β	SE	p
Constant	2,868	0,207	<0,001	1,324	0,217	<0,001	0,518	0,294	<0,001
Learning Organization	0,364	0,055	0,001	0,668	0,057	<0,001	0,571	0,061	<0,001
Individual Creativity							0,281	0,072	<0,001
F	39,598			134,592			79,750		
p		0,001			<0,001			<001	
R2		0,167			0,405			0,448	

Source: Prepared by the authors.

In Model 1, the effect of learning organization on individual creativity was analyzed. Accordingly, the effect of the learning organization on individual creativity is positive and statistically significant (β = 0.364, p = 0.001). In Model 2, the effect of learning organization on individual creativity was analyzed. Accordingly, the effect of learning organization on individual creativity is positive and statistically significant (β = 0.668, p<0.001). In Model 3, the effect of learning organization and individual creativity on job performance is analyzed. Accordingly, the effect of individual creativity on job performance was found to be positive and significant (β = 0.281, p = 0.309), and the effect of learning organization on job performance was found to be positive and significant (β = 0.571, <0.001). Therefore, the structural model hypotheses required for the implementation of the mediation analysis were provided.

Table 4.
Findings on the Relationship Between Learning Organization and Job Performance

Mediation Effect Values Created by Adding Continuous Learning to the Model	**β**	**SS**	**Lower limit 95% Confidence Interval**	**Upper Limit 95% Confidence Interval**
The Total Impact of the Learning Organization on Business Performance	0,668	0,057	0,555	0,782
Direct Impact of Learning Organization on Business Performance	0,571	0,061	0,451	0,691
Indirect Impact of Learning Organization on Business Performance	0,097	0,035	0,036	0,178
Learning Organization-- > Individual Creativity --> Job Performance				

Source: Prepared by the authors.

The total, direct and indirect effect values and bootstrap confidence intervals regarding the mediating effect of the individual creativity variable on the relationship between the learning organization and job performance are given in the table above. As seen in the table, the direct effect value was 0.571, the indirect effect value was 0.097 and the total effect value was 0.668. Accordingly, the mediation effect of individual creativity is statistically significant (γ = 0.097, SD = 0.035, 95% CI [0.036, 0.178]), as can be seen from the table showing the mediation analysis, and that the confidence intervals do not contain zero.

The findings highlight the importance of businesses supporting their learning processes and employees' creativity potential. Developing and sustaining the learning organization is important for the development of innovation, problem-solving skills and innovation capabilities. These processes are critical to increase and maintain the competitive advantage of businesses (Davis & Daley, 2008).

Current research shows that learning organization management has a positive effect on business performance. Learning organizations encourage employees to constantly acquire new knowledge and skills, support knowledge sharing, and improve their ability to adapt to change (Weldy, 2009). The findings we have obtained in line with this information show that learning organizations exhibit higher business performance. (Galer & Van Der Heijden, 1992) In this context, it can be said that companies with a learning organizational culture gain competitive advantage and meet customer expectations better by adopting innovation and continuous improvement processes. (Ellinge et al., 2003).

In addition, we observed that the individual creativity of employees has a significant effect on business performance. Creative thinking, different perspectives, the ability to produce innovative ideas and solutions are critical factors for businesses to gain competitive advantage (Subiyakto et al., 2020). Our findings reveal that individual creativity is associated with higher business performance. Creative workers can approach problems from different perspectives, develop innovative products or services, and increase productivity by improving business processes (Hussein et al., 2014).

Another important finding is that we observed that individual creativity of employees has a mediating role in the relationship between learning organization management and business performance. It is supported by our findings that learning organizations provide an environment where employees encourage creative thinking and share new knowledge and experiences (Raj & Srivastava, 2016). While this environment enables employees to reveal and develop their individual creativity, it also plays an important role on the performance of the business (Hsu, 2007).

Conclusions

The results of the analyzes showed that the positive effect between individual creativity and continuous learning, supportive leadership, innovative approaches, open-mindedness, business performance and learning organization management are the factors that directly affect the performance of businesses. Creative individuals will have the desire to discover and apply new information, new methods, thanks to continuous learning, and they will have the opportunity to turn this desire into reality thanks to supportive leaders. Having a supportive leader is an indication that open-mindedness is dominant in the organization. In this way, this behavior of creative people will be noticed within the organization and will set a good example by other personnel and ultimately play an important role in the development of the organization.

It has been revealed that learning organizations increase business performance, individual creativity has a positive effect on business performance, and there is a relationship between learning organization management and individual creativity with this study. These results highlight the importance of businesses adopting a learning organization approach in order to develop a learning culture, encourage the creative potential of employees and increase business performance.

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DOI: https://doi.org/10.34069/AI/2023.68.08.5
How to Cite:
Biletskyi, V., Onkovych, H., Flegontova, N., Adamia, Z., & Onkovych, A.D. (2023). Implementation of the myth of the cultural hero in the social and political reality of Ukraine. *Amazonia Investiga*, *12*(68), 52-66. https://doi.org/10.34069/AI/2023.68.08.5

Implementation of the myth of the cultural hero in the social and political reality of Ukraine

ВПРОВАДЖЕННЯ МІФУ ПРО КУЛЬТУРНОГО ГЕРОЯ У СОЦІАЛЬНО-ПОЛІТИЧНУ РЕАЛЬНІСТЬ УКРАЇНИ

Received: July 5, 2023 Accepted: August 23, 2023

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Abstract

The article analyzes populist trends in the modern social and political space of Ukraine, in particular, the process of introducing the myth of the cultural hero. The methodological foundation is Jungian philosophy, which recognizes that social activity is caused by the motivational forces of the collective unconscious (C. Jung, E. Fromm, J. Campbell). The hypothesis is put forward that the political choice of the electorate is a manifestation of the objectification of the universal cross-cultural myth. During the analysis of the architectonics of the corresponding myth, 11 mythologemes were found, combined into a narrative about the evolution of a prominent person. The presence of these mythologemes in the television series “Servant of the People”, which contributed to the victory of the young actor Vol. Zelensky in the presidential elections of 2019, was traced. It is concluded that the mentioned cinematographic product covertly influenced the electoral position, forming it by means of instrumental labelling based on a myth imprinted in the subconscious.

Keywords: political myth, cultural hero, mythologeme, collective subconscious, manipulation of mass consciousness.

Анотація

У статті аналізуються популістські тенденції в сучасному суспільно-політичному просторі України, зокрема, процес впровадження міфу культурного героя. Методологічною основою є юнгіанська філософія, яка визнає, що соціальна активність зумовлена мотиваційними силами колективного несвідомого (К. Юнг, Е. Фромм, Дж. Кемпбелл). Висувається гіпотеза про те, що політичний вибір електорату є проявом об’єктивації універсального кроскультурного міфу. Під час аналізу архітектоніки відповідного міфу виявлено 11 міфологем, об’єднаних у наратив про еволюцію видатної особистості. Присутність цих міфологем у серіалі «Слуга народу», який сприяв перемозі молодого актора В. Зеленського на президентських виборах 2019 року відслідковували. Зроблено висновок, що згаданий кінематографічний продукт приховано впливав на електоральну позицію, формуючи її за допомогою інструментального маркування на основі закарбованого в підсвідомості міфу.

Ключові слова: політичний міф, культурний герой, міфологема, колективне підсвідоме, маніпулювання масовою свідомістю.

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Introduction

Since the beginning of the 21st century, populism has become a widespread form of interaction between citizens and authorities in democratic political systems. Populist consciousness is based on the leader flirting with the masses by speculating on the real needs and interests of the latter. Unsubstantiated promises, demagoguery, maximalism of statements, mandatory criticism of predecessors, a simplified view of life, belief in a panacea for all problems, search for the "Another" (from among immigrants, refugees, political opposition, representatives of racial, ethnic, linguistic, religious minorities, as well as the "rich men" – the financial and political elite), in whom the roots of all troubles are seen – these are just some signs of populism. Populists intuitively feel that they act in the objectively right direction, but, carried away with everyday concerns (winning the election by their leader, eliminating competitors, creating a positive image of their own party, etc.), they often forget about the ultimate goal. Nevertheless, populism is confidently sweeping across the planet, demonstrating that in the conditions of the growing role of political technologies, the populist tactics of dilettantes are no less effective than the competition of experienced managers. more usual for democratic procedures. The coming of populists to power can become a serious problem, because public administration carried out by non-specialists and novices automatically causes a series of crises or even disasters in economic, domestic and foreign political life, negatively affects the material condition of citizens, the legal regulation of their relations, naturally causes dysfunction social institutions, corruption, inflation, decline of public morality, etc.

When people talk about the power of populists, first of all, they talk, about Donald Trump and such a phenomenon as "Trumpism". However, this phenomenon is not limited by the borders of the United States, and even in Ukraine, we have a pronounced example of how, with the help of populist promises and flirting with the "audience", a person who previously had neither relevant knowledge and experience, nor skill in managing institutions of the state and society, received the highest political position. Case of Vol. Zelensky is, in Iryna Bekeshkina's opinion, is an evidence of a high level of development of political technologies, which "created a presidential candidate out of nothing."

Why, ignoring the basic logic of cause and effect relationships, did a significant part of the Ukrainian electorate support beginners who are weak in state leadership in the presidential elections in 2019? Political scientists, social philosophers and psychologists are still looking for an answer to this question. The vast majority of them indicate the vulnerability of the mass consciousness to external technical and manipulative influences, the low level of critical thinking and the excessive flexibility of public morality (Biletskiy, 2016a, 2016b, 2018, 2019; Dodonov R., 2016; Dodonov D., 2017a; Dodonov R., 2017b). In particular, it was proven that the broadcast of a specially constructed sprawling mythology, which is based on the collective unconscious, is a basic tool for controlling people during the hybrid war waged by the Russian Federation against Ukraine.

The methods of suppression of critical thinking and the spread of mythology can produce fear, direct hatred, enmity and aggression in the direction needed by politicians. The masses themselves become obsessed with a fanatical political belief in given simple ideas and easily manipulated by corresponding slogans. In this way, instrumental influence on the masses can act as a modern weapon.

Is a similar technology of myth-making the modus operandi in influencing the electorate? Obviously, there is a good reason for heroizing the comedian Vol. Zelensky, endowing him with imaginary qualities of a hero of the nation, an ideal leader, a messiah, and making him the favorite of the presidential race in 2019.

We suggest that in the case of this and similar rapid ascents of political dilettantes and their victory over specialists with great experience, we are also dealing with the manipulation of mass consciousness – a hidden technological influence on society (*Kara-Murza, 2005*). The basis of such influence is the construction and mass implementation of a special mythological narrative with a predetermined goal.

We assume that during the pre-election campaign for the 2019 presidential election, an information product of a manipulative essence, which can be conventionally called an "electoral myth", was broadcast to the masses. It obviously contained discourses, archetypal patterns that increased the impact of the popularity of a *given* person, created an aura of his chosenness, sacredness, and endowed him with the qualities of an unconditional leader.

We would like to note that if this hypothesis is confirmed during the work, it will be necessary to state the dysfunction of the election institution. Political-technological manipulation of society means changing the very essence of *free conscious* voting. Manipulation turns a critical, mentally mature electorate into a *weak-willed object*, puppet-controlled by activated programs of the collective unconscious.

The purpose of this article is a detailed dissection, highlighting of the architectonics and semantic contexts of the subconscious mythological narrative about an outstanding unique sacralized personality – a “cultural hero.”

Theoretical references or literature review

The direct key for theoretical analysis is the works by V. Propp and J. Campbell. It was these authors who covered the cross-cultural and timeless heroic narrative comprehensively. At the beginning and at the end of the 20 th century, they independently presented their integral vision of the myth of the formation of an outstanding person with the gradual unfolding of immanent discourses.

Research Methodology

The methodological basis of the theoretical part of the work is the scientific and philosophical ideas expressed by C. Jung, E. Fromm, V. Propp, J. Campbell, M. Eliade, G. Sorel, C. Levi-Strauss. Having analyzed the architectonics of the mythological component of the subconscious of the masses and peoples, these authors independently reached completely identical conclusions. The classics of psychoanalysis, folkloristics, religious studies and social philosophy believed that the heroic-archetypal narrative is *the universal background of the conscious activity of any modern person*. In addition, it has a powerful influence on political choices, encouraging the electorate to subconsciously prefer persons associated with the mythical hero.

The following analysis and comparison of their positions will allow us to build an interdisciplinary synthetic view of the myth of the cultural hero (*Campbell, 2018*). A descriptive method will also be used to clarify the semantic content of each of the subsidiary mythologemes.

According to the purpose, we will focus on the search for philosophical and paraphilosophical literary sources, the authors of which analyze the heroic-mythological component of the collective subconscious. After that, a theoretical comparative analysis of the approaches to the components of architectonics of the cultural hero myth and their contextual and discursive content will be conducted. This will make it possible to practically track the presence of subconscious semantic blocks in the campaign material that promoted the candidacy of V. Zelensky. If the latter are established, the assumption about the creation of a political myth, artificial sacralization and hidden influence on the masses will turn into a proven fact.

The practical part of the work will consist in the study of the video product, which was broadcast immediately before the elections of the President of Ukraine in 2019. It was in the TV series “Servant of the People” that actor Volodymyr Zelensky *played the role* of a person who became the leader of our state.

The working hypothesis of this study is the assumption that this series was not an entertaining political satire from the very beginning, but was created with a premeditated manipulative purpose. After all, the actor who played the main role of the President of Ukraine a few years later actually became one. And it is unlikely that a mystical coincidence took place here.

To confirm this hypothesis, the method of factuality, content analysis, and a comparative approach are involved. They will make it possible to perform a scientific search and highlight the presence of hidden and therefore manipulative discourses, symbols, events, etc., similar to the stages of the unfolding of the myth of the cultural hero, in the video product.

We would like to note that the philosophical terminological base we use is generally postmodern. The terms that describe the stages of the populist myth and the names of its characters were borrowed from the works of anthropologists, culturologists, ethnographers, and sociologists, which explains the specificity and original articulation of these concepts. Such are, for example, the concepts of the Prophet, Magical Helper, Guardian of the Threshold, etc.

Results and Discussion

Psychoanalytic philosophy, having significantly expanded and clarified the vision of the hidden continuums of the psyche, clearly demonstrated the weight of the *collective* unconscious in the determinism of human behavior. C.-G. Jung *(1968, 1996, 2016)* and his followers proved that it is the collective subconscious, structured by archetypes, that determines preferences, sets the criteria basis for evaluating oneself and reference persons, namely family, religious, political, etc. The search for the genetic and ontological foundations of this layer of the human soul led philosophers to the conclusion about its *hereditary* nature (*Jung, 1996, 2016; Halbwachs, 2007; Szondi, 2007, Fromm, 2006*). In other words, collective unconscious constructs are *fundamentally similar* in all people. They are inherited from the ancestors most distant in time, who lived in clan and tribal societies and used a mythological worldview.

It is important that in parallel with this, during the 19th and 20th centuries, classics of sociology, cultural studies, ethnography, folkloristics and archeology found surprisingly similar behavioral complexes and myths in the everyday and ritual practices of the peoples of the planet (*Propp, 2000, 2001; Eliade, 2010, 2018; Sorel, 2012; Levi-Strauss, 1988, 1991*). This fact of similarity attracted the attention of psychoanalytic philosophy and made it possible to see *what exactly* was inherited from ancestors. It became possible to clearly associate the constructs of the subconscious with specific practices and beliefs of primitive societies. There was a transition to object-fact analysis of individual subconscious archetypes and mythological narratives.

One of the most notable was the archetype of the Hero (cultural hero) and the corresponding narrative about the formation of the sacred person as a messiah, savior of the people, etc. This mythical narrative was studied in detail by culturologist and folklorist V.Y. Propp and Jungian philosopher J. Campbell.

It is these scientists who give us the direct key for theoretical analysis problem of our research. It was these authors who covered the cross-cultural and timeless heroic narrative comprehensively. At the beginning and at the end of the 20 th century, they independently presented their integral vision of the myth of the formation of an outstanding person with the gradual unfolding of immanent discourses.

In addition, it is these authors who give us the most fruitful material, since their visions, firstly, complement each other, and secondly, are systematized in detail. The mutual addition of these authors is that J. Campbell found the same algorithms of the mythological narrative among the legends of the peoples of the world, and V. Y. Propp focused more attention on the identity of the functional characters in the myth of the cultural hero. Their developments are convenient for our comparative analysis and synthesis of the overall picture of the unfolding of the myth in the subconscious.

So, the universal cross-cultural monomyth about the Hero, which is observed among all the peoples of the world and is secretly present in any person, contains the following gradually built mythologemes-discourses.

The architectonics of deployment of the mythologemes

1. ***Appearance of the character.*** The transformation of an average person into a Hero is in its early stages. At the moment, the myth shows its *dawn* – a discourse is held that this character is an ordinary person who is engaged in the usual affairs and concerns of their social group. Symbols of *family impoverishment* (poverty), problematic routine life, monotony of existence are used in the mythologeme. There is also the idea that such a life, from which a person must escape, is *unreal, a dream, a delusion*. J. Campbell believes that for further sacralization, the monomyth will contain a picture of the *mysterious* (unusual) *birth* of this person, orphanage, abandonment as an infant, etc. (*Campbell, 2018: 249, 253*). It is also very likely that this child has *innate signs of a future calling*. The masses are convinced in advance that the future leader came from an environment identical to them. He is, so to speak, "friend", similar, "almost me". It should be noted that according to this logic, the appearance of the future Hero at this stage *will not be too expressive*. It should embody as many attributes of general population as possible.
2. ***Awakening and feeling the call.*** The narrative shifts to a discourse of *sudden loss (or risk of loss) of something important* without which a previous, relatively peaceful existence would become uncomfortable or impossible. This can refer to personal belongings, loved ones, or their health, or work, etc. *("The Call to Adventure" according to J. Campbell, 2018: 47-54; "Trouble and opposition" according to V. Propp, 2000: 30*). As a rule, such an event is accompanied by a meeting with the Prophet of the future journey. Someone or something should *push* the Hero to the need to leave, escape from his previous life, to have a trip, to travel. In the myths of peoples, a wide selection of images of a *teacher, older people, violent sudden weather*

changes, *and atypical behavior of animals* are reflected. It is interesting that J. Campbell considered *an expressive appearance*, *old age* or even *zoomorphism*, which signifies the *chthonic* nature, to be common to the Prophet. There can be *several* Prophets in the myth and calling situations – that is, the Hero is awakened by *a number* of chthonic forces. They predict changes, adventures, exit from the usual society, travel and future metamorphoses to acquire supernatural properties or (and) artifacts. The myth shows that the space of these adventures is *extremely mysterious, full of power, energy, and secrets*. This space of the incomprehensible in the mythologeme is associated with images of *the sea*, *a cave*, *a mountainous country, an underwater world, an island*, etc. The *extreme* remoteness of the locus of the future journey and the *disregard of travel time* are also characteristic. This is quite predictable, because the primitive consciousness is atemporal and does not operate with specific units of time.

3. ***Refusal of the call***. Hero's call to travel, escape from the usual society *can be ignored* (*Campbell, 2018: 54*). Then there is a state of stagnation, decline of spiritual forces. This can be embodied in symbols of death, illness, sleep, numbness, freezing, déjà vu, repetitiveness, slowness, routine of being, sadness, etc. From J. Campbell's point of view, the above stages symbolize *the embryonic state* of the Hero, his stay in the womb, birth and infantile state. The next stages of the narrative demonstrate *the formation of a mature autonomous harmonious strong personalityi*.
4. ***Re-encountering with the Patrons***. The state of apathy and depression of the Hero continues until the threatening circumstances of life and the infinitely powerful Patrons still force him to go on a journey (*"Supernatural Aid" according to J. Campbell, 2018: 60-67; "Getting a magical remedy" according to V. Propp, 2000: 36-40*). As in the second stage, these persons are personifications of ancestors or chthonic forces, but here, according to analysts, their personifications *will tend to the female appearance* and (or) to zoomorphism. This is probably explained by the fact that totemism and matriarchy historically preceded the patriarchal system. At the same time, if there are several assistants, then the appearance of one of them will be feminized, because the patronage of leaving the womb and ending the embryonic state is associated with female support. Therefore, it is likely that practitioners of consciousness manipulation will try to use the signs of old age together with power, spiritual energy. There is also a possible plot when the Hero will be helped by dead but authoritative relatives who appeared during a dream or vision. Patrons, *finally awakening the future leader*, give him useful advice on further trials, helpful amulets, tools, magic formulas, prayers, etc.
5. ***The beginning of the journey. Overcoming the first threshold.*** The activated protagonist begins his journey and almost immediately meets an obstacle, namely a person who prevents him from entering the mysterious country (*Campbell, 2018: 67-76; Propp, 2000: 3-88*). *The Guardian of the Threshold* is watching so that profane people do not get into the mysterious territory. But the Hero is *no longer* like that. His state of readiness is due to acquired knowledge, obedience to the instructions of his ancestors, loyalty to traditions, possession of ancestral knowledge and useful artifacts. The main character tries out these gifts of the Patrons, engaging in a duel with the Guardian, resists the temptations and wins. The discourse demonstrates the acquired fearlessness, courage of the Hero, his resistance to tricks and ingenuity. Moreover, he wins *not by physical strength, but by self-control, exceptional mental and moral qualities*. Physical victory, actually, is secondary.
6. ***Entering the mysterious space.*** Analysts are unanimous in the fact that before entering the mysterious space, the Hero needs to be reborn *("Belly of the Whale" according to J. Campbell, 2018: 76-83; "Mysterious forest", "Temporary death", "Divided and lively" according to V. Propp, 2000: 36-89*). It is necessary to turn from an ordinary, albeit gifted person into a supernatural being. He needs to experience *a symbolic death* and a second birth – *to enter and leave the womb again*. Such a transformation will endow the protagonist with mystical qualities and make him sacred. Therefore, the storyline of the myth plunges the character into a cave, the sea, the belly of animals, a furnace, a black palace, a mysterious and dark world, etc. In our opinion, the adaptation of these symbols for a modern person will look like a long corridor, a mine, a cave, a subway, a submarine, a labyrinth, a tunnel. The mythologeme shows the contrast between the profane world and the "world of wonders" which the Hero enters. After exit

from the other side – from the magical side – he ceases to be just a person and begins to use supernatural properties. But they still need to be consolidated in the process of passing the test.

7. ***Initialization***. Currently, the narrative introduces an opponent, an anti-hero, whose image will appeal collectively to the corresponding archetypes of the Thief, Trickster and Chaos. In his attributes, there are allusions to fire, darkness, blood, death, decay, etc. The content of this discourse is to demonstrate the successful passage of the Hero's physical and spiritual tests *("Initialization", "The Path of Trials" according to J. Campbell, 2018: 83-91; "The serpent in the story", "Serpent absorber" according to V. Propp, 2000: 183-207*). The tasks set before him are almost impossible, but he successfully overcomes them. In this way, he demonstrates a constant ability to supernaturally *establish his order*, by definition, the order of goodness, light, truth, and justice. After victory, the opponent either voluntarily recognizes the priority of the Hero and gives him a gift, or the trophies are obtained after the death of the anti-hero, or the Hero gets them by tricks. This reward will be discussed below.
8. ***Union with the ideal woman***. The finale of tests and initialization is the union of the Hero with the Perfect Woman, who until the moment of meeting him, is in a local place of the Magic World *("Meeting with the Goddess" according to J. Campbell, 2018: 91-103; "Bride" ("Princess") according to V. Propp, 2000: 258-265*). This place is associated with gold, crystal, white color, spring, well, tower, etc. She is either in a state of sleep or in social isolation. The Hero's victory activates it – liberates, enlivens, awakens. *Finding* the Woman is directed by the myth as *a separate adventure, a quest* during which the Hero cleverly selects her from among other women – similar, but somehow false ones. According to the researchers, the Perfect Woman personifies the images of a mother, sister and wife. The first and last roles are especially important. She must act as the Mother, who is potentially able to be the substrate firstborn for the new Cosmos. The Hero needs to make a lot of effort so that such an independent and proud person becomes his Wife. Marriage has a serious meaning. It symbolizes the integration, the combination into one whole of opposite primals – the knowable one and the one who knows, the activating and the substrate ones, the force and the guiding subject. "The mystical marriage with the regal Goddess of Peace symbolizes the Hero's complete dominion over life, because the woman is life, and the hero is the master who has come to know it" (Campbell, 2018: 100). So, in the collective subconscious, there is a discourse about the evolution of the *perfectly harmonized* personality of the Hero. He appears as a reference person, a potential all-powerful creator of the Universe. In addition, there is an equally important context – this person *has earned love, gained love*. In other words, the Hero is a *pre-unconsciously* beloved person who orders chaos, a messiah, a source of good, an adjuster of social order and justice.

Let's go further in our investigation, because the myth must return the protagonist back to the people *with a certain gift*. In addition, the return should be *expected* almost frustratingly.

9. ***Receipt of reward.*** The hero passed the test and exhausted the sense of staying in the Mysterious Space *("Apotheosis" and "Reward at the End of the Path" according to J. Campbell, 2018: 122-158).* The Myth should reward him with a valuable trophy, discovery, or gift that the Hero acquired through fair combat or trickery. In the legends of the world, this treasure is associated with fire, living water, elixir, panacea, rejuvenating apples, magical weapons, etc. There is also a discourse of *extraordinary importance, the exceptional value* of this gift for people and *the urgent need* for it. We believe that during the broadcast of this mythologeme, there will be an appeal to similar symbols, because the collective subconscious of the masses will sensitively resonate with this artifact due to its original fetishism.
10. ***Magical escape***. Finally, the Hero begins a return to the ordinary, profane world *("The Magic Flight" and "Rescue from Without" according to J. Campbell, 2018: 161-177; "Magical flight" according to V. Propp, 2000: 298-305)*. The purpose of this is essentially messianic. A tribe, community or state needs to be given a gift – healing, renewal, prosperity, truth, order and justice. The scenario of the return path can be simple. If the defeated guardians of the talismans authorized the Hero to return home, then he gets there without any obstacles. But a more common adventure plot is the *chasing* a couple. Threshold

guardians and antagonists can prevent the return and the protagonist secretly escapes from them. During the chase, he leaves them behind and leaves a number of obstacles in front of the pursuers – probably three in number (*V. Propp, 2000*). The purpose of this is essentially messianic. A tribe, community or state needs to be given a gift – healing, renewal, prosperity, truth, order and justice. The scenario of the return path can be simple. If the defeated guardians of the talismans authorized the Hero to return home, then he gets there without any obstacles. But a more common adventure plot is the *chasing* a couple. Threshold guardians and antagonists can prevent the return and the protagonist secretly escapes from them. During the chase, he leaves them behind and leaves a number of obstacles in front of the pursuers – probably three in number.

11. ***Return to the world of people.*** The return journey of the transformed Hero and his couple will again be through the cave, the sea, the mountains, through the sky *("The Crossing of the Return Threshold" according to J. Campbell, 2018: 178-198; "The decisive obstacle", "The Enthronement of the hero" according to V. Propp, 2000: 289-292, 298-305).* It is possible to embody the named symbols with modern means by attracting the entourage of the subway, airport, tunnel, long and dimly lit corridors, etc., from which *the Hero comes out to the people who have been waiting for him for a long time*. From now on, from the position of the collective unconscious, he not only unites two primals in himself – male and female ones, but is also an inhabitant of two worlds – profane and sacred worlds, personifying them in himself. That is, the myth creates a powerful syncretically whole and extremely harmonious being. He is expected, people want to love him in advance, imitate him, recognize his priority.

It is also important that the Hero, *due to constant transformations*, must have features of a radically different appearance at the end of the journey than at the beginning. He, for example, must get scars, physical defects, signs of torture, trials, maturity (Propp, 2000: 258, 297). Metamorphoses of the hero is *one of the obligatory processes of the monomyth* (*Campbell, 2018: 253-290).*

Now, let's move on to the "case of Volodymyr Zelensky" and the practical analysis of the "Servant of the People" TV series *(IMDb (n.d.) Servant of the People*).

Regardless of our hypothesis about it as a form of delivery of manipulative content, the series had a high popularity rating (Metacritic (s.f.)). That is, the mass *liked* it.

Before the presidential race, "Servant of the People" was watched by more than 20 million citizens of Ukraine *(BBC News, 2019)* and broadcast in two dozen countries around the world (Hrytcfeld, 2019).

Objectification of mythologemes in the TV series "Servant of the People"

Episode 1. It is not difficult to see that discourses are held here, which are components of the first two mythologemes of the narrative about the formation of a cultural hero. The mythologeme "Appearance of the character" is fully implemented and "Awakening and feeling the call" begins to be partially demonstrated.

The main character, Vasyl Petrovych Holoborodko, appears as a simple ordinary poor person, a citizen of Ukraine, a school teacher. At the same time, *his belonging to precisely Ukrainian society* is emphasized in detail. The symbols of the state are shown with emphasis, the actors reproduce the accent, regionally familiar dialectics.

It should be noted that the fact that at the beginning of the story, *independence is not inherent in* the hero absolutely coincides with the directing of the mythology of the collective unconscious. He has many traits of household helplessness, cowardice, fussiness of the mental state, *he is not married*. That is, he is *not a complete mature personality*. He is funny and laughable, which is also identical to the myths in which the future messiah *first appears as a fool*.

The discourse "Awakening and feeling the call" is presented synchronously.

Right at the beginning of the video product, the viewer sees *Evil*. In fact, it is corruption at both the political and administrative levels. But here it is hypostatized and personified in the person of the oligarchs. The audience is shown their infernal qualities – blue skin color, black clothes, hiddenness from the eyes of other people, communication in the dark (that is, invisibility).

The theory of the architectonics of the myth requires a situation of *crisis and trouble* in which the people, the hero's family and he himself are. And this is completely reproduced in the series. The protagonist and his family are immersed in *an atmosphere of trouble*. They have limited living conditions, minimal comfort, and the character's low salary is emphasized.

These honest and completely moral persons *suffer* because of Evil (corruption) and dysfunction of social institutions of law, morality and education.

It is also significant that the cinematographic product demonstrates other subconscious narrative symbols. *The threat to the hero's father* is shown here (*the fourth minute of the episode*). At the 12th minute, the hero directly articulates the feeling of the categorical impossibility of staying in the current conditions.

In the 11th and 14th minutes, the video product involves *an alternative reality* in the plot. *Fragments isolated from the course of the plot* are shown, during which meetings of the basic character with *a nameless* but *powerful* person are shown. Later it turns out that this is the Prime Minister of Ukraine Yu. I. Chuyko. He claims that a school teacher becomes the President of Ukraine in an unpredictable way, surprising for the viewer.

This is how *the functional persona of the powerful Prophet* is introduced, who *predicts* the protagonist's acquisition of leadership. This character, as in theory, is endowed with the attributes of calmness, wisdom, prudence, experience and older age. He shows pictures of a radically different life, filled with previously unimaginable benefits, mysterious objects, etc.

It should be noted that *the sudden appearance of an alternative reality from the point of view of depressing effect on the critical mind of the viewer is quite justified*. Let's explain this position separately.

Since viewers understand that such events absolutely *cannot happen* in real life, there are two ways out for them.

First. Observing obvious nonsense from a rational point of view, a person *will lose interest in the series*.

Second. The viewer, intrigued by the appearance of the magical course of the plot, the popularity of the talented actor Vol. Zelensky, with the promise of magical transformations of the character, *will reject the rational level of perception*. In order not to encounter cognitive dissonance, viewers adjust to *the perception of a fairy tale*. After all, only in it can magic, transformation, prophecies, etc. take place. This level of reflection is characteristic of any person since childhood.

In other words, the creators of the series *instrumentally* make active critical thinking *irrelevant and redundant*. *They turn it off*.

The collective viewer is invited to accept the information *precisely as a myth*. It is suggested to uncritically believe in the myth and contemplate passively. This role does not involve skepticism, self-analysis and criticism, but only affective subconscious reflection and faith.

According to the above statistics of international cinema databases, tens of millions of viewers have chosen this response strategy.

At the end of the first episode, the main character's entourage emphasizes that he needs to run for president. That is, the symbol of the future movement, the *journey*, which is still *denied* by the protagonist, is additionally introduced.

Episode 2. It begins with the given already surreal technique of paradoxical mixing of realities. The character of Vol. Zelensky doubles up and is present in two worlds. Obviously, this is how the discourse of *traveling to a magical world*, characteristic of the mythologeme "The beginning of the journey. Overcoming the first threshold."

In an alternative reality, the protagonist is already *beginning* to be the President of Ukraine – here surprising and unusual events begin to happen to him. But the hero *is not the active subject of these events* – they are secretly managed by a character who performs the function of the Prophet. The latter *guides* the hero through these events, provides patronage. That is, the cultural hero is shown at the stage of formation.

The storyline of the avatar of V.P. Holoborodko as a teacher still dominates. It is here that the manipulative discourses of the mythological narrative unfold further.

In particular, the threat of *losing one's usual existence* through a prohibition of holding a current position increases (*6-7 minutes of the episode*). This threat is formulated as ostracism. Expulsion, exile and the starting point for future metamorphoses are formulated by a functional character – an evil aggressive woman (the school director).

In an alternative reality (*8th minute*), she emphasizes that V.P. Holodoborodko should thank her, as she saw potential in the future President and gave him the initial "push."

We should note here that it is always possible to emphasize the parallel functions of the characters of "Servants of the People" and the tales of the peoples of the world. For example, this headmistress and the entire female team are completely identical to the evil stepmother and sisters in the famous Cinderella. But the purpose of our article does not allow such distractions.

So, the motive of sending the protagonist on a journey and the beginning of trials in the film is fully formed.

At the same time, the depressing effect on the viewer's critical thinking intensifies. The alternate reality storyline is evolving. Here the protagonist is shown as a victor over evil, a favorite of adults and children, their idol. According to the folk song (*9th minute*), the earth and people should rejoice because the "son of God" was born. We see that the national folklore that glorifies Jesus Christ was used in the film to deify the hero Vol. Zelensky.

The fact of such an attitude does not cause the protagonist's outrage. Under the patronage of the Prophet, who already performs the function of Assistant, V.P. Holoborodko continues to adapt as the nation's leader. So far, the protagonist is shown as a naive and honest amateur.

At the end of the second episode, the hypostases of evil are shown. As before, the effects of their internalization are used – their facelessness, ability to change appearance. Evil begins to feel threatened by V.P. Holoborodko, because this President was suddenly out of control.

From the 18th minute, the plot is rationalized. The alternate reality is somehow consistent with the real one. Here it is shown how an average poor citizen was able to become the President of Ukraine.

Episode 3. In accordance with our assumption, the characters of powerful Aides are introduced into the plot, that combine the signs of wisdom, spiritual energy, old age, sophistication and the afterlife. These are the ancient Greek philosopher Plutarch and historian Herodotus. Coming to the hero in a dream, they tell him about the need for a radical change in the state structure in Ukraine. Again, according to the collective unconscious, the cultural hero *must become a king* in the finale of his metamorphoses. Therefore, it is not surprising that Plutarch and Herodotus indicate to the hero that an autocratic system is the best for Ukraine.

The plot of the episode involves the preparation of the hero for the inauguration, which is similar to the stage of *Entering the mysterious space* before the *Initialization.*

The theory of the architectonics of the subconscious requires a new birth (rebirth). In the film, it is implemented starting from the 10th minute of the episode. The hero comes across a lot of new information, manages to undergo *a rejuvenation procedure* in a short time. He is placed in *cardinally new spatial conditions*, including in a closed space, passes through labyrinths, corridors formed of people (analogues of caves, bellies, etc.). All this is very important for a competent influence on the unconscious of spectators.

The verbal information that accompanies the video suggests to the viewer the discourse of the holiness of V. Holoborodko's hero (*end of the 12th and 17th minutes*).

Having found himself in the mysterious space, V.P. Holoborodko is forced to quickly activate his communication skills, memory, overcome feelings of fear, and concentrate.

The faceless avatars of Evil begin to feel the progressive potential of the protagonist, his ability to defeat them.

Episode 4. The preparation of the Cultural Hero for the inauguration continues, which takes place with the help of functional assistants. The latter introduce the protagonist to numerous trials that will require concentration, a good memory, the ability to observe rituals, developed language skills, etc.

The collective viewer is episodically shown a female character whose functional load is unclear at the moment. Emotional contact with her is currently cool. The main character is divorced from this woman, but has a child together.

Among the assistants, Abraham Lincoln plays a special role here, the mystical meeting with him has a teleological function (*20-21 minutes*). The 16th president of the USA prompts the protagonist to understand his own messianic role for the Ukrainian people.

At the end of the episode, the inauguration itself is shown, the subconscious analogue of which is, of course, the initiation rite. It is interesting that despite the intense preparation for this ceremony, the protagonist goes through it concisely, not pathetically and not difficult.

The author of the article considers the practical absence of sacred paraphernalia during the inauguration (initiation), as well as the fact of past marriage, as signs that manipulators do not fully master the theory of myth-making. These are their obvious mistakes. Unlike the previous manipulative discourses, the initialization of the Hero in the new space is unconvincing – he does not pass the test, does not metamorphose, does not fight evil, etc.

Episode 5. The analyst can see that the mess continues to progress in the broadcast of the political myth previously consistent with the theory. Episodes disjointed in meaning are demonstrated, the discourses of which would have been appropriate at earlier stages. The mother and father equip the Hero for the journey, providing a magical amulet that is quite appropriate for the Ukrainian mentality (a pin). This, as well as advice and guidance, testify to the reversal of the plot to the discourse of preparation for the journey.

Then, the protagonist overcomes numerous temptations and pronounces his own slogan "Love for work. Honesty. Justice." This would be appropriate at the testing stage.

He replaces the previous head of state *without a struggle*. The function of the latter is amorphous, this event itself has no meaning. The former President is deprived of power and functionally is not the main avatar of Evil.

The number of functional Aides is growing up to several dozen. Hero's father and mother suddenly stop demonstrating high moral qualities, greed, middle-classism and the desire to parasitize on their son's image take over them.

A scene from the past falls out of context. Verbal competitions between V.P. Holoborodko and an old school history teacher, where a high erudition on the proverbs of the peoples of the world was demonstrated. This is not appropriate after initiation, as this is a typical encounter with the Prophet.

Episode 6. The functional persona of Ernesto Che Guevara is introduced as another Magical Aide.

This probably indicates the prolongation of the broadcast of the mythologeme "The Path of Trials" ("Initialization", "The serpent in the story" etc.).

According to the myth, the character of V. Zelensky *must actually* defeat Evil. This *has not happened yet*. Only after this event can he be subconsciously perceived as a messiah. Che Guevara seeks to cultivate the militant qualities of V.P. Beardless for the radical eradication of Evil, however, unsuccessfully.

The hero, repeatedly called "god" and "savior" does not turn into a powerful hero, remaining an indecisive coward. He does not dare to confront aggressively. The maximum he tries to do is moralizing conversations with secondary personifications of the antagonist – deputies of the Verkhovna Rada, and his own family.

Episodes 7, **8**. The discourse of the fight against Evil as a whole receives further development. Among the Mystical Helpers, the role of a hitherto secondary character is strengthened. This is the female avatar of the auxiliary forces – Bella Rudolphivna. She is fully consistent with the theory of myth-making and implies signs of experience, age, wisdom, prophecy, physical strength, and steadfastness. That is, this multi-layered character is associated with the forces of ancestors, chthonic beings and the mother. Her function includes *constant guardianship* of the protagonist. She monitors his appearance, feeds him, quickly provides him with the necessary items, *knows how to anticipate events, possesses any information*, etc.

Along with this, the transmitters of the myth here also assume a number of inaccuracies. For example, the Protagonist sometimes wants to be a teacher at school. But the main incongruity is that the still main magical Aide (Yu.I. Chuyko) *suddenly and radically changes his function*. He turns out to be a corruptor, a partner of the hypostases of Evil.

From this moment on, he is associated with the image of the archetype of the *trickster anti-hero, the insidious Procrustes, the Serpent*. Myth theory *does not categorically provide the space for such reversals and polar changes of functional characters.*

Thus, the cultural hero begins *an intellectual confrontation* with Evil in the person of his recent Aide and wins an interim victory. The selection of the Hero's associates-helpers in the further struggle is successful.

On the second plot background, the improvement of the emotional contact between the Hero and his ex-wife, who still does not play a clearly articulated functional load, is presented. She clearly cannot be a mythological Bride.

Episodes 9-18. The faceless main incarnations of Evil analyze their defeats and build tactics for their countermeasures. Their main goal is to make the Protagonist manageable by finding compromising facts.

The mythologeme "The Path of Trials" receives further development. Associates of V.P. Holoborodko are trying to quickly adapt to unfamiliar workplaces. It is difficult, but they, overcoming difficulties, generally demonstrate energy and morality.

Viewers are shown separate stories about their resistance to corruption. Aides overcome the temptations of power, illegal material goods, money, *treasures*, which are similar to *inherent in fairy tales*. For example, in the Episode 16, gold bars are shown (15th-18th minutes). New personalities of mystical advisers appear, for example, Gaius Julius Caesar, Yaroslav the Wise, Louis XVI. However, these meetings are episodic, sudden and do not develop. An increasingly prominent role among the forces of Good is played by their already mentioned projection – Bella Rudolphivna.

The main character's family continues to function as latent agents of Evil. The protagonist begins a struggle at this level as well – including with his own father and sister. This struggle is weakly effective. It is expressed only in moralizing conversations and monologues. The carried out reforms, which are mentioned in the 17th episode, do not cause significant damage to hypostatized corruption.

In the fight against this evil, the protagonist ignores the interests of ordinary citizens, adopting unpopular laws. An increase in the retirement age, an increase in the rate of excise duties, etc. affects the decline in the popularity of the hero Vol. Zelensky and the risk of public protests.

Episode 19. The Trickster articulates the will of the forces of Evil and threatens the main character with an artificially initiated popular uprising and removal from office. The hero is asked to directly meet the antagonists and not fight them.

The meeting is happening. The oligarchs are metamorphosing. They already have a completely human likeness, but are called mythical *whales*. In a calm conversation, they unsuccessfully offer a bribe to the President.

No aggressive actions or other confrontations take place.

At the end of the episode, the viewer is offered a new functional female character – Hanna Mykhailivna. Obviously, she personifies the mythical Ideal Woman ("Bride") and combines the signs of youth, health, morality, modesty, self-sufficiency, mystery, etc.

It should be assumed that from this moment (21th-23th minutes) the series will introduce the mythologeme of *Union with the ideal woman* with appropriate discourses. Sympathy develops between the woman and the protagonist. Their meeting and conversation are enriched by a magical entourage – they take place at *night*, *alone* and are a secret. The female functional tests the Hero. The discourse of *riddles*, typical for a myth, is introduced. The girl gives a choice of *three things*. The main character rejects the excessive one (alcohol). She then emphasizes the importance of the mission of the character of Vol. Zelensky for the people.

From the point of view of the impact on the collective unconscious of the viewer, it is also interesting that the parting is combined with Beauty *entering a closed space*. This is the same as the Bride being in a tower, a crystal coffin, a prison, sleeping, etc. Theoretically, the protagonist will have to symbolically *liberate* her.

Episodes 20, 21. The character "Perfect Woman" radically changes the function. She appears as an agent of Evil, seeks to compromise (seduce) the main character. At the same time, the girl's *magical metamorphosis* takes place. They oscillate on a continuum between the extremes of "virgin" – "harlot" or "Bride" – "Witch."

A powerful attack is made on the virtues of the Hero through the named female functional. The attack is successful. The Hero has artificially initiated lust. The girl gets partial (magical) power over his psyche, due to which he is unable to effectively fight against Evil, which is corruption. Obviously, here the viewer sees the *culmination of the "Initialization" mythologeme.*

As in the myths of the peoples of the world, the Aide comes to the aid of the protagonist. Bella Rudolphivna suddenly finds herself in the right places and interferes with the magic of seduction.

But to bring mental balance, the efforts of the main Aide are not enough. A second-in-command, namely the ex-wife of V.P. Holoborodko, quickly comes to the rescue. She seeks to restore his moral and mental qualities by activating parental feelings and responsibilities. The joint efforts of the Protagonist and his Aides, including secondary ones, are enough to counteract. The seductress fails.

The emphasis on the mysticism of the Hero's struggle is intensified in his conversation with his son. Oligarchs are called *orcs* here, the need to acquire *"super-power"* is discussed. Functionally, the son is a projection of the madness and rebelliousness of the main character himself – this is said, in particular, in the 3rd minute of the 21st episode. In the conversation, it is decided that the Hero will receive supernatural qualities for fighting *from his son* – that is, he will have them *from his own rebelliousness*.

Episodes 22, 23. After unsuccessful attempts to make V.P. Holoborodko controllable, the oligarchs plan to eliminate him physically. Later, during a television report on the fight against corruption, the Protagonist publicly defeats a secondary projection of Evil, namely the Trickster character. At the same time, there are dynamic magical transformations of the television studio, the appearance of all the characters and, especially, the Evil ones – until they lose their human form.

After the climactic scene of the exposure of Y.I. Chuyko, which lasts about 20 seconds (*15th minute*), the hero of V. Zelensky receives congratulations from those present in the studio. This is how *the discourse of victory over Evil* and, which is no less valuable, *over death*, because his killing has managed to be prevented, is implemented. Later, the feeling of victory will be strengthened by congratulations and thanks from the father. That is, the mythologeme of *freeing relatives* from Evil and *reconciliation with the father* is also indirectly implemented.

At the same time, the main antagonistic hypostases *have not been overcome*. The scene of their conversation at the end of the film, accompanied *by flames and hints of cannibalism*, demonstrates wealth and a sense of impunity.

The mythologeme "Union with the ideal woman" is also completed. The young girl symbolically frees herself from Evil and is currently not a functional element of it. This female character is ambiguous, but now she is *purified* and shown in a positive context.

Simultaneously with this, the discourse "Return to the world of people" is also implemented. At the end of the film, the protagonist is shown in a homely family atmosphere and introduces the Bride to her parents. This mythologeme is reinforced by the fact that two of Hero's henchmen also get their brides synchronously with him.

In the table speech, the Protagonist claims that it is the grouping of the family together that is especially valuable, means happiness, and he is ready for such a life forever. Presumably, this is how the shown acquisition of the spiritual integrity of the Hero's personality is performed at the end of the myth.

We should note that the series contains not only a mythological video series, but also *oral agitation*.

In the song that plays at the end of the last episode, it is claimed that "he will soon be elected", that "he", the character of Volodymyr Zelensky, is the one whom "the people want", "the servant of the people". As is known, an artificially created real political party has a similar name. And the actor of the comedy genre Vol. Zelensky became the President of Ukraine not only on the screen, but in actual reality.

Table 1.
Implementation of the discourses of the mythological story about the "Servant of the people" in the episodes of the video product.

Order of mythologemes	Name of the narrative mythologeme	Implementation of a mythologeme in episodes.
1	Appearance of the character	Episode 1,7
2	Awakening and feeling the call	Episode 1, 2, 3
3	Refusal of the call	Episode 1
4	Re-encountering with the Patrons	Episode 3, 4
5	The beginning of the journey and overcoming the first threshold	Episode 2, 3
6	Entering the mysterious space	Episode 2, 3
7	Initialization	Episode 2, 4, 6, 9-23
8	Union with the ideal woman	Episode 19, 23
9	Receipt of reward	
10	Magical escape	
11	Return to the world of people	Episode 23

Conclusion

Based on the purpose of the research and the working hypothesis, we can formulate the following conclusions.

1. The comparative analysis of the philosophical vision of the collective unconscious myth about the cultural hero and the heritage of cultural studies about the sacred initiation practices of the ancestors turned out to be fruitful. This analysis made it possible to combine numerous common positions of philosophers and culturologists and to synthesize an algorithm for unfolding a mythological narrative about an outstanding and extraordinary personality. This unconscious inherited story can be conditionally divided into eleven mythologemes-discourses. They show the gradual evolution of a person – from a typical profane to a sacred, expected and unconditional leader.
2. A detailed content-analytic study of the video product, after the broadcast of which the popularity of Volodymyr Zelensky increased rapidly, confirmed the working hypothesis. The series "Servant of the People" objectively and undeniably contains patterns, symbols and discourses inherent in the myth of the cultural hero. The sequence of unfolding of the plots also corresponds to the architecture of the mythological narrative. All basic discourses in the series are reflected (see Table 1).
3. The series "Servant of the People" not only structurally, in terms of form, but also essentially, in terms of content, is nothing more than a sprawling mythological narrative. The creators of this video product actively use means of suppressing the critical mind of the viewer and accustoming them to believe in a fairy tale plot. Tuning the psyche of the mass of adults precisely for the consumption of a magical story takes place through the demonstration of a doubled reality. A powerful influence on the subconscious is also carried out by repeatedly demonstrating symbols that are inherent in chthonic beings, otherworldly entities, supernatural forces, etc.
4. The classification of this mythological narrative undoubtedly refers it to heroic myths. It does not belong to any of the other categories (etiological, cosmogonic, totemic, eschatological ones etc.) according to the plot of the story. This type of myth pursues only one specific goal, namely the heroization of the protagonist. The narrative, by taking a profane person through a typical evolution, eventually forms the image of a sacred persona, a hero, a leader, and a legitimate ruler. Since the persona of the hero was created by the acting skills of Volodymyr Oleksandrovich Zelensky, the expected sacralized President of Ukraine after the broadcast of the series is associated with him. The epithets "God", "son of God", "Savior", etc. in the series are addressed to V.P. Holoborodko, and in reality to V.O. Zelensky.
5. Victory of V.O. Zelensky's success in the elections is not the result of his political or organizational skills. It is also not the result of his pre-election activities, such as trips to the regions, speeches at rallies, traditional debates, etc. The rapid increase in his rating occurred immediately after the broadcast of the highlighted and analyzed myth. So, the cause-and-effect relationship seems quite obvious. The successful instrumental influence on the mass subconscious

logically imprinted the political belief that film actor Volodymyr Zelensky is a messiah, a pre-loved and expected leader. Therefore, the series “Servant of the People” is a means of broadcasting an artificial political heroic myth. The successful application of mass consciousness manipulation technology can be considered a fact.

6. Along with this, it is necessary to draw a conclusion regarding a number of mistakes and improprieties committed by the creators of the campaign series. As can be seen from Table 1, two stages of the narrative were ignored and not supported by the corresponding mythologemes. The protagonist himself did not undergo any metamorphosis, a number of characters changed their function polarly, the number of characters of supernatural Aides and Patrons increased unnecessarily, the main personifications of Evil were not defeated, the story was not completed. On the one hand, this is justified commercially, because it gives the opportunity to continue the popular series. But from a theoretical point of view, it is impossible to change the monomyth about the cultural hero imprinted in the subconscious by the will of the filmmakers. A monomyth cannot be changed, understated or told episodically. Any inconsistency in the transmission of the narrative, according to the classics, will lead to a negative consequence.
7. Therefore, the unfinished manipulative influence on the subconscious of the masses probably does not allow to definitively identify the real person of V.O. Zelensky with his character. Therefore, the effect of manipulative sacralization, heroization of his person will not be permanent, although it had the necessary effect for winning the elections. The imperfect myth only temporarily raised his electoral rating to the maximum possible. The euphoric perception of him as a flawless leader who will magically bring some actual benefits to everyone has its natural limitations. Having maintained his own popularity for some time thanks to the social inertia of mass opinion, V.O. Zelensky will be forced to demonstrate his competence in all areas of political skill again and again in order to maintain the rating.

Thus, the proof of the hypothesis about the initially manipulative nature of the “Servant of the People” series indicates the strengthening of populist tendencies as a natural moment of the process of democratization of Ukrainian society. However, Russia’s full-scale armed aggression significantly corrected the situation. It would be difficult to predict the ups and downs of the presidential rating if the President, for example, decided not to stay in his post in the most critical initial period of the war, when there was a real threat to his life. The war united the Ukrainian nation, the vast majority of political parties stopped the populist struggle for spheres of influence in the parliament, and expressed rather restrained slogans aimed at uniting all levels of power for the common victory over the invader. What is happening in Ukraine after February 24, 2022 can be described by the concept of “uniting around the flag” (Kuijpers, 2019). It is fair to say, though, that the principled and strong-willed position of Vol. Zelensky in the defense of Ukraine gives him the moral right to hold this flag with dignity. At the same time, it can be predicted that in the future it may become the subject of secondary heroization of this character as an archetypal fighter, warrior, martyr, etc. However, this political myth-making is the subject of another study.

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DOI: https://doi.org/10.34069/AI/2023.68.08.6
How to Cite:
Chernyshova, S. (2023). Dimensions of refugee identity in Dina Nayeri's *Refuge*. *Amazonia Investiga*, *12*(68), 67-77. https://doi.org/10.34069/AI/2023.68.08.6

Dimensions of refugee identity in Dina Nayeri's *Refuge*

Виміри ідентичності біженки у романі Діни Найєрі «Притулок»

Received: May 10, 2023 Accepted: August 5, 2023

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Abstract

The article concentrates on Dina Nayeri's novel "Refuge". The focus of this article is on the processes of formation of refugee's identity of the main character, Niloo. It has been argued that the construction of her agency is based on the continual dialogue between her and her father as well as between her and the exiled Iranians in Amsterdam. The main character's initial reluctance to support connections with her father and, in a broader sense, with her native country is transformed during the novel's diegesis. In the end, Niloo admits that she needs to embrace her Iranian self and establish a dialogue with her past. The second part of the article deals with the notion of the refugee community and the idea that exiled collective identity is constructed on the primal injury of oppression and exclusion. Niloo's meetings with her people stimulate her to reconsider that part of herself she was trying to suppress. Moreover, the reconciliation with her former neglected self becomes possible after meeting the Iranian immigrants. The diegetic narrator tries to make sense of her life and construct her agency through negotiations with others. It is concluded that the refugee's past experience cannot be forgotten or refused during the formation of an exiled identity. Instead, it must be integrated and acknowledged by a forced migrant.

Key words: refugees, identity, Dina Nayeri, the novel 'Refuge', fictions of migration.

Анотація

Стаття зосереджена на романі Діни Найєрі "Притулок". Процеси формування ідентичності біженки, Нілу, головної героїні твору, визначають основну наукову складову дослідження. У романі конструювання суб'єктності вимушеної мігрантки відбувається через постійний діалог між нею та батьком, а згодом між нею та біженцями з Ірану, які проживають в Амстердамі. Головна героїня поступово долає початкове небажання підтримувати зв'язки з батьком, а ширше і з покинутою батьківщиною. Зрештою, наприкінці твору Нілу усвідомлює необхідність визнати і примиритися зі своїм минулим. Друга частина статті зосереджена на колективній ідентичності біженців і її центруванні на травмах минулого. Зустрічі Нілу з іранцями, які живуть у Нідерландах, допомагає їй вибудувати цілісну самість. У статті зроблено висновок, що заперечення минулого перешкоджає формуванню позитивної ідентичності біженців. Минуле мусить бути опрацьоване та засвоєне як частина міграційного досвіду.

Ключові слова: біженці, ідентичність, Діна Найєрі, роман «Притулок», міграція у художній літературі.

Introduction

We live in an age when different conflicts, economic problems, and catastrophes force people to leave their homes and search for a secure life. According to "*The Oxford Handbook of Refugee*", in 2012 alone "7.6 million people [were] newly displaced due to conflict or persecution" (Fiddian-Qasmiyeh et al., 2014, p. 29). What is more dramatic is that two-thirds

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of refugees and displaced persons “continue to wait in exile for over five years, in some cases for generations, with no solutions in sight for millions of Palestinians, Somalis, Afghans, or Colombians among others” (Fiddian-Qasmiyeh et al., 2014, p. 29). During the unjustified Russian invasion and war against peaceful people in Ukraine, more than 7 million Ukrainians became refugees. It has become the largest surge of refugees in Europe since World War II. To them we can add the countless “invisible” displaced people, not officially declared as such.

The aim of this article is to explore the processes of the formation of the refugee identity of the main character, Niloo, in Dina Nayeri's novel 'Refuge.' The research seeks to analyze how Niloo's agency is constructed through ongoing dialogues with her father and the exiled Iranians in Amsterdam. It delves into the concept of the refugee community and the idea that a collective exiled identity is shaped by the primal injury of oppression and exclusion. It ultimately argues that a refugee's past experiences cannot be ignored but should be integrated and acknowledged in the formation of their exiled identity.

Theoretical Framework and Literature Review

Although migration has always been a part of history and a cause for historical changes, only during the period of nation-state formation did migrants and refugees become distinctively visible. Giorgio Agamben (2000) observes that “the first appearance of refugees as a mass phenomenon took place at the end of World War I, when the fall of Russian, Austro-Hungarian, and Ottoman empires, along with the new order created by the peace treaties upset profoundly the demographic and territorial constitution of Central Eastern Europe” (Agamben, 2000, p. 16-17). On the other side, Rina Benmayor and Andor Skotnes (1994) conclude that “massive migration has been a constant to the last five centuries of world history and has frequently been a key determinant of global developments” (Benmayor & Skotnes ,1994, p. 9).

Attention to migration and immigrants, and sensitivity to their “otherness” are the results of nation-state ideology and rhetoric. As Hanna Arendt (2007) and later Giorgio Agamben (2000) and Donatella Di Cesare (2020) point out, in the system of the nation-state there is no place for something like the pure human in itself. That is why “the status of the refugee has always been considered a temporary condition that ought to lead either to naturalization or repatriation” (Agamben, 2000, p. 20).

Until the 19th century, refugees did not attract so much attention as they were not a threat to the idea of the nation-state. Agamben (2000) has argued that refugees are a destabilizing element in the order of the nation-state as they bring the originary fiction of sovereignty to a crisis. Writing about the crisis of today’s nation-states, Agamben (2000) has emphasized that “Nation-state means a state that makes nativity or birth [*nascita*] (that is, naked human life) the foundation of its own sovereignty” (Agamben, 2000, p. 21). According to Agamben, birth comes into being immediately as nation. This idea is shared by Guy S. Goodwin-Gill (Fiddian-Qasmiyeh et al., 2014) who rightly underlines: “The movement of people between states, whether refugees or migrants, takes place in a context in which *sovereignty* remains important, and specifically that aspect of sovereign competence which entitles the state to exercise prima facie exclusive jurisdiction over its territory, and to decide who among non-citizens shall be allowed to enter and remain, and who shall be refused admission and required or compelled to leave” (Fiddian-Qasmiyeh et al., 2014, p. 51). Thus, refugees are intertwined with the nation-states and border control. Moreover, their status and existential position are predetermined by the ideology of nation-states and the mythologizing of space, its idealization, and even sacralization. Mariya Shymchyshyn has summarized that “The history of perception of space and place in different historical periods and different cultures shows fundamental changes in the ways people have imagined the world” (Shymchyshyn, 2021, p. 14). To this we can add that during the emergence and consolidation of nation-states, the concept of space took on a central role, influencing not only their territorial boundaries but also shaping their cultural identities, legal frameworks, and socio-political structures.

Michael N. Barnett (2014) has claimed that refugees were not taken into consideration until the beginning of the 20th century because “states did not exert strict legal, political, and physical controls over their borders and hence for the most part people who were forced to flee their homeland had somewhere to go” (Barnett, 2014, p. 202). He writes that the legal category of refugee was formulated “only with the rise of nationalism and the consolidation of national states in the late nineteenth and early twentieth centuries that governments began to introduce immigration laws, passports, and other legal and administrative barriers to entry" (Barnett, 2014, p. 203). These new realities assigned new meaning to the category of refugee.

Just as the number of people who are forced to leave their country of origin continues to grow every year so are the fictional writings about them. Among many recent fictions of migration, the following bear mentioning: Kamila Shamsie's *Salt and Saffron* (2001); Rose Tremain's *The Colour* (2003); Khaled Hosseini's *The Kite Runner* (2003); Caryl Phillips' *Foreigners: Three English Lives* (2008); Julie Otsuka's *The Buddha in the Attic* (2011); Jean Kwok's *Girl in Translation* (2011); Evelyn Conlon's *Not the Same Sky* (2013); Chimamanda Ngozi Adichie's *Americanah* (2013)*;* Chrisitina Henriquez' *The Book of the Unknown Americans* (2014); A. (Alec) S. Patric's *Black Rock White City* (2016); Mohsin Hamid's *Exit West* (2018); Viet Thanh Nguyen's *The Refugees* (2019); Luis Alberto Urrea's *The House of Broken Angels* (2019); Valeria Luiselli's *The Lost Children Archive (2020);* and Alberto Manguel's *A Return (2023)*. They all confirm that the experience of immigrants are of ontological and existential importance nowadays. Within this context, Michel Agier (2008) in his astute study of refugees has insisted that we need to write and talk about those who are left on "the margins of the world" and "excluded from the distribution of goods, spaces and powers" (Agier, 2008, p. viii) to challenge the stereotypes about them.

Methodology

Using both textual analysis and discourse analysis methods in the process of reading Dina Nayeri's 'Refuge', I will examine the novel's language and narrative structure to understand how it constructs the identities of migrant characters, as well as how those identities are shaped by broader social and political discourses. I will also look at how the novel's language and narrative structure reflect or challenge dominant discourses about migrants and migration, and how those discourses relate to issues of power and inequality.

Results and Discussion

Refugees' Individual Memory

One of the main issues in migratory fictional works is the formation of a migrant's identity under new social and cultural circumstances as well as the processes of negotiation between multiple identities. Writing about the various significations of migration, Carmen Zamorano Llena (2020) asserts that "the thematic analysis of how contemporary transnational migration redefines collective and individual identities as articulated in contemporary fiction is one of the most salient approaches to the study of contemporary literature in the age of globalization" (Llena, 2020, p. 7).

The present article will make an attempt to analyze the role of individual memory and remembering during the process of a refugee's identity formation in Dina Nayeri's novel *"Refuge"* (2017)[*]. Tabea Linhard and Timothy H. Parsons (2019) have noted that "Identities, and more specifically the identities of migrants, are not mere fusions of different nationalities or ethnicities; they are fractured and contradictory constructions" (Linhard & Parsons, 2019, p. 9). In Nayeri's novel, the identity of Niloo, one of the main characters, is constructed partially through the revision of her childhood as well as her adult experience as a refugee. The realities of her life as a refugee produce a particular mode of narrative which contains fragments of traumatic moments, remnants of important memories, and feelings of loss and betrayal. They are all contextualized by her immigrant identity. These acts of memory are verbalized through her first-person narrative. What is important in this process of remembering is the gap between the narrator's perception of the same events in the narrative past and narrative present[**]. Here we are dealing with the gap between the narrating I and the narrated I that was described by the narratologists Gérard Genette (Genett, 1983); Franz Stanzel (Stanzel, 1984); Paul Ricoeur (Ricoeur, 1986); Mark Currie (Currie, 2007). In the context of the novel due to this distance between the narrated episodic memory and its re-interpretation by the autodiegetic narrator, it is possible to follow the dynamics of Niloo's identity formation. Changes

[*] As previously explored in our co-authored article "Between Remembering and Confession: A Refugee Narrative in Dina Nayeri's Refuge" (2022) written together with Mariya Shymchyshyn, I delved into certain aspects of this topic, providing a foundational framework for the analysis presented here.

[**] More about the retrospective narrative in Dina Nayeri's Refuge in Shymchyshyn, M. & Chernyshova, S., 2022.

in her attitude to the narrated past signal the transformations she experiences in her life. The difference between her past self and present self shows the dynamics of her identity process, which moves from the resentment of Iranian belonging to its complete acceptance. On a broader scale, it is a movement from the 'other' she was to the self she has become.

The novel's plot concentrates on the relationships between Bahman Hamidi, a dentist in Isfahan, and his daughter Niloo. In 1987, his wife and children left Bahman in Iran and immigrated to the U.S. Using multiple focalizations, the novel tells the story of traumatic personal and political events. After some years of separation, Bahman and his family meet in Oklahoma, London, Madrid, and Istanbul. Family members bring personal tragedies as well as new expectations to these meetings. They suffer as they cannot unite the reality they left behind and the reality that has been transformed during their absence. With the passage of time everything changes: places, people, buildings, and everyday life. Apart from that, their relationship is burdened by Dr. Hamidi's addiction to opium.

The diegesis of the novel features the meetings between a father and a daughter that are described mostly through her first-person narrative. As was mentioned above, the important moment is when Niloo does not just remember or re-live those encounters, but when she begins reconsidering the emotional reactions, she had during them. Through external analepsis, Niloo selects those events from her past life experience that she regards as significant for her with the perspective and distance of time. Writing about narrative and memory, Astrid Erll observes, "While reconstructing the past we never proceed chronologically but jump from here to there, creating 'prolepses' and 'analepses'. Important events, and especially those which have a traumatic quality, tend to be remembered in a 'repeating' way" (Erll, 2009, p. 214). Therefore, first-person literary narrative is a fiction of episodic remembering, continues Erll.

To grasp Niloo's identity it is necessary to figure out what precise moments she personally considers the most important, how she connects them within the narrative, what the degree of their significance is, how often they repeat in the narrative, what their relation to each other is, and what the narrator's feelings about them are. The integration of this or that event into the plot and the omission of others give the reader the understanding of what was important, traumatic, or pleasant for Niloo. In this context, Margaret Somers and Gloria Gibson (1993) have suggested that the primacy of the narrative theme or competing themes "determines how events are processed and what criteria will be used to prioritize events and render meaning to them" (Somers & Gibson, 1993, p. 29). The novel's theme of refugee agency defines the evaluation principle of selecting events, experiences, and characters.

Ontological Narrative as a Mode of Verbalizing Refugee Identity

To analyze Niloo's narrative identity, we will use the notion of ontological narrative developed by Margaret Somers and Gloria Gibson (1993). While writing about social identity and narrative, they differentiate between ontological, public, conceptual, and "meta" narratives. Whereas ontological narratives are used to define who we are, public narratives "are attached to cultural and institutional formations larger than the single individual" (Somers & Gibson, 1993, p. 31). According to Somers and Gibson (1993), "the aim of conceptual narratives is to devise a conceptual vocabulary that we can use to reconstruct and plot over time and space the ontological narratives and relationships of historical actors, the public and cultural narratives that inform their lives, and the crucial intersection of these narratives with the other relevant social forces" (Somers & Gibson, 1993, p. 32). The last dimension of narrativity, metanarratives, overlaps with the grand narratives of Lyotard (1984) and Foucault (1972).

Extrapolating this typology on the fictional narrative discourse, we can argue that the narrative in Dina Nayeri's novel is ontological as the diegetic narrator tries to make sense of her life and formulate her agency through negotiations with others. Margaret Somers and Gloria Gibson (1993) have written: "To have some sense of social being in the world requires that lives be more than different series of isolated events or combined variables and attributes; ontological narratives thus process events into episodes. People act, or do not act, in part according to how they understand their place in any number of given narratives – however fragmented, contradictory, or partial" (Somers & Gibson, 1993, p. 30). Nehamas (1985), who has insisted that ontological narratives make identity and the self something that one becomes, echoes Somers and Gibson. In the novel Niloo makes sense of the past events in her life mostly through the revision of meetings with her father. These meetings define the narrative trajectory of the novel as well as the dynamic of Niloo's inner self. Writing about a foreigner, Julia Kristeva underlines the role of meetings: "He [the foreigner] does not long for meetings, they draw him in. He experiences them as in a fit of dizziness, when distraught, he no longer knows whom he has seen nor who he is" (Kristeva, 1991, p. 11).

The first encounter with Bahman in Oklahoma City after many years of living apart is a kind of torture for his daughter. "What I didn't tell him is that I don't want to see him. My real Baba is a thirty-three-year-old storybook hero: untouchable, unquenchable, a star" (Nayeri, 2017, p. 27). During that meeting she is ashamed of her father, of his Iranian manners. She remembers the episode in the water park:

Many of my middle school classmates hung out at this water park. And here I was, after years of trying to seem American, arriving with my mustachioed father, his great cask of a belly blanketed in ginger fur, his neon Persian script trunks, a cigarette barely hanging on to his lips. He was a spectacle just stepping out of the car, even before he bellowed in the ticket line, in broken English, 'This! Oh watery paradise! Let us find proper verse for this day!' (Nayeri, 2017, p. 115)

Following not only the description of their first meeting but also Niloo's reflections about it, the reader witnesses through the medium of narrative the transformations of her identity. The narrator finishes this episode of her memory with the acknowledgment that she had been insensitive and even rude to her father. "I was too young then to see the sadness in his eyes when I crossed my arms and looked away, when I didn't help him off that bathroom floor, and on our final day, when I hardly said goodbye" (Nayeri, 2017, p. 120). This duality between the narrator and the experiencer allows the storyteller to feature the changes in her attitude to the past.

As the narrative evolves, the initially negative dynamic of the relationship between the daughter and her father becomes positive. The reconciliation between them at the end of the novel is achieved through the long process of negotiations. Niloo makes sense of what has happened or is happening to her by integrating meetings with her father into a coherent narrative of her life. Considering the role of narrative for the self, Charles Taylor (1989) has emphasized that "because we cannot but orient ourselves to the good, and thus determine our place relative to it ..., we must inescapably understand our lives in narrative form..." (Taylor, 1989, p. 51-52). In the context of the novel, Niloo makes sense of her life only after re-visioning and narrating her relationship with her father.

Remembering meetings with her father, the narrator revisions her past, her worldviews, and her attitudes towards her people. On the other hand, the figure of the father is a metaphor for Iran, Niloo's native country. She compares, "My Baba at thirty-three was Iran from a time. And now… his decline and Iran's are the same for me. On the rare occasions when he phones, he complains that I never visit: *Come and see your grandmother, Niloo joon*. But I ask him to meet me in other cities in foreign countries, whenever he can get a visa" (Nayeri, 2017, p. 27). Niloo is uneager to return as she doesn't want to face the changes that had taken place after she had left. Moreover, she was rejecting her Iranian identity; she did not want to be associated with Iran ever since she had arrived in the U.S. "At fourteen, most of my nightmares involved my classmates exposing me for this or that. I was afraid they would find out that I had missed an entire decade of American music, that I was from that country that forces women into drabness, that I knew only about a quarter of their slang" (Nayeri, 2017, p. 97). Later, the changes she feels toward her father are also symptomatic of her attitude towards Iran.

With every meeting, father and daughter become closer to each other. Niloo realizes that she could not hide under the mask of a successful American scholar and ignore her Iranian past. Step by step she recovers her Iranian self as an essential part of her identity. At the end of the novel, the acceptance of her father, his Iranian behavior as well as his philosophical parables explicate her own reclaiming of an Iranian identity. In this context it is worth quoting Amin Maalouf (2001), who in his work *In the Name of Identity: Violence and the Need to Belong*, writes: "In the age of globalization and of the ever-accelerating intermingling of elements in which we are all caught up, a new concept of identity is needed, and needed urgently. We cannot be satisfied with forcing billions of bewildered human beings to choose between excessive assertion of their identity and the loss of their identity altogether, between fundamentalism and disintegration" (Maalouf 2001: 35). Niloo's ambivalence toward her Iranian identity, her moral sufferance as a part of her migratory and refugee experience is resolved by the end of the novel.

Places of Refugee Belonging

In the context of migration and mobility, sense of place gains new perspectives and perceptions. Place is important for the identity of migrants as they settle not only in a new geographical space but in a place that has been assigned meaning before they arrived. Here we have the differentiation between space as the abstract container of human activity and a place that is full of memory, experience, everyday practice, and history. The notion of home gains new meaning in forced migration, which has been conceptualized in scholarship (Allan & Crow, 1989; Chapman & Hockey, 1999; Cresswell, 1996; Rapport and Dawson, 1998; Webster, 1998). For an immigrant, home is not "a static" place, but rather an assemblage of things, belongings, and fragments of material culture from a distant homeland put together in a new place. In the introductory part of the book "Uprootings/Regroundings", which provides a framework for rethinking home and migration, the editors underline that "The affectivity of home is bound up with the temporality of home, with the past, the present and the future. It takes time to feel at home. For those who have left their homes, a nostalgic relation to both the past and home might become part of the lived reality in the present" (Ahmed et al., 2003, p. 9). Home is not only a place left behind, but it is also a future destination. Niloo's experience of dislocation provides the conditions for her reconceptualization of herself as well as the notion of home.

The novel features the concept of home as a locus of individual private space that differs from a patriarchal semiotics of home as a family space. Niloo has lived in different places, but she does not connect her identity with them. She moves from one place to another and tries to experience the same intimate links with the locus she lost in Iran. It can be argued that she is yearning for a private physical place as she doesn't belong to any communal space after leaving her homeland. Later, she would arrange her own private space, which her husband Guillaume called the Perimeter: "...in one corner of their bedroom, apart from the clutter, Niloo had arranged a neat little rectangle of items – two long umbrellas and two walls forming a border around Niloo's backpack; her mother-of-pearl jewelry box; a small folder containing her passport, naturalization papers, and diplomas; and a box of sentimental books, her father's photos, some rocks and trinkets from Iran" (Nayeri, 2017, p. 38). She needs her own place not only to keep the most valuable belongings but to signify her identity, her desire to preserve some distance between the world and herself. Even her partner Guillaume cannot enter her private zone.

Migrants are deprived of their private spaces as they always share their rooms with someone else. Niloo's idea of the Perimeter came during her years in Oklahoma City. "Our apartment was nothing remarkable as immigrant situations go, but to me, it was a nightmare. Some time spent in typical pass-through countries, Italy and the United Arab Emirates, had depleted the funds. We had Mama's small income and dark, two-bedroom apartment on the first floor of a two-story complex" (Nayeri 2017: 98). Even in the tiny rooms of their apartment, she managed to crave out the smallest privacy.

From time to time Niloo sits in the Perimeter and looks through "nine documents that entitle her to life" (Nayeri, 2017, p. 47). This square meter of space that she takes with her from country to country gives her a sense of belonging. "For decades she's tried to make homes for herself, but she is always a foreigner, always a guest – that forever refugee feeling, that constant need for a meter of space, the Perimeter she carries on her back" (Nayeri, 2017, p. 47). Thus, the only place to belong is the Perimeter. Later, when Niloo finds a group of Iranian refugees in Amsterdam she agrees with Gui that they had become her new Perimeter. She includes them in her private space, while she denies this to Gui. In a broader sense, it can be argued that Niloo's sense of belonging has been fulfilled after finding a diaspora community. Home is made and remade based on the process of her identification. The desire to isolate herself from the diaspora was later substituted by her eagerness to unite with the Iranians. As a result, the closed Perimeter opens to the world.

Meeting the Forgotten Self

Developing the concept of liquid modernity, Zygmunt Bauman (2000) has claimed that "Becoming 'a refugee' means to lose the media on which social existence rests, that is a set of ordinary things and persons that carry meanings – land, house, village, city, parents, possessions, jobs, and other daily landmarks. These creatures in drift and waiting have nothing but their 'naked life', whose continuation depends on humanitarian assistance" (Bauman, 2000, p. 40). Michel Agier (2008) echoes Baumann: "…displaced people and refugees find themselves for a time placed outside the *nomos*, outside the ordinary human law. Their existence is based on the loss of a geographical place, to which were attached attributes of identity, relationship and memory, and likewise on the absence of any new social place" (Agier, 2008, p. 29). In new countries foreigners establish their places of belonging where they meet. Usually, they gather in abandoned loci, cheap street cafes, and public spaces.

Niloo's experiences of being a refugee come to life in her memory after she encounters the Iranian immigrants in Amsterdam. One day she found the Persian squat and arts space in a former factory in Amsterdam where the Iranian people meet. First, Niloo is intrigued and excited to see those "who have familiar names and might be distant cousins" (Nayeri, 2017, p. 75). Niloo studies them as "she has studied people and objects her entire life" (Nayeri, 2017, 75). Initially, she comes to the gatherings out of pure interest and her inner crisis, but as the narrative evolves, these meetings become the beginning of her identity reconsideration as well as the revision of her relationship with her father. The meetings of immigrants are unlike any other meeting as they are strongly connected with the lost country. Immigrants enjoy shared recollections about places and practices they left behind.

Listening to the refugees' confessions, Niloo recalls the moments of her suffering. On the first night in America, she along with her mother and brother, slept at Jesus House, a homeless shelter in Oklahoma City. This night and two years of being a refugee divides her life into two parts: "the years of idling among mulberry trees in her village, sitting barefoot with Baba on the cool stone floor of his childhood home, of sated calm, followed by the years of academic rise and financial gain, American prosperity" (Nayeri, 2017, p. 37). That one night staying in the shelter was as traumatic as two years of miserable refugee life. The memory of that night is so painful for Niloo that "it returns every time she wastes an hour, a dollar, an opportunity" (Nayeri, 2017, p. 37). Her successful career, her marriage, her desire to distance herself from the migrant communities can be explained through that traumatic night, through her fear to return to the shelter. In this context, it can be argued that the Perimeter is a kind of spatial opposition to that Jesus House in Oklahoma City. It guarantees her no return to that miserable locus.

Although Niloo was not apolitical, she had never considered the situation her people face abroad. After getting to know about the lives of Iranians in Amsterdam, she sympathizes with them and tries to help them with petitions. In return they give her emotional support as she is trying to mend the distorted dialogue between her Iranian identity and her American self. This long process of negotiation between different identities is reinforced by encountering people with broken fates. The identity of a refugee is constructed on the primal trauma of oppression and exclusion. Niloo builds an imaginary bond with others who share in the suffering.

One of them is Mam'mad, a scholar and a university professor, who was arrested and harassed in Iran. His works "were torn apart by people without even a first degree" (Nayeri, 2017, p. 151). Living in Amsterdam, he still fears political persecution. Mam'mad confesses: "I came with Scholars at Risk. They invite you to give lectures, and if it's too dangerous to go home, they help you with asylum petitions" (Nayeri, 2017, p. 146). The other young Iranian Karim left his wife in Iran and lives illegally in Amsterdam. After meetings with the Iranians and listening to their confessions, Niloo realizes that they are left to themselves, and nobody cares about their lives. "She has watched the news from Iran every day since June. She wonders if people like Gui and his colleagues are aware of what the Iranian exiles suffer here in the Netherlands, without homes, always under threat of deportation, some living in squats, others on the streets" (Nayeri, 2017, p. 76). The continual focus on injury binds those who suffered from humiliation and discrimination. Focusing on the politics of suffering and on a fetishization of victimization gives rise to a refugee's identity.

On the other side, state bureaucracy and authorities do not pay enough attention to refugees' wretched living conditions and humiliation. Very often the decisions are unjust: "The embassies and the agencies are run by poorly educated Western bureaucrats. If your translator has an American or Dutch accent, like yours or Siavash's, your story gets believed. If not, then not" (Nayeri, 2017, p. 147). The Iranian refugees disclose before Niloo the harsh reality of bureaucratic mechanisms that do not deal with the real situations but with the narratives that often are well-rendered lies written for those who are well-connected. Meanwhile, the real victims are "too traumatized to relive anything, and don't know any good translators" (Nayeri, 2017, p. 147). All these meetings provoke Niloo to recall her situation in Rome, where her mother with two children petitioned for refuge because of religious beliefs. The reason why the officer believed her was because he interviewed Niloo about some facts from the Bible. A naïve child's answers persuaded the bureaucrat and the United

States granted asylum to the Hamidis. After remembering that moment, Niloo agrees to translate for Karim who is trapped in the bureaucratic system of petitions.

The Iranians in Amsterdam are not as lucky as she had been. They struggle every day, but with no hope. Karim admits, “as far as I see it, every immigration office is the same. They are all like the *dehati* fiancé who takes you ring shopping again and again and never buys you one” (Nayeri, 2017, p. 153). Karim has spent ten years in Holland and still, he does not hope to be legalized. He has not seen his wife and children, but nobody cares about it: “… no Westerner has ever wanted to be involved in Karim’s life. The state provided shelter for a time, bureaucrats gave legal advice, charities gave clothes, but the hands that delivered these institutional offerings kept a cold distance. Maybe they know that, once invited in, refugees need a lot of favors” (Nayeri, 2017, p. 160). The negative dynamic of a refugee’s life is based on the reliving of oppression and suffering.

Taking into consideration the harsh realities of a refugee’s life, Niloo cannot imagine her father surviving in Amsterdam. Not belonging to this culture, he wouldn’t cope with the humiliation and misery that refugees encounter. His dignity would be ruined by the circumstances refugees are forced to face. Niloo remembers how proud her father becomes when he tells the story of their great-great-grandfather, a skilled doctor, who one day healed a sultan or shah and they paid him his weight in gold. The doctor later purchased Ardestoon, the village where the Hamidis live.

Joining the Iranian community in Amsterdam has become crucial for Niloo’s identity. There she finds not only people who feel and think as she does but also she realizes that her life has gained sense and meaning. “She is part of an important movement, she has friends linked to her by blood, culture, and native words, she feels something like purpose. It seems that for years she has lived under a mild, teetering sedation, waiting for a spell to break, for something to puncture her skin, releasing the weariness and bringing her back to the waking world” (Nayeri, 2017, p. 211). Therefore, the connection with the exiled Iranians leads to the resignification of Niloo’s identity.

The novel covers the historical moment when Ahmadinejad was inaugurated for a second term as the president of Iran. Protests against his dictatorship were organized in different European countries and the U.S. This crucial situation evokes emotions of belonging in Niloo’s soul. She starts to identify herself with the misfortunes and difficulties of her people. After a long period of her distancing from politics, she takes an active part in opposing the Iranian dictator. “Niloo dresses in green and joins the protestors, holding the sign over her face as a small array of local magazine writers photograph them and ask for quotes” (Nayeri, 2017, p. 209). The fate of her people who suffer from humiliation abroad and terror at home force Niloo to reconsider her identity. The political domain becomes the space of her self-recreation. She places herself in the situation of exodus and refuses the comfort zone of being just an American scholar. As Michel Agier (2008) has observed, the forging of identity in the context of forced migration is burdened with different crises: “every human being, placed in this situation of exodus, waiting and non-definition must recompose themselves from a basis of destitution. By grasping human identity at the sites of its denial, we inquire more directly into its foundations: this is the revolt of life in contact with death” (Agier, 2008, p. 5).

Another aspect of Niloo’s identity crisis is the revision of her relationship with Gui. Suddenly she feels his otherness, his strangeness. An acute understanding of the gap between Niloo’s Iranian self and his French identity leads to distancing herself from him. Apart from that, she realizes that for a long time she suffered from an inferiority complex because she is a non-Westerner. Niloo wishes that her husband were from Iran. “She imagines being stronger than she was then, poor but independent, about having a young lover who speaks her native tongue, who eats the same dishes and understands Maman’s jokes, a man to whom her parents will sound as educated as they are” (Nayeri, 2017, p. 211). One Iranian immigrant notices these changes in Niloo, the acknowledgment of her core identity, “Now you’re in love with you. The original you. Not this boring American lady who makes lists” (Nayeri, 2017, p. 219).

The climax of the novel is Mam’mad’s suicide after long years of having fought in vain with Dutch bureaucracy. Having suffered and witnessed acts of dehumanization in a tolerant Western society where nobody cares about his desperate situation, he decides to end his suffering. For him, it was the only way to become visible as he constituted an invisible part of the collective identity of refugees, imposed on them by the dominant host society. They are perceived as unwanted victims, social burdens. Michel Agier (2008) has reflected on the existential situation of refugees: “The states of apathy and depression, expressions of aggressiveness or intolerance, that are noted by psychologists in displaced persons, come back to this lack of definition, and ultimately to a more or less lasting space-time of anomie: a life without *nomos*, with no stable law to integrate their fate into that of humanity in general” (Nayeri, 2017, p. 30). Stigmatization of refugees reproduce the terms of segregation. Segregation aims to protect refugees from the superiority of the surrounding society “as well as to protect the dominant society from possible contamination by different groups, weak or abnormal” (Agier, 2008, p. 32).

The description of media coverage of Mam’mad’s suicide illustrates the attitudes of political forces toward refugees. The narrator underlines that the Dutch outlets sound different from the Persian ones. According to the Dutch media, Mam’mad argued with a group of strangers, while the Persian *Payvand News* reports that his motive for “the self-immolation was the Dutch government’s denial of his plea for asylum” (Nayeri, 2017, p. 221). The novel’s exegesis of Mam’mad’s suicide demonstrates different news outlets’ framing of immigration coverage. According to research done by several scholars (e.g. Aalberg et al., 2012; Costello & Hodson, 2011; Florack, Piontkowski, Rohmann, Balzer, & Perzig, 2003; van der Linden & Jacobs, 2016), media coverage of migration in Europe focuses mostly on cultural and economic threats that lead to negative attitudes toward immigrants. It causes stigmatization of immigrant groups and their alienation. Niloo’s sincere attitude toward the events in Iran and her support of the exiled Iranians in Amsterdam contrast with journalists’ sheer interests and lack of principles. Their real concerns are guided by political provocations and the absence of sympathy.

It is not a coincidence that after Mam’mad’s suicide Niloo decides to move into her new apartment although it has not been finished yet. The real and symbolic gesture of relocation signifies overcoming her inferiority complex as well as the masochistic logic of suffering. The broken trajectory of her life has led her to a solitary place, where she re-thinks her past, her neglected father, her feelings toward Gui, and “the new Niloo” (Nayeri, 2017, p. 263) she was trying to create. It is the place to mourn her friend Mam’mad and to heal her wounds.

Conclusions

It can be argued that Dina Nayeri’s novel *Refuge* contributes to the fiction of migration and exemplifies the increased awareness of the weight of migration in contemporary fictional discourse. The novel focuses on the Iranian family and their lives after leaving Iran. One of the main characters, Niloo, builds her identity through the ontological narrative that is concentrated on the revision of her relationship with her father and her meetings with the exiled Iranians in Amsterdam.

Her reluctance to uphold connections with her father is transformed through the novel’s dynamics. In the end, Niloo recognizes that she needs to embrace her Iranian self and establish a dialogue with her father.

The other important issue for a refugee identity discussed in the article is place and home. A refugee’s sense of home and place is configured differently to that of those who were never forced to leave their country. A migrant’s homemaking starts with a private isolated locus that as time flows opens itself to the world and merges with it.

The last part of the article deals with the notion of the refugee community and the idea that exiled collective identity is constructed on the primal trauma of oppression and exclusion. Niloo’s meetings with her people stimulate her to reconsider that part of herself she was trying to suppress. Moreover, the reconciliation with her former neglected self became possible after her meeting the Iranian immigrants. The negotiations of Niloo’s personal socio-cultural position end with her acknowledgement of her transnational identity.

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DOI: https://doi.org/10.34069/AI/2023.68.08.7
How to Cite:
Ruban, L., Leshchenko, M., Oliinyk, I., Petrovsky, M., & Sandyha, L. (2023). Fairy tale therapy for children of war. *Amazonia Investiga*, *12*(68), 78-84. https://doi.org/10.34069/AI/2023.68.08.7

Fairy tale therapy for children of war

Казкотерапія для дітей війни

Received: July 10, 2023 Accepted: August 28, 2023

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Abstract

The article highlights the possibilities of using fairy-tale therapy by parents, legal guardians, socionomic sphere specialists in the process of providing support and assistance to children during the war. The purpose of the article is to define the content of fairy-tale therapy and create an author's fairy tale, which is focused on pedagogical and psychological assistance to children affected by military operations. To achieve the goal, mainly theoretical research methods were applied: study, analysis and generalization of special psychological and pedagogical literature in order to identify the investigated problem. It is emphasized that a therapeutic fairy tale heals a person's soul, as it carries out powerful psychological work at the subconscious level. In order for the fairy-tale narrative to acquire a therapeutic character, it must reflect the child's problem. The process of creating an author's therapeutic fairy tale helps relieve tension in stressful situations, contributes to the constructive experience of emotions, develops communication skills, imagination, and distracts from difficult feelings. It was concluded that fairy-tale therapy is a unique method of treatment of mental health disorders caused by military actions, as children find echoes of inner experiences from their own lives in fairy tales.

Анотація

У статті акцентовано увагу на можливостях використання казкотерапії батьками, опікунами, фахівцями соціономічних спеціальностей у процесі надання підтримки й допомоги дітям під час війни. Мета статті – визначення змісту казкотерапії та створення авторської казки, яка орієнтована на педагогічну і психологічну допомогу дітям, які постраждали під час військових дій. Для досягнення поставленої мети застосовувалися переважно теоретичні методи дослідження: вивчення, аналіз й узагальнення спеціальної психолого-педагогічної літератури з метою виявлення стану досліджуваної проблеми. Підкреслено, що терапевтична казка лікує душу людини, оскільки вона здійснює потужну психологічну роботу на підсвідомому рівні. Для того, щоб казковий наратив набув терапевтичного характеру, казка повинна відображати проблему дитини. Процес створення авторської терапевтичної казки допомагає зняти напругу у стресових ситуаціях, сприяє конструктивному переживанню емоцій, розвиває комунікативні навички, фантазію, відволікає від тяжких переживань. Зроблено висновок, що казкотерапія є унікальним методом лікування психічних травм, спричинених військовими

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Key words: fairy-tale therapy, traumatic war experience, author's fairy tale, fairy tale narrative.

діями, оскільки діти знаходять у казках відголоски внутрішніх переживань зі свого власного життя.

Ключові слова: казкотерапія, травматичний досвід війни, авторська казка, казковий наратив.

Introduction

War is a complex socio-political phenomenon that causes irreparable harm to the life and health of the population of a certain country. People lose their homes, relatives and loved ones, are forced to leave their homes and go abroad or acquire the status of internally displaced persons. The most painful thing is that children suffer the most during war. It is difficult for them to understand why their safe environment has changed so dramatically. In particular, in cities, the air raid siren sounds, indicating the threat of missile and air strikes, and therefore, instead of a cozy home, children are forced to run and spend several hours in shelters (often ill-equipped and uncomfortable), evacuation under shelling, loss of home, separation from relatives – all these factors leave a deep mark in the child's soul.

During wartime, the primary task of parents, legal guardians, socionomic sphere specialists (social pedagogues, social workers, practical psychologists) is to master effective methods of providing support and assistance to children in order to preserve their physical and mental health. Among the range of means identified by researchers (Berezan, 2020), fairy-tale therapy is worth to be highlighted. A fairy tale helps an individual to overcome mental trauma caused by war. It is a deep source of folk wisdom that soothes, provides comfort and support. In the conditions of war, it is not important whether an adult reads a book to a child or tells a fairy tale. The most important thing is that a child hears the gentle voice of a loved person. Fairy tales teach a child to find a way out of difficult situations, to believe in the power of goodness, love, justice, and beauty. Children love fairy tales because they compensate for the lack of actions in real life, and it becomes possible to realize children's creative potential (Leshchenko, 2003). When listening to fairy tales, a child unconsciously assimilates them, and then uses in everyday life to fight against anxiety, insecurity, fear, etc. Fairy tales give a child hope and show a new perspective of the situation (Kuciapiński, 2014).

We are convinced that fairy-tale therapy as a component of art therapy, will have a powerful therapeutic effect even after the end of the war, when people will also need both psychological and pedagogical support. A fairy tale makes a person stronger and helps to believe in a miracle, the victory of good over evil.

The ***purpose of the article*** is to define the content of fairy-tale therapy and create an author's fairy tale, which is focused on pedagogical and psychological assistance to children affected by military operations.

Literature review

The analysis of pedagogical and psychological literature shows that scientists are actively researching the peculiarities of pedagogical and psychological assistance to children of war. Thus, I. Kobzieva's scientific work is focused on psychological support to children who experienced crisis and traumatic events in Ukraine. The scientist claims that one of the most effective means of preventing and overcoming emotional or psychological trauma is the use of art therapy methods, among which fairy-tale therapy plays an important role (Kobzieva, 2022). The scientific work by L. Tymchuk, M. Stolarczyk and L. Ruban reveals the peculiarities of using digital narrative technologies in the training of teachers to support children affected by military operations. Researchers note that to help children overcome the consequences of trauma, methods of narrative interaction, narrative-therapeutic strategies and their combination with digital technologies can be useful in the work of teachers (Tymchuk, Stolarczyk & Ruban, 2021). The practical manual by O. Voznesenska and M. Sydorkina contains theoretical provisions and practical recommendations aimed at specialists who provide support to people affected by military operations. The authors single out art therapy as a method of helping an individual in a crisis period (Voznesenska & Sydorkina, 2016). Methodical manual *Psychological assistance to victims of crisis and traumatic events* by scientists of H.S. Kostyuk Institute of Psychology of the NAES of Ukraine, is based on understanding and generalization of their own experience of psychological support to victims of traumatic events in Ukraine. In the context of our research, psychological assistance to children by means of art therapy calls for special attention (Kisarchuk et al., 2015). At the same time, scientific works did not pay enough attention to fairy-tale therapy for children of war.

Methodology

To achieve the goal, mainly theoretical research methods were used: *study, analysis and generalization* of special psychological and pedagogical literature in order to identify the state of the researched problem; *content analysis* of Ukrainian and foreign researchers' papers to find out the ways of effective fairy tale creation; *netnography* to analyze the therapeutic potential of digital platforms for providing assistance to children in an online educational environment; *typological method* for outlining the sources and approaches to development of therapeutic storytelling skills; *method of transforming* theoretical provisions into the practice of creating author's therapeutic fairy tales.

Results and Discussion

In all of human history, fairy tales have been a key tool in teaching and educating children. Fairy tales reveal the essence of concepts: good, evil, honesty, betrayal, loyalty, treachery, friendship, etc. As a rule, a fairy tale contains certain negative images, human qualities, which, in the end, turn into positive ones thanks to the actions of the heroes. Working with children who have survived the traumatic experience of war, the therapeutic fairy tale occupies an important place (Haase, 2000). Such a fairy tale helps children overcome fear, anxiety, tension, uncertainty, fills them with moral resources and strengthens faith in a bright future, the victory of good over evil. A fairy tale narrative becomes a therapeutic one only if a child can draw a parallel between the plot, the actions of the main character and his/her own life and receives a certain lesson after working with the fairy tale. We are convinced that a therapeutic fairy tale heals a child's soul, as it carries out powerful psychological work on a subconscious level. A fairy tale lives in a person's subconscious, and the subconscious remembers any past experience. It is worth noting that the subconscious mind focuses not only on traumatic experiences, but also options for overcoming such experiences. J. Korczak, an outstanding Polish teacher, psychologist, doctor, children's writer, believed that a fairy tale can heal a child crippled by poverty or orphanhood, war or any other misfortune (Stepula, 2006).

The Polish experience of training future teachers to use pedagogical and therapeutic functions of fairy tales in order to help children (including children of Ukrainian refugees), is worth being highlighted. Pedagogical and therapeutic approaches are based on mastering the techniques of fairy-tale therapy developed by Doris Brett, the famous American psychologist, and presented in her books, which are popular throughout the world and translated into Polish (Brett, 2002). They are addressed to psychotherapists, teachers, parents and guardians of children. At the same time, the school of fairy-tale therapy is actively developing in Poland, the emergence of which was marked by the publication of a number of books by Maria Molicka, a psychologist and author of therapeutic narratives for children (Molicka, 2002). Scientific research by Polish and Ukrainian scientists revealed the possibilities of teaching teachers to create a therapeutic fairy-tale reality with the help of digital narratives (Leshchenko, Tymchuk, & Tokaruk, 2020).

Children who have survived the traumatic experience of war are easily recognizable among others. Such children often have a number of fears: some are afraid of night or darkness; others are afraid of being separated from their mother even for a short period of time. Nicole Porter Willcox, a psychotherapist from the USA, the founder and director of an art therapy center, who conducted educational trainings for Ukrainian colleagues from the Voices of Children Foundation, notes that the negative experience of war lives in the body a person. She underlines that we can't change what happened, but therapeutic support and warm human communication can change the way a child experiences war and restore a sense of security (Wiley, 2023).

Since the beginning of the full-scale war, a number of Ukrainian online platforms have been created, which are aimed at providing psychological and pedagogical assistance to children of war. Thus, the primary task for the founders of *Pavlusha and Java*, a Telegram channel with fairy tales and lullabies, was to preserve children's feeling of home comfort and security. Fairy tales on *Pavlusha and Java* are recorded in Ukrainian, the name of the fairy tale, the author and the translator are indicated. The founders of the channel also indicate the age at which the fairy tale is aimed. The channel publishes very bright illustrations for fairy tales, which allows children to immerse themselves more deeply in the fairy tale story and distract themselves from the difficult experiences caused by war. The channel publishes a number of fairy-tale stories and creative wishes for young listeners during the day. The founders of *Pavlusha and Java* emphasize that if a fairy tale becomes a consolation for at least thirty minutes, it is already a success (Pavlusha & Java, 2022).

The *NUMO* online kindergarten from UNICEF and the Ministry of Education and Science of Ukraine is worth to be highlighted. This is a modern platform for education of preschoolers aged 3 to 6 years. Everyone can join the Internet page of the kindergarten and skim all the releases of video classes aimed at upbringing and education of preschoolers. Moreover, *Numo_bot* functions in Viber and Telegram messaging apps. Kindergarten video materials allow teachers, parents and legal guardians to organize training and educational games for preschoolers in remote learning conditions, which makes it possible to ensure the continuity of preschool education during wartime. Interesting interactive activities, educational cartoons, fairy tales, etc., based on the ECERS-3 (Early Childhood Environment Rating Scale), are posted on the Internet page. The ECERS-3 method is focused on the development of preschoolers in the following aspects: subject-spatial environment, care for children, speech and literacy, types of cognitive activity, interaction of staff with children, structuring of the program. The method will help adults not only to ensure the development and education of children, but also to distract them from the war. The founders of the *NUMO* platform note that they are developing methodological materials, videos and advice also for the development of children with disabilities (Numo, 2022). We are convinced that such materials will become a main helper for adults who take care of children with disabilities, because there are more and more such children every day of the war.

During wartime, people are often forced to change their place of residence, stay in shelters, on the road, not be able to charge their phone or tablet, not have access to the Internet. Under such conditions, children do not have the opportunity to work online, watch cartoons, listen to audio tasks or fairy tales, etc. In this case, you can use oral work with a fairy tale, which has a healing, therapeutic effect and helps relieve tension, reduce stress, and distract from difficult experiences. Working with a fairy tale can be turned into an interesting and exciting adventure. We offer several methods of working with a fairy tale. Firstly, adults can tell a child any fairy tale and ask them to analyze a situation, positive or negative personality traits of the main character. This technique helps a child to develop imagination, thinking, to raise deep philosophical topics. Secondly, after listening to or reading a fairy tale, you can stage a puppet theater based on the script of the fairy tale. The effect of this fairy-tale therapy is that a child develops his/her acting and speaking skills, gets rid of shyness, reduces internal tension, and turns attention away from difficult thoughts and feelings. Thirdly, you can create an author's fairy tale, which will help reveal internal problems, fears, etc. and find a way out of a difficult situation.

Fairy-tale therapy performs the following functions: *diagnostic* – helps determine the child's psychological state and outline ways to solve the problem; *prognostic* – aims at predicting the future actions of the child and the peculiarities of his/her behavior in certain situations; *educational* – based on correcting the child's behavior on the example of the main characters; *corrective* – shows the final result of training with a fairy tale (Ruban, 2016). The fairy-tale narratives that a person tells are a reflection of situations that take place in his/her life. In other words, these are events that a person consciously or unconsciously experiences in his/her life (Hohr, 2000).

In our research, we will focus on the techniques of creating an author's fairy tale in order to provide psychological and pedagogical assistance to children who have survived the traumatic experience of war in Ukraine.

Creating an author's fairy tale does not require special skills, the main requirement is to free your imagination. Fairy tales have no place for dry reports. In order to create your own fairy tale, you need to dive deep into the realm of possibilities hidden in the imagination (Donnchaidh, 2023). Such a fairy tale arises from anything that surrounds a person: animals, insects, natural phenomena, transport, pets, etc. The main characters can be both ordinary people and fictional characters – a prince, a princess, a witch, etc.

In order for a fairy tale narrative to acquire a therapeutic character, it must reflect the child's problem, because listening to the therapeutic fairy tale, a child subconsciously finds options for its solution (Danyliuk & Zolnikova, 2019). It is worth emphasizing that the plot of a therapeutic narrative needs to have a clear structure: the beginning, which enchants the listeners, transporting them to the magical world of the fairy tale (at this stage, a child gets to know the heroes of the fairy tale); the central conflict or problem that the heroes of the fairy tale face (consonant with the problem of a child); the situation that offers options for solving a problem and that has a positive outcome (usually a happy ending); the moral of the fairy tale, when the characters learn a certain lesson from their actions (Ruban, 2016).

As an example, let's cite the author's therapeutic fairy tale, which tells about a lion who courageously defended his territory from enemies.

In a fairyland there lived a brave lion with his strong family – a beautiful wife and three lion cubs. Beautiful nature surrounded the friendly family – endless fields were covered with rye and wheat, fertile land and gardens gave their generous fruits, gentle seas washed the territory, majestic mountains proudly protected them from winds and bad weather. Good, sincere animals inhabited these lands. A very angry and envious tiger lived in the neighboring territory though.

His subjects were hyenas and jackals who faithfully obeyed all his orders. The tiger was jealous of the lion's well-being and decided to wage war on him to take away his fertile lands. Thus, one day the tiger sent his hyenas and jackals to the lion's territory and declared war. The lion was forced to leave his family and rush into battle to protect his and. The lion cubs cried bitterly, the lion's wife could barely contain her despair, but there was nothing she could do. The lion gathered a strong army and stood on the borders of his territory. The battle was fierce, the enemies fled in fear, then returned again. There were so many hyenas and jackals that they began to take over a part of the lion's territory.

It so happened that to the west of the lion's lands there was a wonderful forest in which kind-hearted animals lived. A big white elephant reigned there. The lion sent his assistant to this forest to arrange for help. The elephant listened to the assistant's story and said: 'You are good neighbors who were born on your fertile, beautiful land and want to protect it from the enemy with all your heart. You helped us when we did not have a bountiful harvest, you shared vegetables, fruits, grain with us. Therefore, I will help you defend your land.'

An army of white elephants went to help the lion. The enemies did not expect that the lion would get such strong support. They got scared and, tails up, ran away as far as their eyes could see. The lion raised the flag over his territory, expressing gratitude to his army for their courage and strength, to his friendly neighbors for their support and help, to his family for their faith and love. From that time, peace reigned in the land of the lion, and no enemy encroached on the fertile and generous lands.

The proposed fairy tale has several purposes. First, to show a child an example of a strong and loyal family, loyalty to one's native land. Second, to show the beauty of one's own territory, one's country, focusing on the epithets, e.g. *beautiful nature, endless fields, fertile land, gentle seas, majestic mountains, etc.* Third, to demonstrate that the world is not perfect and there are envious enemies who can encroach on what is dearest to a person. Fourth, to instill in a child the faith that, in the end, good triumphs over evil and after the darkest night always comes the incredible beauty of the dawn.

The author's fairy tale contributes to the fact that children will be able to draw a parallel between the fictional plot and the events that take place in their own lives. A fairy tale will help distract children from their personal traumatic experiences and give them faith in a bright future (Saxby, 2022; Silverman, 2020). It should be noted that, in addition to the therapeutic goals set by the author, the fairy tale showed another positive result, namely that after listening to this fairy tale, several children showed interest and desire to write their own fairy tales.

In addition, it is worth emphasizing that art therapy can be one of the therapeutic means, e.g. making a puppet theater by children based on the proposed or their own author's fairy tale (Kazachiner, Boychuk & Halii, 2022). Parents, guardians, teachers can help children make dolls from the proposed material, which will serve as a powerful impetus to the development of their artistic abilities.

The process of creating an author's therapeutic fairy tale helps relieve tension in stressful situations, contributes to the constructive experience of emotions, develops communication skills, imagination, and distracts from difficult feelings.

It is worth emphasizing that when children create a fairy tale and tell it aloud, they identify themselves with the main character, acquire the positive qualities of this character (Moskalenko, 2023). As a result, the range of their psychological resource expands, and they become stronger for their traumatic experience (Wiley, 2023).

Fairy-tale therapy is aimed not only at children, but adults who also believe in miracles. A fairy tale accompanies a person in his/her everyday life. These can be any stories from routine life – news articles, stories heard in a coffee shop, work experience that a person shares at the dinner table. People communicate in the language of stories. By telling a story, people express their inner selves. Stories have great power (Bushnell, 2018).

Conclusions

Thus, fairy-tale therapy is a unique method of treating mental trauma caused by military actions, as children find echoes of inner experiences from their own lives in fairy tales. The fairy tale helps to overcome problems, because children use the example of the main character in the fight against their own fears, difficulties, and experiences. The fairy tale gives faith in a miracle, a bright future, the victory of good over evil. The fairy tale helps not to abandon hope. If hope is lost, the fight is lost.

We have highlighted the main advantages of the therapeutic fairy tale narrative:

1. It helps children connect with their past experiences through metaphor, which is the core of the story. Using a metaphor while creating a therapeutic fairy tale, the author goes beyond his/her consciousness.
2. Acts as a ‘mirror’ of a child’s trauma. A fairy tale reflects the inner world of a person and allows you to delve deeper into the problem and find the solutions.
3. Contributes to the normalization of children’s feelings in case when children feel lonely.
4. Focuses on the identification of a child’s range of feelings and behavior that arise in a challenging situation; helps children discover new internal resources and qualities.
5. Helps children become aware of the feelings and needs that they can block, to strengthen their confidence in expressing complex emotions.
6. Promotes the development of a child’s imagination, fantasy to express their own thoughts, needs and feelings; improves their communication skills (Jones & Pimenta, 2020).

The prognostic potential of the conducted research is due to the possibility of using its materials and conclusions to carry out further scientific research in psychology, pedagogy and psychotherapy; development of effective narrative methods of fairy tale treatment for children and adults who have undergone a traumatic experience of war.

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DOI: https://doi.org/10.34069/AI/2023.68.08.8
How to Cite:
Karamanov, O., Surmach, O., Kravchenko, O., Polishchuk, N., & Albul, I. (2023). Museum educational activities in the context of disseminating modern scientific knowledge. *Amazonia Investiga*, *12*(68), 85-92. https://doi.org/10.34069/AI/2023.68.08.8

Museum educational activities in the context of disseminating modern scientific knowledge

Освітня діяльність музеїв у контексті поширення сучасного наукового знання

Received: June 2, 2023 Accepted: July 21, 2023

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Abstract

The purpose of the study is to analyse the content and focus of the educational activities of museums on the dissemination of modern scientific knowledge and ideas of scientific education. Scientific education is increasingly acquiring interdisciplinary and integrative content as a synthesis of natural, technical, and humanitarian knowledge in formal, non-formal, and informal education, or in conditions of their complementary integration. The authors conducted an online survey of 42 respondents (teachers of Ukrainian secondary schools, teachers of universities, and museum workers) who answered 10 questions of the questionnaire about the organization, drafting, and implementation of museum educational (museum pedagogical) programmes to communicate with pupils and students in the museum environment with the opportunity to express their own attitude to the suggested problems. The survey results proved that teachers of secondary schools and teachers of

Анотація

Метою дослідження є аналіз змісту та спрямованості освітньої діяльності музеїв щодо поширення сучасних наукових знань та ідей наукової освіти. Наукова освіта все більше набуває міждисциплінарного та інтегративного змісту як синтез природничого, технічного та гуманітарного знання у формальній, неформальній, інформальній освіти, або в умовах їх комплементарної інтеграції. Автори провели онлайн-опитування 42 респондентів (вчителів українських загальноосвітніх шкіл, викладачів ЗВО та музейних працівників), які дали відповіді на 10 питань анкети щодо організації, проектування та впровадження музейних освітніх (музейно-педагогічних) програм задля комунікації з учнями та студентами у просторі музею з можливістю висловити власне ставлення до запропонованої проблематики. Результати опитування довели, що вчителі загальноосвітніх шкіл, викладачів ЗВО мають значний інтерес щодо

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higher education institutions have a significant interest in the introduction of educational (museum pedagogical) programmes into the environment of national museums with minor visiting reservations, associated with quarantine restrictions during the COVID-19 pandemic. The article analyses the peculiarities of functioning of museum institutions in the system of organizing various types of educational activities with visitors in accordance with the dominant paradigm of education and upbringing. The role and significance of the most important educational paradigms in the system of museum pedagogical activity are outlined. The role of modern museums in promoting and disseminating ideas of scientific knowledge in various forms and methods of work with young people is emphasized.

Keywords: museum, educational activity, museum pedagogy, educational paradigm, scientific knowledge.

впровадження освітніх (музейно-педагогічних) програм у простір вітчизняних музеїв із незначними застереженнями щодо відвідування, що пов'язано з карантинними обмеженнями під час пандемії COVID-19. У статті проаналізовано особливості роботи музейних закладів у системі організації різних видів освітньої діяльності з відвідувачами відповідно до домінуючої парадигми навчання і виховання. Окреслено роль і значення найвагоміших освітніх парадигм у системі музейно-педагогічної діяльності. Акцентовано на ролі сучасних музеїв у популяризації й поширенні ідей наукового знання у різних формах і методах роботи з молоддю.

Ключові слова: музей, освітня діяльність, музейна педагогіка, освітня парадигма, наукове знання.

Introduction

The key characteristics of the development of the educational sector at the beginning of the 21st century have undergone many changes and transformations due to cardinal transformations of the very nature of learning, focused on independent acquiring of knowledge through various studies, a wide interdisciplinary awareness of a child in various areas of life, changes in the educational paradigm, and the spread of ideas of scientific education.

The organization of the learning process in educational institutions is increasingly taking into account the contexts of informality, creativity, critical thinking, visualization, interactivity, which leads to seeking the environment of an informal institution – a museum.

It is the pedagogical potential of the museum as an environment of effective informal communication in today's conditions that has inexhaustible reserves and opportunities that can radically reorganize the educational process, make it more meaningful, focused, exciting, and informative for each child.

The necessity of this study is due to the need to determine the peculiarities of the development of one of the most popular areas of modern museum and pedagogical activity – science education, the main postulates of which are implemented in modern centres of science and technology, research on museum pedagogy covers many areas of human life, helping to comprehend different contexts of its activity by means of the museum when creating an appropriate environment that can have an educational, social, didactic, therapeutic, adaptive, cognitive colouring and promotes personal development.

The article will reveal the importance of scientific education as a system of creative thinking in the formation of a person's scientific culture, study the role of educational activities of museums in the process of disseminating scientific knowledge, analyse the results of a survey on the effectiveness and possibilities of implementing educational programmes in museum practice, and explore the importance of museum pedagogy in the context of disseminating modern scientific knowledge, focusing on the role of museum (museum-pedagogical) programmes.

Literature Review

The issues raised are considered fragmentarily in the scientific literature and reflected, in particular, in the works by M. Xanthoudaki, B. Tirelli, P. Cerutti, & S. Calcagnini (2007), Yu. Hotsulyak, & M. Halchenko (2016), N. Polikhun, I. Slipukhina, & I. Chernetskyi (2018), however, they require special extended research.

In our opinion, these scientific works do not fully address the issue of educational activities of museums in the context of science education, as they are more concerned with general issues of science education. considering it as a system of innovations, the importance of interdisciplinary pedagogical research and the general goals of implementing the ideas of science education in the museum space, without sufficiently outlining practical recommendations. In our study, we will fill this gap by analysing the different vectors of educational activities of museums in the context of disseminating modern scientific knowledge and ideas of science education.

Scientific education can be identified with a purposeful system of formation of creative scientific thinking in the process of obtaining subjectively and objectively new knowledge by the methods of scientific cognition.

In particular, this concept is interpreted as:

– The highest level of professional education (obtained in postgraduate, doctoral studies, etc.).
– Scientific content of education (didactic principle of scientificity).
– An innovative pedagogical paradigm for the integration of education and science, which seeks to bring the educational activities of pupils as close as possible to the research activities, to involve them in solving educational and real scientific problems (Hotsulyak, & Halchenko, 2016, pp. 5–11).

The latter definition is of fundamental importance for us, because any innovative activity in the museum environment is to some extent always associated with the organization of research work of pupils and students in the process of studying a scientific phenomenon, discussing the results of experience, analysing the phenomenon.

The complexity of scientific education is expressed in the cross-cutting, interdisciplinary, and integrative nature of its content and is implemented with an emphasis on the natural sciences and their combination with other academic disciplines, on the synthesis of natural, technical, and humanitarian knowledge in the system of formal, non-formal, and informal education, or in conditions of their complementary integration.

The educational process of scientific education is associated with problematic, research, and project-oriented teaching methods, and dynamic curricula that are pedagogically adapted to different age categories (Hotsulyak, & Halchenko, 2016, pp. 5–11).

Researchers interpret scientific education as a scientific culture of an individual, the purpose of which is to attract the individual to the cultural values of science; a special kind of cognitive activity aimed at formation of the personality of an experimenter, researcher, scientist; a purposeful process of learning and education based on modern achievements of science, engineering, and technology in order to obtain knowledge and develop skills, as well as to form general cultural and professional competencies in the modern information society for personal self-realization and development of society as a whole (Polikhun et al., 2018, p. 187).

What is the fundamental difference between scientific knowledge and information and general knowledge? First of all, it is the systematization of results, structuredness and verifiability, which determine its authenticity, reliability, and credibility. Therefore, in the process of learning, unverified general knowledge is often rewritten from one manuscript to another, leading to misunderstanding and lack of realizing the meaning of what the subject of teaching is, what the expected results are, etc.

We can see a similar situation in the museum pedagogy, because the meaning of this concept is mostly perceived on the basis of the traditional approach to understanding pedagogical activity in various areas of human knowledge, based on a knowledge-oriented educational paradigm, as well as without taking into account the various contexts of its application and interrelation with related museum pedagogical concepts and categories.

Indirect, incompletely clear and delimited understanding of the content and nature of museum pedagogy, which scientists, teachers, and methodologists distinguish from the interdisciplinary field of knowledge and scientific discipline at the intersection of museology, pedagogy, and psychology, to the scheme of analysis of educational activities in the museum, often leads to an incorrect understanding of the very content of the educational activities of museums, in which they begin to include ordinary games, quizzes, competitions in the museum that do not have clearly defined goals and results of activities, occur spontaneously, and do not take into account the differentiated composition of participants.

The result is non-compliance with the modern requirements of the established forms and methods of educational work of the museum with visitors, which often reflect only certain parts of the wide palette of modern understanding of the ways of organizing learning in the museum environment, because education is a complex, open, non-linear social system, a social institution, and an area of spiritual production (Krysovatyi, 2015, p. 118).

The decisive element that reconciles the contradictions between education and the museum can be scientific education and scientific knowledge, which, in our opinion, qualitatively complement the different interpretations of museum pedagogy:

- In conjunction with the concepts of 'cultural and educational activities of museums', 'museum education', 'pedagogy of museum activities', etc.
- As a meaningful activity in the museum environment, which in different historical eras depended on the dominant educational paradigm, the model of the museum, and the types of visitors.
- As a modern educational and training technology, which makes it possible to implement research and project work in the museum, thus contributing to the introduction of innovative activities.

For example, the latter provision is an important element of museum educational models that implement the project method and include teacher training, classroom work using museum resources, visiting the museum, applying this method as a basis for teaching and learning with integration of various activities.

In particular, it is based on a deep and ongoing collaboration between the school teacher and the museum educator, as teachers contribute to formal education and combine non-formal education into a collaborative workflow in which the two institutions learn from each other in the interest of scientific education. In this context, it is necessary to significantly strengthen the role and importance of museums as tools for teaching and learning through long-term educational activities.

Therefore, the museum institution is increasingly perceived as an expert that promotes methodology and attracts pupils with knowledge, rather than imposes one-sided meanings. This new role is in line with the direction in which science museums and research centres are currently operating, from scientific literacy and public understanding of science to shaping personal meaning and public engagement in science and research (Xanthoudaki et al., 2007, p. 7).

The project work is actively implemented in modern centres of science and technology, which enable young people to better navigate in various technical mechanisms, understand the principles of their work, and be aware of the prospects for new scientific inventions. This is extremely relevant, because, for instance, in the United States, about 70% of jobs today require specialized knowledge and skills (compared to 5% at the beginning of the last century) (Koshmanova, 2013, p. 347).

The purpose of the article is to analyse the content and orientation of the educational activities of museums in the context of dissemination of modern scientific knowledge and ideas of scientific education.

Understanding and awareness of various theoretical and applied aspects of this activity in the museum environment leads us to a deeper analysis of the 'scientific education' term.

Methodology

Museums can successfully implement in their practice various everyday opportunities for the promotion of knowledge and motivation of pupils and students to study and scientific activity. To do this, they create special educational museum programmes that correspond to the principles of cognitive, behavioural, and emotional development of a young person, contribute to increasing the effectiveness of their knowledge, and motivate them to study more.

To find out the effectiveness and possibilities of introducing educational programmes into museum practice, we conducted a study among teachers of national secondary schools, teachers of higher education institutions, and museum workers on the effectiveness of these programmes for working with pupil and student youth. In particular, the peculiarities of operation of educational and museum institutions during the COVID-19 pandemic were taken into account.

The study was conducted in the form of an online survey and covered a questionnaire of 10 questions on the organization, drafting and implementation of museum educational (museum pedagogical) programmes in the practice of communication with pupils and students in the museum environment with the opportunity to express their own attitude to the suggested issues. The total number of respondents was 42 people.

Results and Discussion

The results of the survey make it possible to establish that the absolute majority of respondents (92%) support the idea of expanding the boundaries of cultural and educational (pedagogical and educational) activities of the museum. Approximately the same number (93%) support the idea of creating museum and pedagogical programmes to expand communication in the museum.

The respondents primarily indicated interactivity (88%), the development of creative thinking (85%), and cognitive character (83%) as the basis on which museum pedagogical programmes should be based.

This is not surprising, because any museum programme in its essence can significantly change interest in a particular museum institution, contribute to its promotion at the regional and national levels.

Describing the importance of the interdisciplinary content and nature of museum pedagogical programmes, the respondents pointed to the importance of covering various fields of knowledge in the context of a particular museum and the ideas of scientific education, and therefore, various school subjects, for example, History, Art, Literature, Artistic Culture, as well as Physics, Chemistry, Computer Science, Mathematics, etc.

While responding to the question of the components of museum pedagogical programmes, the respondents unanimously emphasized all three basic components of the programmes: organizational, methodological, and technological, the structural unity of which makes the programme integral and complete. They made similar statements regarding the importance of taking into account the age and individual characteristics of visitors, which is facilitated by the differentiation of the orientation of programmes (77%), visualization of content (81%), availability of tasks (85%), optimally directed course of each lesson (85%), and the use of museum pedagogy means (87%).

Assessing the effectiveness of museum pedagogical programmes, the majority of respondents agreed that for each structural element of an educational institution (class, group), they should take place at least once a month (64%), and the total number of classes should be in the range from 3 to 7 (57%). First of all, such classes should be interactive (95%), characterized by maximum interest of the audience (87%), organization of project activities (63%), popularization of scientific education ideas (61%), etc.

According to the respondents, programmes focused on the traditions of tangible and intangible cultural memory (88%), gaming technologies (82%), the formation of cognitive interest in various activities (79%), etc. may have the greatest popularity in the museum institution among the pupil and student audience.

Stressing the importance of drafting museum pedagogical programmes as factors in the integration of education, culture, and scientific knowledge in the museum environment, all respondents almost unanimously (98%) supported the idea that these programmes should be implemented by museum workers (teachers) in cooperation with school teachers, methodologists, and higher education establishment teachers.

The results of the survey confirm the significant interest in the introduction of educational (museum pedagogical) programmes in the environment of national museums among teachers of national secondary schools, teachers of higher education institutions, and museum workers with minor visiting reservations. It can be assumed that this is due to quarantine restrictions during the COVID-19 pandemic.

The interviews that helped to collect detailed information about the results and to interpret them were based on the own methods of prof. Oleksii Karamanov (Ivan Franko National University of Lviv) and were based on his own museum practices for pupils and students conducted before the COVID-19 pandemic, which covered a wide range of museum communication methods (‘hero evaluation’, synchronicity, multi-level survey, etc.), as well as a system for evaluating museum programmes based on clarifying, interpretive, practical, analytical, creative and evaluative questions. They allowed us to identify the advantages of developing and implementing museum and pedagogical programmes in the practice of interaction with secondary schools and higher education institutions in terms of their rationality, clarity, validity and achievability of learning objectives, interdisciplinary nature, and consideration of age-specific features.

In this context, the idea of the need for large-scale introduction of such programmes in museums, centres of science and technology, science parks, which is important for the dissemination of modern scientific knowledge, seems relevant.

The results of the implementation of museum pedagogical programmes are significant for researchers and practitioners who seek to identify the principles and methods of projecting museum education that best contribute to the development of knowledge and motivation in science (Martin et al., 2016).

Decisive in this context is the consideration of historical models of communication, learning styles in the museum, pedagogical technologies, as well as the basic vectors of orientation of educational work of museum institutions.

Museums as informal institutions are able to offer a unique and inimitable experience. They provide access to authentic objects and unique experiences to improve learning that is difficult to implement at school. That's why it is important for museums to develop educational programmes based on their own educational values – values that have to be clearly formulated and applied in their daily practice (Tran, 2007).

We believe that the scientific substantiation of any approach to understanding the content of museum pedagogical (pedagogical and educational) activities of the museum in dealing with pupil and student youth is possible provided that the relevant educational paradigm is taken into account.

In particular, in the context of the cognitive paradigm, we can talk about the so-called traditional nature of museum activities, when the following comes to the fore:

- The need to provide as much information about museum pieces as possible.
- Insignificant attention to the delineation and differentiation of the excursion material for different age groups.
- Accumulation of various semantic, value, and emotional evaluations by visitors after visiting a museum, which they cannot effectively implement.
- Almost complete absence of additional tasks, flash cards, special guides for different age groups.

Instead, a personally oriented paradigm in this sense is characterized by much wider opportunities and prospects for application, due to:

- Greater openness and 'transparency' of museum pedagogical classes.
- Focus on the creation of a museum learning environment with appropriate attributes.
- Aspirations not to memorize information, but to the comprehensive development of the child.
- Creation of opportunities for active cooperation at the exposition by taking into account its thematic subject areas.

At the same time, the creative paradigm, focused on the maximum development of the individuality and creativity of the child, provides for:

- Greater attention to the manifestation of creative abilities in the museum environment by combining various activities, subject areas, and methods of communication.
- Appropriate organization of an emotionally rich comfortable museum learning environment with an emphasis on interpersonal communication.
- Active involvement of creative project work in the museum, taking into account the age of each child.
- Development of creativity, multifaceted thinking in the process of museum classes, together with moral responsibility for own actions.

What does the above mean for the child's development? Along with the obvious development of competencies, abilities, and motivation to study, one should not forget about the powerful moral educational effect of the educational activities of museums, because moral education:

- Contributes to the expansion of the child's knowledge of a variety of social norms and rules.
- Develops a positive attitude of the educate to basic social values.
- Encourages gaining the experience of social action, which is attractive due to its value orientation (Sysoieva, 2017, pp. 27–28).

In this sense, the museum environment is a perfect place for the implementation of numerous educational methods and strategies. In particular, when it comes to the dissemination of modern scientific knowledge in the process of organizing educational activities in museums which are centres of science and technology, we can notice the obvious effectiveness of moral education, because it is done:

– (where?) Only in the communities that the child creates together with adults who are important to the child.
– (in the process of what?) Only in the interaction and joint actions of children and adults.
– (in what way?) As the child's internationalization of the picture of the adult world, joint actions with which the child experiences.
– (what for?) For helping the child master higher, socially useful types of human activity (Sysoieva, 2017, p. 28).

Conclusions

Based on our own research, we can state that the interpretation of museum pedagogy in the context of disseminating modern scientific knowledge and the analysis of relevant educational paradigms can be understood as:

– An important *practical component of museum communication*, which makes it possible to organize and build new relationships in the system of interaction of visitors with the materials of the exhibition in the museum and museum-surrounding environment.
– A *modern educational and pedagogical technology* that provides a strategy and tactics for effective communication with visitors of all ages, determines the optimal innovative learning strategies.
– An *important component of the new educational system* – a combination of accessible educational environment and modern information and communication tools, which is characterized by creative design, lack of barriers, and multifunctionality.
– A powerful *factor of retreat from conventional and programmed knowledge*, which blocks creative thinking, inhibits cognitive processes of personality development, and lead to the formation of consumer ideology.
– A *means of forming own system of values*, beliefs, and attitudes, which contributes to the person's understanding of his/her own activities, lifestyle, and behaviour (Karamanov, 2019, p. 50).

At the same time, it should be remembered that in order to be a successful teacher, you have to turn science into entertainment, which will enable you to bring it as close to children as possible, so that they do not have a sense of power over what they study and, accordingly, their motivation will increase (Wagner, 2012, p. 124).

The best way to do this is to realistically assess the attributes and characteristics of a 21st-century pupil who is willing to create, experiment, and innovate without fear of failure, and who is able to demonstrate a willingness to collaborate and work as a team (Wagner, 2012, p. 13).

Researchers studying various challenges of modern education emphasize the significance of a number of the most important competencies of graduates of educational institutions, which include:

– Critical thinking and problem solving.
– Network cooperation, the ability to communicate with others.
– Agility and ability to adapt.
– Proactivity and initiative.
– Oral and written communication.
– Assessment and analysis of information.
– Curiosity and imagination (Koshmanova, 2013, pp. 350–352).

Without resorting to a too detailed analysis of the above, it is safe to say that almost all of these competencies can be developed and improved even from childhood in the process of organizing a properly designed educational activity in the museum. The key to success here can be scientific museums, centres of science and technology that develop scientific education – the basis of scientific knowledge, which is the driver of progressive changes in all fields of knowledge and ways of life of modern man.

The results of the study and the analysis of scientific literature allow us to recognise the importance of science education as a promising museum and pedagogical technology that is actively developing in the modern 'knowledge society' and serves as an example of combining the theory and practice of various fields of knowledge.

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DOI: https://doi.org/10.34069/AI/2023.68.08.9
How to Cite:
Danilevska, N., Asieieva, Y., Chusova, O., Tolmachov, O., & Berezovska, Y. (2023). Diagnostic markers and scale of differential diagnosis of socially-disadaptative post-combat syndrome. *Amazonia Investiga*, *12*(68), 93-102. https://doi.org/10.34069/AI/2023.68.08.9

Diagnostic markers and scale of differential diagnosis of socially-disadaptative post-combat syndrome

ДІАГНОСТИЧНІ МАРКЕРИ ТА ШКАЛА ДИФЕРЕНЦІЙНОЇ ДІАГНОСТИКИ СОЦІАЛЬНО-ДЕЗАДАПТИВНОГО ПІСЛЯБОЙОВОГО СИНДРОМУ

Received: June 28, 2023 Accepted: August 24, 2023

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Abstract

Mental disorders resulting from combat actions can affect up a considerable percentage of servicemen. Specific disorders have been observed in combatants and veterans of different wars, highlighting the influence of combat conditions on mental health. Social maladjustment among it can be highly prevalent, impacting combat readiness and post-war adaptation.
The above emphasizes the significance of differential diagnosis in identifying specific mental conditions like Socially-Disadaptive Post-Combat Syndrome and distinguishing them from other disorders. Socially-Disadaptive Post-Combat Syndrome is a condition that develops after the return of a combatant from a combat zone and is characterized by a maladaptive, conflictual response to a wide range of insignificant social situations.
The study aims to develop a diagnostic tool for identifying Socially-Disadaptive Post-Combat syndrome.

Анотація

Психічні розлади внаслідок бойових дій можуть вражати значний відсоток військовослужбовців. У учасників бойових дій і ветеранів різних війн спостерігаються специфічні розлади, що свідчить про вплив бойових умов на психічне здоров'я. Серед них може бути дуже поширена соціальна дезадаптація, що впливає на боєготовність і післявоєнну адаптацію.
Вищесказане підкреслює важливість диференціальної діагностики для виявлення специфічних психічних станів, таких як соціально-дезадаптивний постбойовий синдром, і відрізнення їх від інших розладів. Соціально-дезадаптивний постбойовий синдром – це стан, що розвивається після повернення учасника бойових дій із зони бойових дій і характеризується дезадаптивним, конфліктним реагуванням на широкий спектр незначущих соціальних ситуацій.
Дослідження спрямоване на розробку діагностичного інструменту для виявлення

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This study focuses on combat-related mental disorders among Ukrainian combatants and veterans who participated in the Anti-Terrorist Operation / Joint Forces Operation (ATO/JFO) from 2014 to 2021. The research involves 395 participants, with 39 combatants exhibiting symptoms of Socially-Disadaptive Post-Combat Syndrome forming the main research group, and 21 individuals with PTSD forming the comparison group.
As a result of the study, we systematized diagnostic markers and develop a Diagnostic Scale of Socially-Disadaptive Post-Combat syndrome. Our devised diagnostic scale consists of two sections: a list of criteria related to specific circumstances (comprising 4 criteria - 2 obligatory criteria and 2 optional criteria) and a list of symptoms (comprising 16 symptoms).
We also believe that conducting research on combatants and veterans of other wars is expedient.

Keywords: combat mental trauma, mental disorders, combatants, veterans, differential diagnosis, psychometry.

соціально-дезадаптивного постбойового синдрому.
У цьому дослідженні досліджено психічні розлади, пов'язані з бойовими діями, серед українських учасників бойових дій та ветеранів, які брали участь в АТО/ООС з 2014 по 2021 рік. У дослідженні взяли участь 395 учасників, з яких 39 учасників бойових дій мають ознаки соціально-дезадаптивного постбойового синдром утворив основну дослідницьку групу та 21 особу з ПТСР утворив групу порівняння.
За результатами дослідження нами систематизовано діагностичні маркери та розроблено Діагностичну шкалу соціально-дезадаптивного постбойового синдрому. Розроблена нами діагностична шкала складається з двох розділів: списку критеріїв, пов'язаних із конкретними обставинами (включає 4 критерії – 2 обов'язкових критерію та 2 необов'язкових критерію) та списку симптомів (включає 16 симптомів).
Також вважаємо доцільним проведення досліджень учасників бойових дій та ветеранів інших воєн.

Ключові слова: бойова психічна травма, психічні розлади, учасники бойових дій, ветерани, диференційна діагностика, психометрія.

Introduction

Differential diagnosis of mental disorders has always been a priority in neuroscience (Kent, Nelson, & Northoff, 2023). This is particularly relevant to disorders related to combat-related mental trauma. The percentage of mental disorders resulting from combat actions can reach up to 16%. Moreover, mental disorders can manifest in military personnel even after the war. For instance, Post-traumatic stress disorder (PTSD) – a condition with a delayed onset, can affect veterans at a rate exceeding 8% (Inoue et al., 2023; Negrusa, Negrusa, 2014; Kozhyna et al., 2021). This irreversibly impacts the combat readiness of the army during wartime and subsequently affects the social adaptation of veterans.

All this raises the issue of adequate, effective and valid psychodiagnostic tools. Our work is devoted to the analysis of existing studies of the specific disorders of combatants in various world wars. Our attention is focused on the urgent need for Ukraine – to identify diagnostic markers of Socially-Disadaptive Post-Combat Syndrome and to prove the results regarding the validity, reliability and standardization of the developed scale of differential diagnosis of Socially-Disadaptive Post-Combat Syndrome among Ukrainian participants in hostilities and veterans who took part in ATO/OOS with 2014 to 2021.

The aim of the research is to identify and systematize the diagnostic markers of Socially-Disadaptative Post-Combat syndrome and develop, based on these markers, the Diagnostic Scale of Socially-Disadaptive Post-Combat syndrome in comparison to PTSD.

The object of the research is the diagnostic markers of Socially-Disadaptative Post-Combat syndrome and PTSD.

Methodology and material

In the research we used following methods: theoretical-methodological analysis on the research topic, psychodiagnostical, and mathematical-statistical methods.

This clinical retrospective and prospective study were conducted at the Zaporizhzhia Military Hospital and Zaporizhzhia State Medical University, Zaporizhzhia, Ukraine. We examined 395 combatants and veterans who participated in the Anti-Terrorist Operation/Joint Forces Operation (ATO/JFO) from 2014 to 2021.

The research was conducted in accordance with the principles of deontology and bioethics. The Bioethics Commission of Zaporizhzhia State Medical University (review document, No. 5 dated June 6, 2014) approved this study. All participants provided informed consent for their voluntary participation in the study.

Sample of the exploration. Out of 395 combatants, we identified individuals who exhibited symptoms of Socially-Disadaptive Post-Combat Syndrome in their clinical presentation. A total of 39 combatants were included in the main research group (MG). Additionally, we selected combatants who presented with mental disorders similar to Socially-Disadaptive Post-Combat Syndrome in terms of clinical manifestations, debut features, dynamics, and triggering factors, namely PTSD. This comparison group (CG) comprised 21 combatants. All participants in the study were male. There were no statistically significant differences in age and military service-related features and conditions among the patients.

Using the A. Wald procedure, we compared all research groups and identified symptoms of Socially-Disadaptive Post-Combat Syndrome in the MG that significantly differed from the symptoms in the CG. Based on these distinctive symptoms, we developed the Scale of Differential Features between Socially-Disadaptive Post-Combat Syndrome and PTSD.

Analysis of recent research and publications

It is well-known that manifestations of social maladjustment among veterans can be significant in terms of prevalence. These include loneliness, which may affect 50% or more, divorce rates reaching up to 20%, involvement in criminal activities accounting for 8% of all committed offenses, unemployment rate of 20%, and suicide rates exceeding 17%. However, the actual figures might be even higher (Inoue et al., 2023; Gates et al., 2012; Negrusa, & Negrusa, 2014; Xia et al. 2020; Finlay et al., 2019; Lwi et al., 2022; Holliday et al., 2022; Reijnen, & Duel, 2019; Burdett et al., 2019).

Moreover, cases of delayed detection of mental disorders related to combat-related mental trauma are not uncommon, leading to negative consequences (Randles, & Finnegan, 2022).

Timely identification and correction of such pathology are essential to minimize these adverse effects.

Combatants and veterans from various wars have been described to experience specific disorders such as Combat Stress Reaction, "Soldier's Heart" (Effort Syndrome or Da Costa's Syndrome), and others. PTSD gained widespread recognition after the Vietnam War (Jones, 2001; Adler, & Gutierrez, 2022; Borges et al., 2020).

Indeed, specific conditions of combat operations in each country and various factors affecting the psyche can result in differences in the clinical presentation, even leading to the identification of new conditions. For instance, after episodes of gas warfare during World War I, the term "Gas Neurosis Syndrome" emerged to describe a specific mental condition observed in combatants of that war (Hulbert, 1920). The Norwegian sailors in the merchant navy who survived World War II were diagnosed with a specific mental disorder known as "War Sailor Syndrome" (Askevold, 1976). For a prolonged period, medical practitioners encountered specific manifestations in Gulf War veterans before the concept of the Gulf War Syndrome was formulated (Auxéméry, 2013). Additionally, in the literature, there is an amalgamation of various pathological mental manifestations under the term Hybrid war syndrome (Danyk, & Zborovska, 2008).

With the onset of the unprovoked and unmotivated invasion of Ukraine by the Russian Federation starting in 2014, Ukrainian combatants have also been documented to experience war-associated mental disorders (Loganovsky et al., 2018). The following pathological conditions have been described: specific alcohol depression, Post-combat delayed response syndrome, Socially-Disadaptative Post-Combat syndrome, and the Ukrainian syndrome (Napryeyenko et al., 2018; Danilevska, 2018a; Danilevska, 2018b; Matyash, & Hudenko, 2014).

The diversity of these disorders burdens and impairs the quality of timely diagnosis, leading to treatment delays, and consequently, disability.

It is known that 7.2% of Ukrainian combatants were declared disabled due to mental and behavioral disorders from 2014 to 2021 (Kyrychenko et al., 2022). However, as of 2018, compared to 2014, there was a slight decrease in the incidence of affective disorders by 14% and neurotic disorders by 3.2% (Havlovskyi, 2019). However, starting from 2022, when the war escalated to a full-scale conflict, negative indicators may increase, further emphasizing the need for high-quality tools in timely psychometry.

In this study, our scientific inquiry was directed towards identifying specific criteria for Socially-Disadaptative Post-Combat syndrome and applying them as a differential diagnostic tool to distinguish this condition.

Results

Despite the absence of core symptoms of PTSD such as "flashbacks," nightmares, and reminiscences in the clinical presentation of combatants in the MG, we find it appropriate to conduct a differential diagnosis between Socially-Disadaptive Post-Combat Syndrome and PTSD because all combatants experienced life-threatening situations during their participation in the ATO / JFO. Additionally, they exhibited other secondary symptoms such as an enhanced startle reaction, a state of autonomic hyperarousal, hypervigilance, anxiety, depression, and anhedonia in their clinical profile.

We conducted a comparative analysis of markers in combatants from the MG and identified those that showed significant differences from the CG at a level of <0.05. This was done to determine the markers of Socially-Disadaptive Post-Combat Syndrome that are diagnostically significant.

We utilized TIBCO STATISTICA® 13.0 (TIBCO Software Inc. №JPZ8041382130ARCN10-J) and MICROSOFT EXEL 2013 (license code 00331-10000-00001-AA404) for data analysis, applying descriptive and mathematical statistical methods for statistical analysis. For calculating mutual information (MI) and Jeffreys divergence (J-divergence, J) based on Kullback's method, we employed the method of sequential analysis developed by A. Wald, relying on T. Bayes' theorem, with adaptations by A.A. Genkin and E.V. Gubler.

Upon ranking these diagnostically significant markers of Socially-Disadaptive Post-Combat Syndrome based on their diagnostic significance level, we obtained the following results (Table 1).

Table 1.
Diagnostic informativeness criteria of Socially-Disadaptative Post-Combat syndrome

Criteria MG vs CG			
Diagnostic informativeness criteria	**p(χ^2)**	**J**	**MI**
maladaptive verbal and behavioral patterns of social interaction	<0,001	6,23	2,37
feelings of subjective distress or disharmony	<0,001	1,18	0,14
increased sense of justice	<0,001	2,43	0,52
increased tendency to defend their rights including to the level of querulant or conflicting behavior	<0,001	3,91	0,95
non-acceptance of civil, political, moral and ideological norms and patterns of interaction of other people	<0,001	2,43	0,52
dysphoricity or anger in response to a wide range of social situations	0,015	3,33	0,55
intolerance of other people's thoughts or actions	<0,001	2,99	0,71
increased tendency to be offended, touchiness or hurt	<0,001	13,11	6,07
egocentrism	0,006	2,36	0,41
nonconformity	0,010	1,61	0,22
conflictedness	<0,001	4,15	0,95
tendency to impulsive actions and deeds	0,015	3,33	0,55
automatic comparison of individual components of social and interpersonal interaction in the civilian environment with those available in the combat zone, giving preference to the latter	<0,001	3,22	0,84
yearning memories of certain components of social and interpersonal interaction in the combat zone	<0,001	3,22	0,84
irritability	<0,001	3,72	0,96
mood swings	0,033	2,43	0,35
a wide range of low-significant substressful social factors exacerbate symptoms	<0,001	13,22	6,30
a latency period from a few days to one month after leaving the combat zone	<0,001	8,45	3,62
stay in the combat zone for 3 months or more	0,005	0,92	0,09
the duration of symptoms is 3 months or more	0,050	0,43	0,02

● *The symptoms that had positive J scores were attributed to the diagnostic symptoms of Socially-Disadaptive Post-Combat Syndrome, while the symptoms that had negative J scores were associated with the diagnostic symptoms of PTSD.*

The weight of symptom informativeness is determined by the value of MI, therefore, we ranked the criteria of Socially-Disadaptative Post-Combat syndrome from more informative to less informative in the context of their significance for differential diagnosis (Fig. 1).

According to the method of sequential analysis by A. Wald, the diagnostic conclusion (in this case, the conclusion about the presence of Socially-Disadaptive Post-Combat Syndrome in the patient) is made based on the summation of J values for each diagnostic criterion; the level of significance of the conclusion is indicated by the threshold value of the J sum (∑J): when ∑J ≥13, the probability of the conclusion is p < 0.05; when ∑J = ≥20, the probability of the conclusion is p < 0.01; and when ∑J = ≥30, the probability of the conclusion is p < 0.001.

Thus, the group of most significant criteria, which, according to the MI ranking, reach a sum of J ≥30, includes the first three criteria from Fig. 1.

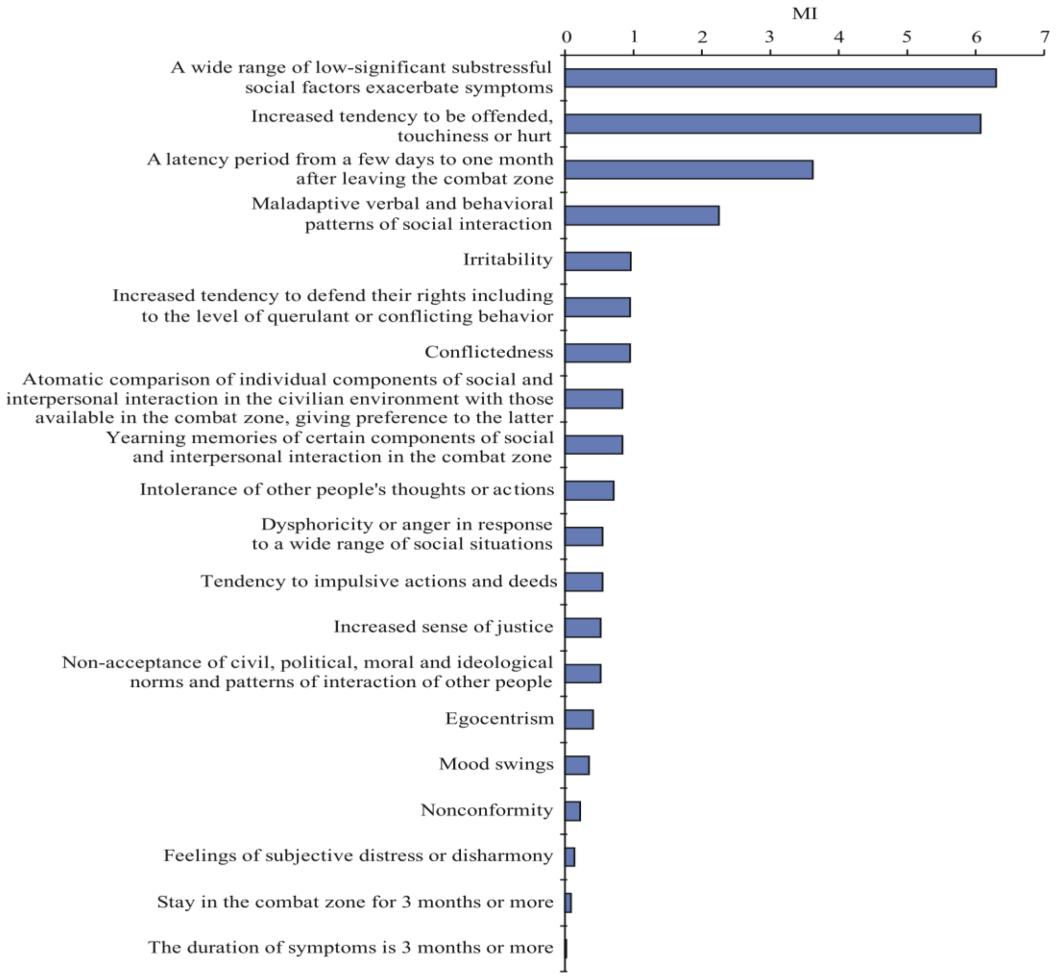

Fig. 1. Ranking of criteria of Socially-Disadaptative Post-Combat syndrome in order of strength of their diagnostic value (MI)

In the next stage, we differentiated the diagnostically significant criteria of Socially-Disadaptive Post-Combat Syndrome into two groups: symptoms and circumstances. Criteria such as a latency period from a few days to one month after leaving the combat zone, a wide range of low-significant substressful social factors exacerbating symptoms, stay in the combat zone for 3 months or more, and the duration of symptoms being 3 months or more were excluded from the general list of diagnostic symptoms and placed in an additional list of circumstances because they are not symptoms per se but indicators of the circumstances contributing to the symptomatology. The rest of the criteria were included in the main list of symptoms. The final ranking of criteria for diagnosing Socially-Disadaptive Post-Combat Syndrome is presented in Fig. 2.

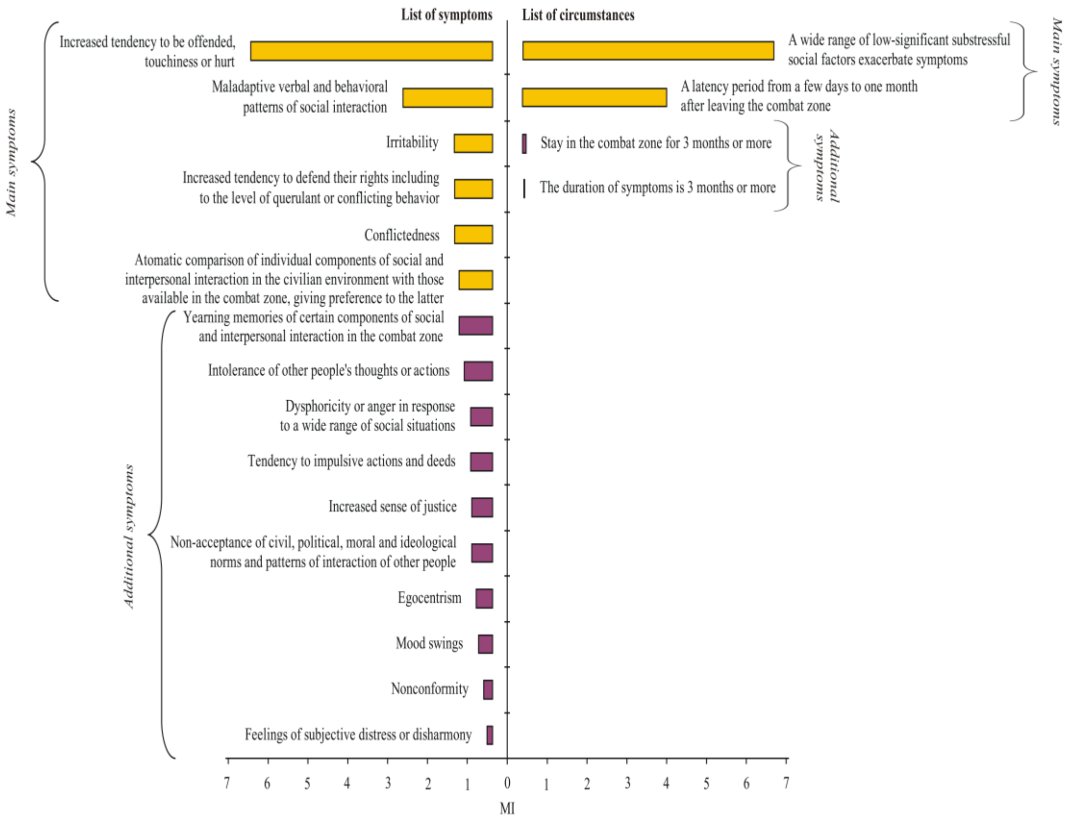

Fig. 2. Ranking of symptoms and circumstances of Socially-Disadaptive Post-Combat syndrome in order of strength of their diagnostic value (MI)

Thus, the group of the most significant criteria, which, according to the MI ranking, reach a sum of J≥30, includes the first six symptoms from Fig. 2. Therefore, based on the MI ranking (Fig. 2), the most crucial and sufficient symptoms, from a diagnostic perspective, for reliably establishing the diagnosis of Socially-Disadaptive Post-Combat Syndrome, are as follows: increased tendency to be offended, touchiness or hurt, maladaptive verbal and behavioral patterns of social interaction, irritability, increased tendency to defend their rights, including to the level of querulant or conflicting behavior, conflictedness, automatic comparison of individual components of social and interpersonal interaction in the civilian environment with those available in the combat zone, giving preference to the latter. These symptoms are fundamental to the studied syndrome and serve as criteria for differentiating it from PTSD. However, the rest of the symptoms are also important and can be considered additional symptoms.

We classified circumstances such as "a latency period from a few days to one month after leaving the combat zone" and "a wide range of low-significant substressful social factors exacerbate symptoms" as obligatory criteria of the circumstances, considering their high MI scores. While the rest were categorized as optional criteria of circumstances.

Based on the established list of criteria, we developed an instrument for the diagnosis and differential delineation of Socially-Disadaptive Post-Combat Syndrome from PTSD (Fig. 3).

«Diagnostic Scale of Socially-Disadaptive Post-Combat syndrome»

Patient name: ____

Obligatory criteria of the circumstances*:

- a latency period from a few days to one month after leaving the combat zone
- a wide range of low-significant substressful social factors exacerbate symptoms

Optional criteria of circumstances:

- stay in the combat zone for 3 months or more
- the duration of symptoms is 3 months or more

No.	Symptom	J	A sign of the presence of a symptom
1	Increased tendency to be offended, touchiness or hurt	13,11	
2	Maladaptive verbal and behavioral patterns of social interaction	6,23	
3	Irritability	3,72	
4	Increased tendency to defend their rights including to the level of querulant or conflicting behavior	3,91	
5	Conflictedness	4,15	
6	Automatic comparison of individual components of social and interpersonal interaction in the civilian environment with those available in the combat zone, giving preference to the latter	3,22	
7	Yearning memories of certain components of social and interpersonal interaction in the combat zone	3,22	
8	Intolerance of other people's thoughts or actions	2,99	
9	Dysphoricity or anger in response to a wide range of social situations	3,33	
10	Tendency to impulsive actions and deeds	3,33	
11	Increased sense of justice	2,43	
12	Non-acceptance of civil, political, moral and ideological norms and patterns of interaction of other people	2,43	
13	Egocentrism	2,36	
14	Mood swings	2,43	
15	Nonconformity	1,61	
16	Feelings of subjective distress or disharmony	1,18	
Total ($\sum_J$): _______			

* - All obligatory criteria of the circumstances must be present to establish a diagnosis.

Reference values:

$\sum_J \geq 13$ - diagnosis of Socially-Disadaptive Post-Combat syndrome possible, the probability of diagnosis is *95%, $p < 0,05$;*

$\sum_J = \geq 20$ - diagnosis of Socially-Disadaptive Post-Combat syndrome probable, the probability of diagnosis is *99%, $p < 0,01$;*

$\sum_J = \geq 30$ - diagnosis of Socially-Disadaptive Post-Combat syndrome reliable, the probability of diagnosis is *99,9%, $p < 0,001$.*

Fig. 3. The form of Diagnostic Scale of Socially-Disadaptive Post-Combat syndrome

We, therefore, propose the developed instrument "Diagnostic Scale of Socially-Disadaptive Post-Combat Syndrome among PTSD" for screening and diagnosing mental disorders in combatants. We acknowledge that this scale will also be beneficial to healthcare professionals for identifying Socially-Disadaptive Post-Combat Syndrome as a comorbid condition.

Discussion

War and post-war periods differ in terms of a surge in mental pathology associated with combat-related psychological trauma. The question of the specificity of psychological trauma in different wars remains debatable. There are indications that the nature of the war and its localization may impose certain characteristics on the clinical presentation of mental disorders in combatants and veterans, leading to the identification of new, hitherto undescribed psychiatric disorders (Adler, & Gutierrez, 2022; Cypel, DePhilippis, & Davey, 2023; Kozhyna, Zelenska, Viun, Khaustov, & Asieieva, 2021).

A relevant example is the Gulf War syndrome - a condition characterized by a complex of symptoms that puzzled healthcare professionals for a considerable period and was only identified in participants of the war in the Persian Gulf. Additionally, one-third of the sailors in the Norwegian merchant navy became disabled due to War Sailor Syndrome (Askevold, 1976; Boman, 1982; Malt, & Weisaeth, 1989; Minshall, 2014).

However, most of these conditions are not specific to a particular military conflict or national contingent and can be observed in different wars. For example, PTSD is one such condition. While extensively described among American veterans of the Vietnam War, it is also diagnosed in other cases (Magruder et al., 2015; Thakur et al., 2022).

In this study, we report on the criteria for Socially-Disadaptive Post-Combat Syndrome in Ukrainian combatants who participated in the ATO / JFO. The condition we described leads to social maladjustment among military personnel after returning from the combat zone and may be observed as a comorbid disorder, further complicating their well-being. We believe that it requires further clarification of the symptom continuum, and conducting research on combatants and veterans of other wars would be beneficial.

Conclusions

In this study, we identified symptoms of Socially-Disadaptive Post-Combat Syndrome that significantly differ from PTSD in combatants. Based on their systematization, we constructed a ranking of diagnostic informativeness criteria in ascending order of their diagnostic significance, categorizing these criteria into symptoms and circumstances.

By considering the diagnostic significance of the symptoms, we were able to distinguish the main symptoms and additional symptoms of Socially-Disadaptive Post-Combat Syndrome.

We developed the "Diagnostic Scale of Socially-Disadaptive Post-Combat Syndrome among PTSD" and propose its clinical utilization. The proposed scale can be used for screening and diagnosing mental disorders, including comorbid conditions, among combatants and veterans.

The diagnostic scale developed by us consists of two sections: a list of criteria of the circumstances (comprising 4 criteria - 2 obligatory criteria and 2 optional criteria) and a list of symptoms (comprising 16 symptoms).

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Amazonia Investiga

Volume 12 - Issue 68 / August 2023

DOI: https://doi.org/10.34069/AI/2023.68.08.10

How to Cite:
Ishchenko, O., Horbolis, L., Zhylenko, I., Havryliuk, I., & Yanenko, Y. (2023). Literature and mass communication: signs of interaction (based on the Myroslav Dochinets' creative work). *Amazonia Investiga*, *12*(68), 103-111. https://doi.org/10.34069/AI/2023.68.08.10

Literature and mass communication: signs of interaction (based on the Myroslav Dochinets' creative work)

Література та масова комунікація: ознаки взаємодії (на матеріалі творчого доробку Мирослава Дочинця)

Received: July 1, 2023 Accepted: August 20, 2023

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Abstract

The article examines the creative work of the contemporary Ukrainian writer M. Dochynets in the context of literary trends and the mass communication space of the late 20th and early 21st centuries. The goal of the study was to determine the signs of mass communication in the most expressive works of the author. The analysis was carried out using general scientific (analysis, synthesis, description) and special literary methods (socio-historical, biographical, genetic, imagological, interdisciplinary). It was found that the writer's texts have "two artistic dimensions", the interpretation of which depends on the education, intellectual level and artistic and aesthetic tastes of the recipient. The first, "elitist", forms a kind of selected elite community, capable of decoding the historical, cultural, and artistic subtext. The second is that it is "intended for a wide audience" that is not immersed in the cultural, artistic and literary context. M. Dochynets, actively using the signs

Анотація

У статті вивчено творчий доробок сучасного українського письменника М. Дочинця у контексті літературних тенденцій та масовокомунікаційного простору кінця XX-початку XXI століття. Метою дослідження було визначити ознаки масової комунікації у найпоказовіших творах автора. Аналіз здійснено з використанням загальнонаукових (аналіз, синтез, опис) та спеціальних літературознавчих методів (соціально-історичний, біографічний, генетичний, імагологічний, міждисциплінарний). З'ясовано, що тексти письменника мають "два художні виміри", інтерпретація яких залежить від освіти, інтелектуального рівня та художньо-естетичних смаків реципієнта. Перший, "елітарний", формує своєрідну вибрану елітну спільноту, здатну декодувати історичний, культурологічний та мистецький підтекст. Другий, що "розрахований на широку

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of mass communication (dissemination by means of mass communication, orientation towards a mass audience, performance of social functions) at the genre, imaginative, stylistic and problem-thematic level, seeks to involve them in understanding with the help of models typical for the masses important philosophical and social problems, raise the level of education and develop artistic taste, aesthetic worldview.

Keywords: character, genre, literature, mass communication, problematic.

аудиторію", яка не занурена у культурний, мистецький та літературний контекст. М. Дочинець, активно використовуючи ознаки масової комунікації (поширення за допомогою засобів масової комунікації, орієнтованість на масову аудиторію, виконання соціальних функцій) на жанровому, образному, стильовому та проблемно-тематичному рівні, прагне за допомогою типових для широких мас моделей залучити їх до осмислення важливих філософських та соціальних проблем, підвищити рівень освіти та розвинути художній смак, естетичне світовідчуття.

Ключові слова: герой, жанр, література, масова комунікація, проблематика.

Introduction

At the end of the 20th – the beginning of the 21st century in Ukraine and the world, globalization processes, scientific and technological progress, historical and political realities contributed to the development of mass communication, which affected all spheres of human activity: physical, emotional, intellectual, spiritual, etc. The understanding of artistic creativity, which has always been a powerful source of shaping the worldview of an individual and society as a whole, in accordance with existing realities, is of particular importance in our time. The formation and intensive development of the information space caused an urgent need for scientific rethinking of art as a whole and literature in particular in the aspect of socialization (Ortega & Gaset, 1994).

At all times, writing as a form of art had as its priority task the formation of a person's worldview and worldview as an integral part of society, which was preserved during the growth of "information technologies that penetrated into all spheres of human activity" (Zhylin et al., 2023, p. 257). In scientific discourse, the concept of "literature" is understood as "a type of written creativity, a set of handwritten and printed works of a certain people, period or age" (Kovaliv, 2007a, p. 564).

The social orientation of this type of art is also evidenced by its specific functions: entertaining, cognitive, informative, communicative, axiological, and the function of preserving information (Kharytonenko, 2012, p. 9). In the works of contemporary researchers, literature is interpreted as a powerful means of communication between the author and the reader (individual), the author and society. In view of this, contemporary researchers single out the following essential features of literature as a type of mass communication: it is distributed by means of mass communication, oriented towards a mass audience, direct contact with which is impossible for the authors of literary works; 3) addressing an unspecified circle of recipients, performs social functions (informational, propagandistic, campaigning, educational, enlightening, etc.), and therefore creates an impact on society, etc. (p. 7-8). Therefore, the achievements of literary studies are no longer enough for a comprehensive interpretation of an artistic text, it is necessary to involve knowledge from other sciences.

At the end of the 20th – the beginning of the 21st century, Ukrainian literature was enriched with works that, while remaining a high-quality artistic text, demonstrate the above-mentioned signs of mass communication. It is worth mentioning the creative work of Yu. Andruhovych (2008), M. Kidruk (2021), H. Pagutyak (2007), E. Polozhiy (2016), S. Zhadan (2022), and others. The prose of M. Dochynets (2007; 2013a; 2013b; 2014; 2016; 2020; 2022) stands out among the general public, characterized by the features of communication between the author and the recipient, enriched with philosophical subtext, topical issues, and a variety of artistic means in the reproduction of individual consciousness and social reality. In the following sections, we will focus on the works of contemporary scientists important for research, justify the choice of methods and techniques of interpretation of the artistic text, and analyze the biographical basis of the works, their genre nature, the author's principles of creating the concept of the character, the problem-thematic corpus, etc. Analyzing these levels of the writer's texts, we will conduct a study of the signs of the interaction of the artistic text and mass communication, which is the goal of this article.

Theoretical Framework

Attempts to understand the specifics of the interaction of mass communication and art, and fiction in particular, are increasingly appearing in contemporary scientific thought. For example, P. Lyndon emphasizes the different nature and means of literature and mass communication, but recognizes “very subtle points of contact” due to “tricks of style and difficult satire”, content, audience (1970, p. 6-10). Another researcher, B. D’Angelo notes “about the movement that has taken place in our time both in the field of literature and in writing, to other semantic fields, both literary and non-literary” and proves this by examining the interaction of cinema, literature, opera, museum (2009). Kondala Rao G., Lakshmi Vijaya note in their article that the literary text today “has the power to promote personal understanding and encourage social cohesion” (2016, p. 239). Researchers emphasize the differences between the two phenomena: literature affects society slowly and literature is a more elitist (p. 241). As we can see, changes in views on the process of interaction between literature and mass communication took place at the beginning of the 21st century, when the means of mass communication began to develop intensively and the integration between the fields of science, types of art, etc., increased.

In the Ukrainian scientific discourse, attention is also paid to the problem of the reception of the communicative possibilities of literature, its socialization and interaction with the media space. It is worth noting that in recent years a number of scientific and methodical publications on the topic have appeared for students of higher educational institutions and information technology specialists, journalists, publishers, etc. These are the works of O. Kosyuk (2012), L. Voytenko (2020), N. Zrazhevska (2006), and others.

Methodology

To achieve the goal, which consists in studying the features of the interaction of a literary work and the mass communication space on the example of the creative work of M. Dochynets, *general scientific* and *special literary methods* were used. With the help of *analysis, description* and *synthesis*, it was found that the writer’s works are actively researched in the contemporary Ukrainian scientific discourse. However, a review of the literature on the topic shows that there is not enough work dedicated to the study of the features of interaction and mutual influence of the artistic text and mass communication on the example of the creative output of an individual author, which opens up a perspective for research and determines the scientific novelty of our work. It should be noted that the poetic features of the creative work of M. Dochynets have already been studied by the authors of this article (Ishchenko, 2020, 2021; Horbolis, 2018), examples of the inter-artistic interaction of literature and cinema were considered (Horbolis et al., 2021), and the use of media techniques of dialogue with the reader in the writer’s most revealing works (Ishchenko, 2022). However, the author’s works are considered systematically in the context of mass communication for the first time in this article.

A detailed study of the signs of the interaction of literature and mass communication was carried out with the help of systemic, socio-historical, biographical, hermeneutic, genetic, imagological, interdisciplinary. *The socio-historical method* contributed to the understanding of the writer’s prose in the context of socio-cultural trends and socio-political realities of the 20th-21st centuries. *The biographical method* helped to find out the influence of facts from the writer’s life, worldview orientations and artistic and aesthetic beliefs on the formation of the concept of the character, genre specificity and ideological and thematic load of large and small prose. *The hermeneutic method* made it possible to interpret the problems, the ideological and thematic level of the works of M. Dochynets. *The genetic method* was used to determine the genre specificity of the author’s work. *The imagological method* contributed to the understanding of the identity of the concept of the character in the context of contemporary literary trends and requests of the readership. *The interdisciplinary approach*, which consists in combining the achievements of literary studies and the foundations of mass communication theory, contributed to the identification of signs of interrelationships and mutual influences of fiction and contemporary mass communication space in the writer’s prose.

Results and Discussion

Contemporary Ukrainian writer M. Dochynets is the author of the novels “The Fox in the Vineyard. Finding Lost Tracks”, “Centenarian. Confession on the Pass of the Spirit”, “Svitovan. Studies under the Tent of the Skies”, “The Digger of Wells. The Diary of the Richest Man of the

Mukachevo Dominion”, “Highlander. Waters of Our Lord’s Riverbeds”, “Maftey. Book Written with a Dry Pen”, “Fern’s Children”, collections of short prose “Ladies and Adams”, “The Road to Heaven – to People”, “Bread and Chocolate”, “Hands and Soul”, “Cutting and Life Courses”, “Blue notebook”, “A Novel with a Sheet”, “The Book of Wisdom”, “The Sighted Pen”, “The Light of Seven Days”, “If You Listen to the Wise Men”, “Herbs”, “Years and Medicine”, “Golden Time”, and others.

Analyzing the Myroslav Dochynets’ creative work, we consider it necessary to clarify the terminological apparatus of the research. In the scientific discourse, communication is understood as “the process of exchanging information (facts, ideas, views, emotions, etc.) between two or more persons, communication using verbal and non-verbal means for the purpose of transmitting and receiving information” (Kondratenko, 2018). The term “mass communication” will be interpreted as “the fundamental state of contemporary society, in which the complex structure of the social and cultural space with its numerous sectors, which are functionally and deterministically interconnected, is embodied in symbolic forms and images that can be perceived and understood corporate, mass and individual consciousness” (Kostenko, 1998, p. 153). The phenomenon is aimed at uniting society and contributes to the production of information as a product, the use of technical means for the production of information, the development of mass culture (mass values, typical behavior patterns for the masses), forms a specific social environment for which mass culture is characteristic and which is a customer and consumer of information products (Rizun, 2008, p. 127). By the mass communication space, we understand the process of exchanging and spreading information to a large audience with the help of mass media technical means (press, radio, television, Internet, publishing houses, etc.) with the aim of influencing the consciousness and behavior of the recipient (Ishchenko, 2022, p. 5).

M. Dochynets belongs to the writers who started their creative activity as journalists or authors of journalistic texts (Y. Andrukhovich, T. Antipovich, K. Babkin, L. Voronin, L. Denysenko, S. Zhadan, O. Zabuzhko, A. Kokotyuhu, O. Kotsarev, O. Irvanets, O. Shinkarenka, etc.). After receiving a professional journalistic education, he began working in the editorial offices of the newspapers “Literaturna Ukraina”, “Carpathian Territory”, “Fest” and the magazines “Ukraine”, “Motherland”, and others. In the book “Word Lamp” (2013b), M. Dochynets notes that “he owes his career and name to the newspaper”, because journalistic activity helped to form the main features of his idiostyle – clarity, clarity, a semblance of lightness, picturesqueness of episodes and the effect of presence” (p. 53). It is important that while working as a journalist, the future writer specialized in writing portrait and problem novellas, essays, which determined his attraction to small epic forms (novella, essay, etude, esquisse, aphorism, diary) and the predominance of the biographical novel in his literary work. The writer considers any division into genres to be conditional, and prefers those that meet the needs of the audience: “In our dynamic time, there is neither time nor need for the production of long texts. But an apt aphorism about the malice of the day is always timely and relevant” (p. 52-53). The author also explains the appeal to novel by contemporary trends in the literary process.

Reflecting on the difference between journalism and literature, M. Dochynets emphasizes the large number of stamps that are necessary for journalistic genres. The writer compares: “Prose is a walk through a garden that you planted yourself and attracted singing birds. Journalism, too capitalistic, grandiose, corrupts the heart and dries the brain. <...> A journalist has an audience, subscribers. The writer has a Reader” (2013b, p. 54). That is why he gave preference to literature that gives greater creative freedom to the author.

M. Dochynets works as the editor-in-chief of the publishing house “Carpathian Tower”, which he founded himself. This allows him to actively engage in writing, analyze the works of his colleagues and contact a large audience of both authors and readers, thus constantly being in the context of the contemporary literary process. The author repeatedly emphasizes the importance of the writer for society, his role for the consolidation of the masses, because it is no accident that he defines his activity as “service”: “The word belongs to us from Heaven. Therefore, literature is a service to support in a person the spirit of virtue, desire for perfection, approach to God” (Dochynets, 2013b, p. 56).

M. Dochynets notes that, building his own style of writing, he appeals to the creative work of Ukrainian classics (I. Franko, O. Honchar, M. Kotsyubynskyi, Lesia Ukrainka, T. Shevchenko, M. Stelmakh, etc.), but is “open to of all literary methods, schools and styles” (Dochynets, 2013b, p. 101). The author defines himself as a "neo-realist with shades of impressionism and magical realism", at the same time he recognizes in his texts signs of romanticism, symbolism, realism, existentialism, modernism and postmodernism (p. 196). The novelist simultaneously focuses his texts on supporters of, as he notes, the "old school" and, at the same time, those who are interested in the works of contemporary Ukrainian literature.

M. Dochynets' journalistic activity also influenced the development of his reading skills and literary tastes, as he himself notes in an interview: "Since then, I have become, perhaps, the slowest reader in the world. Because this is a real luxury – to leisurely travel through the lines of great storytellers, delving into the secrets hidden between words" (Dochynets, 2013b, p. 51). The writer is convinced that it is possible to write one's own high-quality artistic text only after reading many other people's works, rethinking them and presenting ideas that are relevant for oneself and society from a new angle, in an original interpretation in accordance with one's life philosophy, worldview and worldview ideals. That is why the creative work contains a significant number of intertextual borrowings, allusions, reminiscences, quotations, etc. aimed at expressing the author's intention. These are the works of O. De Balzac, E. Hemingway, V. Faulkner, H. Flaubert, V. Hugo, I. Kotlyarevsky, M. Kotsyubinsky, H. Marques, M. Montaigne, E. M. Remarque, H. Skovoroda, V. Stefanyk, M.- A. Stendhal, and others. Appealing to the works of famous predecessors and contemporaries, M. Dochynets reflects on the meaning of the artistic word: "Unfortunately, Ukrainian literature, and even more so the mass media, have impoverished vocabulary incredibly. I believe that literature should carry not only the freshness of thoughts, but also the beauty and aesthetics of words" (Dochynets, 2013b, p. 91). He strives to present literature as a continuous process that is constantly updated and enriched.

Writers of the late 20th and early 21st centuries adhered to the principle of anthropocentrism, so the image of a person who finds the strength to overcome the system, get rid of the negative influence of various factors on life, and find harmony within himself became relevant. Such images can be found in the works "The Scribe of the Eastern Gate of the Asylum" and "The Scribe of the Western Gate of the Asylum" by Galina Pagutyak, "The Skylight" by P. Midianka, "Verkhovynska Song" by P. Skunets, "Symphony of the Petrikiv Forest" by P. Soroka, an anti-utopia trilogy "The Time..." by Yu. Shcherbak and others. M. Dochynets did not remain aloof from the creative pursuits of his colleagues, and proposed a unique concept of a wise character – an elderly person with significant life experience, which was gained during the struggle against the totalitarian system, during the overcoming of historical and personal tragedies.

In the M. Dochynets' prose, the image of the wise character was formed in the book of spiritual instructions "Many Years. Blessing Years" (2007), which became the first major work dedicated to the figure of Transcarpathian healer Andriy Voron. The writer endowed his character with the traits of a Greek philosopher, a folk thinker like H. Skovoroda, a Christian hermit monk, a herbalist and an enlightened guru. For the post-Soviet society, this concept of the image turned out to be relevant, since for a long time it was devoid of hints of religiosity, spirituality in culture and social life. According to the author, the wise teacher character is able to set an example, to teach how to fill the mental emptiness caused by Soviet ideology. "The Holy Scriptures contain everything the soul needs, but for many it is too distant, too strict and incomprehensible. And here is supposedly an example of a real person who looks like a father, a grandfather", – the writer explains (Dochynets, 2013b, p. 138). At the same time, a patriot character like Andriy Voron, who loves his Motherland and respects folk traditions after Ukraine gained independence, and orientation towards his own historical progress and cultural identity were and are relevant. The writer notes that his desire was "to show a Ukrainian character on the European battlefield", so his character imitates the main European values – democracy and pluralism, and also popularizes Ukrainian culture and philosophy of pantheism, hedonism (p. 138). Thus, in the novels of the writer, one of the most relevant topics in society is artistically understood – the need for Ukraine's integration into the European community.

In the M. Dochynets' prose, the understanding of the "eternal questions of humanity" is actualized, firstly: the search for a spiritual ideal, the understanding of the meaning of existence, the importance of religious worldview and moral and ethical norms, the search for one's place in the world. The success of the concept proposed was also contributed to the age characteristics of the character – an elderly person who reflects on important ontological issues and generously shares advice on how to live long and maintain mental and physical health. In numerous interviews, the writer also convinces that his character is a real person with whom he was familiar and with whom he was a student in his youth, which provides the "effect of the authenticity of the depicted" characteristic of journalism and the reception of artistic conjecture and fiction, which is natural for literature (2013b, p. 62). This is how the writer intrigues the reader, invites to a discussion and inspires trust. The writing strategy proved to be successful due to the manner of presentation in the form of the main character's monologue (*I-narration*), which creates the illusion of a direct conversation with the narrator. In prose, he repeatedly returned to the image of Andriy Voron in the novels "Centenarian", "Svitovan", the books "Blue Notebook", "Consolation mountain", "Golden Time", and a number of short prose texts. Thanks to his writing skills, namely the ability to combine real facts with artistic conjecture and fiction, a successful marketing campaign, publicity in the media and social networks, the literary character has turned into an almost mythical character, in the reality of which numerous fans believe. The image of a wise elderly person who overcomes life's obstacles and is constantly self-improving and self-actualizing was also used in the successful novels "Highlander", "Well-Digger", "Maftey".

Secondly, M. Dochynets repeatedly addresses the current issues of our time, which are of interest to a contemporary educated, intelligent person. The writer repeatedly addresses environmental issues. The main characters of the writer are an example of a person who is a model of eco-cultural behavior and teaches others to find harmony in themselves through spiritual union with the forest, river, and mountains. For example, in the novel "Centenarian" Andrii Voron notes: "Learn to see all living things around you and be happy with them – grass, trees, mushrooms, thorns, animals, earth, sky. Look into them with kind eyes and an attentive heart – and such knowledge will be revealed to you that you will not find in books. And you will see yourself in them – calm and renewed" (2013a, p. 101). The writer also pays attention to the problem of contemporary man's fatigue from the fast pace of life in the city, the negative impact of the information environment. His characters distance themselves from society in order to preserve their individuality, but they do not separate completely. They are convinced that in order to help people, one must first find oneself, and this is possible only in solitude through contemplation of the world and one's inner world: "They walk a long way to God. And alone" (2014, p. 199). Therefore, every person has the right to his personal space and must arrange it correctly, only in this way can we coexist harmoniously and help each other. M. Dochynets, appealing to current issues, could not stay away from the topic of the war in Ukraine. He dedicated his latest novel "Fern's Children" to the topic of overcoming the psychological trauma of a person who returned from the war zone. The author actively uses the means of artistic psychology, in particular the description of changes in the character's feelings under the influence of chronotopic parameters: "I was woken up by a strange ringing. I listened – no sound. It was a ringing silence" (2020, p. 19). The novelist convincingly recreated the inner world of the writer-intellectual, who finds peace of mind thanks to the return to the land of his ancestors and through interaction with the nature of the Carpathians.

Thirdly, M. Dochynets focuses on "everyday problems" that every person has and do not require special knowledge, and therefore are accessible to a wide range of readers. For example, these are relationships between family members, understanding the relationship between a man and a woman, finding one's place in society, etc. The writer also exerts a psychological influence on the reader, emphasizing the fashionable topic of preserving health and youth in the contemporary mass communication space, forming the correct daily routine, sleep hygiene, etc., which he actively uses in the novels about Andriy Voron, in the books "Years and Medicine" (2022). In the last, the author changes the epic tone of the story and presents the material in the form of laconic advice from a diary or notebook: "Don't neglect breakfast. Get rid of the habit of eating meat. It is advisable to eat fish three times a week. Drink low-fat milk" (p. 112). Another relevant topic for contemporary society is the search for a "formula of success" that will allow one to achieve wealth and power over the world and people. The novel "Well-Digger" (2016) focuses on this problem, the main character of which, thanks to perseverance, self-education, and hard work, became the richest man in his homeland. Like other texts of the writer, this work contains numerous motivational lyrical digressions – the main character's advice, which is added with the aim of influencing the thoughts and behavior of the recipient, to encourage them to take specific actions: "One must crave money! You need to know how much you want, and warm up the strength and measure of desire" (p. 135). Traditionally for his creative manner, M. Dochynets transforms even a somewhat mundane topic of money into a philosophical and moral-ethical plane. The main character Ovferiy, regardless of his wealth, managed to preserve the simplicity of his soul, self-criticism, and therefore used his wealth and power to develop his hometown and improve the quality of life of its residents.

M. Dochynets notes that, compared to his colleagues, he “does not know his reader”, that is, he does not write his works according to certain criteria, does not adapt them to a specific target audience, does not consider “whether the work will become popular”. Accordingly, he imagines “his reader” “with intelligent faces and interested eyes” (2013b, p. 74-75). The writer emphasizes that he writes "for himself" in order to answer the questions that concern him.

M. Dochynets, in order to expand his readership, somewhat simplifies the form of presentation of the material at the genre, figurative, problem-thematic levels. This gives reason to some literary critics to include his work among the samples of mass literature, which in contemporary scientific discourse is understood as “reproduced, entertaining or didactic fiction, adapted for understanding by the average reader, mostly devoid of aesthetic value”, in which stereotypes, images, clichés, stamps, etc. (Kovaliv, 2007b, p. 18). The “disadvantages” of the works are determined by the focus on commercial success at the expense of topical issues (Shchur, 2012), falsification “in the style of tabloid newspapers” (Fasolya, 2013), entertainment and didactics (Kotsarev, 2012), writing “quasi-intellectual pops” (Baran, 2015), etc. But a number of researchers (M. Vaskiv, L. Gorbolis, S. Kovpik, O. Talko, etc.) do not agree with this assessment of the author’s work, emphasizing the presence of a philosophical subtext, imagery, originality of the presentation of the material, the presence of a literary and cultural context, signs of inter-literary and inter-art interaction, focus on the erudite reader, accentuation on moral and ethical standards, saturation with national color, etc., which indicates the high artistic value of the works and belonging to elite literature (Bilichenko, 2012; Kryvopyshyna, 2018). The writer himself emphasizes that his works are by their nature metaphorical, aphoristic, saturated with symbols and philosophical and folklore subtext (p. 55). There are a number of studies devoted to the richness of language and artistic means in the writer’s works, for example, the works of L. Prokopovych (2017, 2020), R. Terebus (2018) and many others, so we will not consider it here question.

M. Dochynets often analyzes the contemporary Ukrainian literature. He observes that all fashionable “postmodern trends” are rapidly changing, while “Literature was, is, and must be elitist” (2013b, p. 115). He considers high literature to be the one whose reading “forms an ideal and raises the bar, as well as develops critical thinking” (p. 102). The use of features of mass communication in the creative work of the prose writer is explained by the desire to attract a wide audience to reading elite literature in order to raise its intellectual level, to form certain aesthetic and worldview constants.

Conclusions

The study of M. Dochynets’ creative work using general scientific and special literary methods helped to find out that his work has “two artistic dimensions”, the interpretation of which depends on the education, intellectual level and artistic and aesthetic tastes of the recipient. The first is “high”, “elite”, which is formed thanks to refined language, philosophical subtext, imagery, a wealth of tropes and artistic means, the originality of the presentation of the material, the presence of a literary and cultural context, topical issues (the impact of globalization on the individual, overcoming the consequences of the totalitarian system, psychological trauma caused by personal and historical factors, the search for individual and national identity, etc.), signs of interliterary and interartistic interaction, etc.

The second dimension “for the mass reader” is created by means of an appeal to the principles of mass communication, which are partially implemented in the writer’s prose at the genre, imaginative, stylistic, and problem-thematic levels. Among the variety of genres, the author chooses those that, given the dynamic rhythm of life of a contemporary person, will not require a lot of time to read – an aphorism, a sketch, a novel, diary entries, etc. In long prose, the writer uses an adventure plot, lyrical motivational digressions with short instructions, etc., to keep the reader’s attention. M. Dochynets presented the image of the wise character in the context of the Ukrainian social and political realities of the 20th and early 20th centuries, which is close to the contemporary reader, because it responds to the spiritual and aesthetic requests of the modern audience. The writer brings his works closer to the general public with the help of syncretism at the stylistic level (combination of features of impressionism, romanticism, realism, existentialism, etc.), so a reader who is a supporter of any of the listed artistic methods of depicting reality, or does not adhere to a specific aesthetic platform at all, in the works of the novelist he will find “something of his own”. The prose of M. Dochinets has a wide problem-thematic range: relationships in the family, preservation of health and youth, finding one’s place in the world, self-actualization and striving for success in life, etc.

Having analyzed the M. Dochynets’ creative work and his artistic and aesthetic beliefs, we can say that the writer exerts an influence on society thanks to significant life experience, studying the depths of human psychology, determining the aesthetic and spiritual requests of the contemporary audience, mastering the mechanisms of influencing the reader (current issues, wealth linguistic means, narratives in the form of a friendly conversation with a wise person, creating an intrigue regarding the reality of the depicted, etc.). Having created “two ways of reading” his texts, the writer seeks to answer the requests of the “elite reader” and attract a wide audience to the understanding of important philosophical and social problems, raise the level of education and develop artistic taste.

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DOI: https://doi.org/10.34069/AI/2023.68.08.11
How to Cite:
Alshammari, K.H., & Alshammari, A.F. (2023). Managing digital transformation in a global environment: The role of national culture. *Amazonia Investiga*, *12*(68), 112-125. https://doi.org/10.34069/AI/2023.68.08.11

Managing digital transformation in a global environment: The role of national culture

إدارة التحول الرقمي في البيئات العالمية: دور الثقافة الوطنية

Received: July 3, 2023 Accepted: August 28, 2023

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Abstract

In today's fast-changing business environment, digital transformation has become an essential strategic imperative for companies seeking to maintain a competitive edge. However, research on the effect of national culture on digital transformation is lacking. This study seeks to address this gap by investigating the effect of national culture on digital transformation, with a focus on the mediating role of digital competencies and information system management practices, as well as the moderating effect of leadership. 250 managers and employees with digital transformation experience across various industries in Saudi Arabia were surveyed. Structural equation modeling (SEM) was employed to analyze and test the research hypotheses. The findings demonstrate that national culture significantly affects digital transformation, with digital competencies and information system management practices acting as mediators. Furthermore, the study discovered that leadership plays a moderating role in the relationship between national culture and digital transformation. The positive impact of national culture on digital transformation is amplified when there is a transformational leadership style in place. These insights hold significant implications for organizations embarking on digital transformation initiatives, emphasizing the importance of fostering a culture encourages digital innovation and risk-taking, investing in digital capabilities and effective information system management, and nurturing transformational leadership to drive successful digital transformation efforts.

Keywords: National Culture, Digital competencies, Information System Management Practices, Digital Transformation, Leadership.

المستخلص

في بيئة الأعمال سريعة التغير، أصبح التحول الرقمي ضرورة إستراتيجية أساسية للشركات التي تسعى إلى الحفاظ على ميزاتها التنافسية. ومع اهمية ذلك ، فإن هنالك نقص في البحوث حول تأثير الثقافة الوطنية على التحول الرقمي. تسعى هذه الدراسة إلى معالجة هذه الفجوة من خلال التحقيق في تأثير الثقافة الوطنية على التحول الرقمي ، مع التركيز على الدور الوسيط للكفاءات الرقمية وممارسات إدارة نظم المعلومات ، فضلاً عن التأثير لمتغير القيادة المُعدِل في النموذج. ولتحقيق هذا الهدف استخدمت الدراسة تصميم بحث كمي وجمعت بيانات مسح من 250 مديرًا وموظفًا في مختلف الصناعات في المملكة العربية السعودية ممن لديهم خبرة في التحول الرقمي. تم استخدام نمذجة المعادلات الهيكلية (SEM) لتحليل البيانات واختبار فرضيات البحث. تشير النتائج إلى أن الثقافة الوطنية لها تأثير كبير على التحول الرقمي ، ويتوسط هذا التأثير بشكل أساسي الكفاءات الرقمية وممارسات إدارة نظم المعلومات. تكشف الدراسة أن الثقافة التي تعطي الأولوية للابتكار والمخاطرة ترتبط بشكل إيجابي بالكفاءات الرقمية وممارسات إدارة نظام المعلومات ، مما يؤدي بدوره إلى التحول الرقمي. علاوة على ذلك ، اكتشفت الدراسة أن القيادة تلعب دورًا معتدلاً في العلاقة بين الثقافة الوطنية والتحول الرقمي. يتم تضخيم التأثير الإيجابي للثقافة الوطنية على التحول الرقمي عندما يكون هناك أسلوب قيادة تحويلية في المكان. الآثار المترتبة على الدراسة كبيرة بالنسبة للشركات التي تشرع في برامج التحول الرقمي. بناءً على النتائج ، يجب على الشركات إنشاء ثقافة تشجع الابتكار الرقمي والمخاطرة ، والاستثمار في القدرات الرقمية وتقنيات إدارة نظم المعلومات ، وتعزيز القيادة التحويلية. بالإضافة إلى ذلك ، يجب مراعاة الجوانب الثقافية الوطنية عند وضع خطط التحول الرقمي.

الكلمات المفتاحية: الثقافة الوطنية ، الكفاءات الرقمية ، ممارسات إدارة نظم المعلومات ، التحول الرقمي ، القيادة.

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Introduction

In recent years, Saudi Arabia has made significant strides in digital transformation. The country boasts a high internet penetration rate of 78%, with 27.1 million active internet users, despite a population of 34.8 million (Al-Kahtani et al., 2022). The Vision 2030 strategy of the government aims to reduce the country's reliance on oil earnings and invest in new areas such as technology, media, and telecommunications. To support this strategy, the government has developed projects such as the National Digital Transformation Program (NDTP) and the Saudi Cloud Computing Program (SCCP) to increase the use of digital technology across diverse sectors and promote cloud adoption in the public sector (Johri & Kumar, 2023). The Saudi ICT market is expected to reach $39.5 billion by 2023, growing at a 6.8% CAGR between 2018 and 2023.

The relationship between national culture and digital transformation takes on various forms, some complementary and others contradictory. One-way digital technologies contribute to the preservation of national culture is through the use of digital media to capture and document traditional practices, knowledge, and skills (Rowan et al., 2022). Digital transformation also contributes to solving environmental problems by encouraging sustainable practices such as renewable energy, waste reduction, and resource efficiency.

Despite the growing body of work investigating the impact of national culture on digital transformation, there is still a gap in understanding the mediating function of digital competencies and information system management practices, as well as the moderating role of leadership (Bemmami et al., 2022). Therefore, the aim of this study is to investigate the impact of national culture on digital transformation and the mediating role of digital competencies and information system management practices. Additionally, this study aims to explore the moderating role of leadership in this relationship.

Literature Review

Digital Transformation

D Digital transformation has emerged as a vital strategic imperative for businesses in today's technology-driven landscape. The integration of digital technologies across all aspects of an organization brings numerous benefits, including improved operational efficiency, enhanced customer experience, increased innovation and agility, and cost reduction (Hess et al., 2016). In recent years, the concept of digital transformation has garnered significant attention due to its profound impact on businesses and their ability to remain competitive in today's fast-paced and technology-driven world. Digital transformation entails the integration of digital technologies into all facets of an organization, leading to fundamental changes in its operations and value delivery to customers (Busulwa et al., 2022; Sebastian et al., 2020). This transformative process is driven by several key factors that have propelled its widespread adoption (Alshammari, 2023).

The benefits of digital transformation are multifaceted and hold great promise for organizations. One notable advantage is the improvement in operational efficiency (Hess et al., 2016; Vial, 2019). By leveraging digital tools and technologies, companies can streamline their processes, optimize resource allocation, and eliminate inefficiencies. This, in turn, leads to cost savings and enhanced productivity. Moreover, digital transformation enables organizations to deliver an elevated customer experience (Schuchmann & Seufert, 2015).

Additionally, organizations may encounter difficulties in integrating new technologies into their existing services and systems. Legacy systems and processes may not be compatible with emerging digital solutions, requiring careful planning and execution to ensure a smooth transition (Libert et al., 2016). Moreover, the process of upskilling or reskilling employees to effectively leverage digital technologies can present a significant challenge (Shahatha Al-Mashhadani et al., 2021).

National Culture in Information System Field

In the realm of Information Systems (IS) and Management research, one theory that has gained considerable prominence when exploring the influence of national culture is Hofstede's national cultures theory. This theory, introduced by Geert Hofstede, has been frequently cited and utilized in various studies examining the impact of national culture dimensions (Leidner & Kayworth, 2006). Researchers often turn to Hofstede's theory as a framework for comprehending the role of national culture within organizations (Obeidat et al., 2012). Due to its comprehensiveness and widespread recognition, Hofstede's national cultures theory has been widely adopted in IS and Management research. Scholars have utilized this framework to investigate a broad range of topics, including cross-cultural IT adoption, technology acceptance, organizational behavior, knowledge sharing, and leadership styles across different national contexts (Leung et al., 2005).

Hypotheses Development

National Culture and Digital Competencies

The relationship between national culture and digital competencies has received growing attention in recent years. Numerous studies have explored the impact of cultural dimensions on individuals' abilities to effectively use technology. For instance, Hébert et al., (2022) found that certain cultures' members have a greater propensity to perform better than others in digital competencies. In another study, Robinson (2020) investigated the connection between national culture and digital literacy in the context of online learning. The author revealed that cultural factors such as collectivism and uncertainty avoidance significantly impacted digital skills in e-learning environments. Considering this, the following hypothesis is proposed:

H1: National culture has a significant and positive impact on digital competencies.

National Culture and information system management practices

Hofstede's cultural dimensions provide a significant framework for analyzing national culture, according to Xu & Hao (2021). Researchers have used Hofstede's framework to investigate the impact of national culture on Information Systems (IS) management practices. Therefore, the national culture plays a crucial role in shaping IS management practices.

Hofstede's cultural dimensions provide a useful framework for analyzing national culture's impact on IS management practices. Therefore, understanding the cultural values of employees and stakeholders is essential in managing IS effectively across different cultures. Considering this, the following hypothesis is proposed:

H2: National culture has a significant and positive impact on information system management practices.

National Culture and Digital Transformation

National culture is a critical factor that influences how organizations approach digital transformation initiatives. Cultural values, such as individualism and collectivism, have been shown to impact the adoption of digital transformation initiatives. A study conducted by Noguerón-Liu (2020) found that individualistic cultures are more receptive to digital transformation initiatives that emphasize innovation and efficiency, while collectivistic cultures are more receptive to initiatives that focus on collaboration and teamwork. This suggests that organizations operating in individualistic cultures need to prioritize the technical aspects of digital transformation, while organizations operating in collectivistic cultures should prioritize the social and cultural aspects of digital transformation.

Digital Competencies and Digital Transformation

Digital competencies are increasingly becoming crucial for organizations to stay competitive in today's digital age. These competencies refer to a set of skills and abilities that enable individuals and organizations to effectively use digital tools and technologies to achieve business objectives.

Gasco-Hernandez et al., (2022) identified four key digital competencies that organizations need to focus on: digital literacy, digital creativity, digital communication, and digital collaboration. Digital literacy involves the ability to use digital tools and technologies, while digital creativity involves the ability to generate innovative ideas and solutions using these tools. Digital communication and collaboration are also essential competencies that enable individuals and teams to communicate and work together effectively in a digital environment.

It's important to note that digital competencies are not only important for achieving success in the digital age but also for adapting to the changing technological landscape. Blanka, Krumay, & Rueckel (2022) found that digital competencies enabled organizations to adapt to changes brought about by digital transformation, such as changes in business processes and customer behavior. Considering this, the following hypothesis is proposed:

H3: Digital competencies have a significant and positive impact on digital transformation.

Information System Management Practices and Digital Transformation

Information system management practices are critical to the success of digital transformation as they help organizations to develop and manage the digital infrastructure needed to support new business models and operations. According to Bemmami et al., (2022), information system management practices are the collective set of policies, procedures, and practices used by an organization to manage its information systems. These practices provide a framework for managing the entire life cycle of an organization's information systems, from design and development to maintenance and retirement.

The impact of information system management on digital transformation can be seen in the way they enable organizations to transform their business models, processes, and operations. Information system management helps organizations to identify new digital business opportunities and align their information systems with these opportunities (Zeng et al., 2021). Considering this, the following hypothesis is proposed:

H4: Information system management practices have a significant and positive impact digital transformation.

Digital Competencies as Mediator

National culture has a significant impact on organizations' ability to undergo digital transformation. Research has shown that digital competencies play a mediating role in the relationship between national culture and digital transformation. Digital competencies refer to the ability to use digital tools and technologies effectively to achieve business goals (Gasco-Hernandez et al., 2022). In a study by Alos-Simo et al., (2017), digital competencies were found to mediate the relationship between national culture and digital transformation in South Korean organizations.

Thus, national culture is an essential factor that influences organizations' ability to undergo digital transformation. Considering this, the following hypothesis is proposed:

H5: Digital competencies significantly mediate the relationship between national culture and digital transformation.

Information System Management Practices as Mediator

Digital transformation is a complex process that involves the integration of digital technologies into all aspects of an organization's operations, including its products, services, processes, and culture. Information system management practices play a critical role in the success of digital transformation initiatives. Effective information system management practices enable organizations to develop and manage the digital infrastructure needed to support new business models and operations. The practices involve activities such as strategic planning, system design and development, IT infrastructure management, and IT service management. Toring et al., (2022) suggest that information system management practices are crucial in ensuring the success of digital transformation initiatives. Considering this, the following hypothesis is proposed:

H6: Information system management practices significantly mediate the relationship between national culture and digital transformation.

Leadership as Moderator

While having digital competencies is essential for successful digital transformation, how those competencies affect that transformation depends on the leadership position. Leaders play a critical role in determining the success of digital transformation initiatives. According to Caldwell (2020), the relationship between digital competencies and digital transformation can be moderated by leadership. Leaders must possess leadership digital competencies, which refer to the capabilities needed to lead a digital transformation effectively. Anufrieva (2022) identifies several critical leadership digital abilities, including the capacity to comprehend and utilize digital technology, the capacity to effectively communicate through digital media, and the capacity to build a digital strategy. Considering this, the following hypothesis is proposed:

H7: Leadership significantly moderates the relationship between digital competencies and digital transformation.

While information systems (IS) management practices are critical enablers of digital transformation, their impact on digital transformation may be contingent upon the leadership of an organization. The relationship between IS management practices and digital transformation can be moderated by leadership. For instance, leadership can provide the necessary support, resources, and guidance to drive digital transformation initiatives, thereby moderating the relationship between IS management practices and digital transformation (Alkinani, 2021). Considering this, the following hypothesis is proposed:

H8: Leadership significantly moderates the relationship between information system management practices and digital transformation.

Methodology

Research Model

Figure 1 displays the conceptual framework that was developed to guide the study. The dependent variable of digital transformation is at the center of the framework, surrounded by the five national cultural dimensions. It is hypothesized that these dimensions impact digital transformation in different ways. The framework also considers the potential mediating role digital competencies and information system management practices, and the moderating role of leadership. It is hypothesized that digital competencies and information system management practices will have a significant mediating impact on digital transformation. Also, it is hypothesized that leadership will have a significant mediating impact on digital transformation.

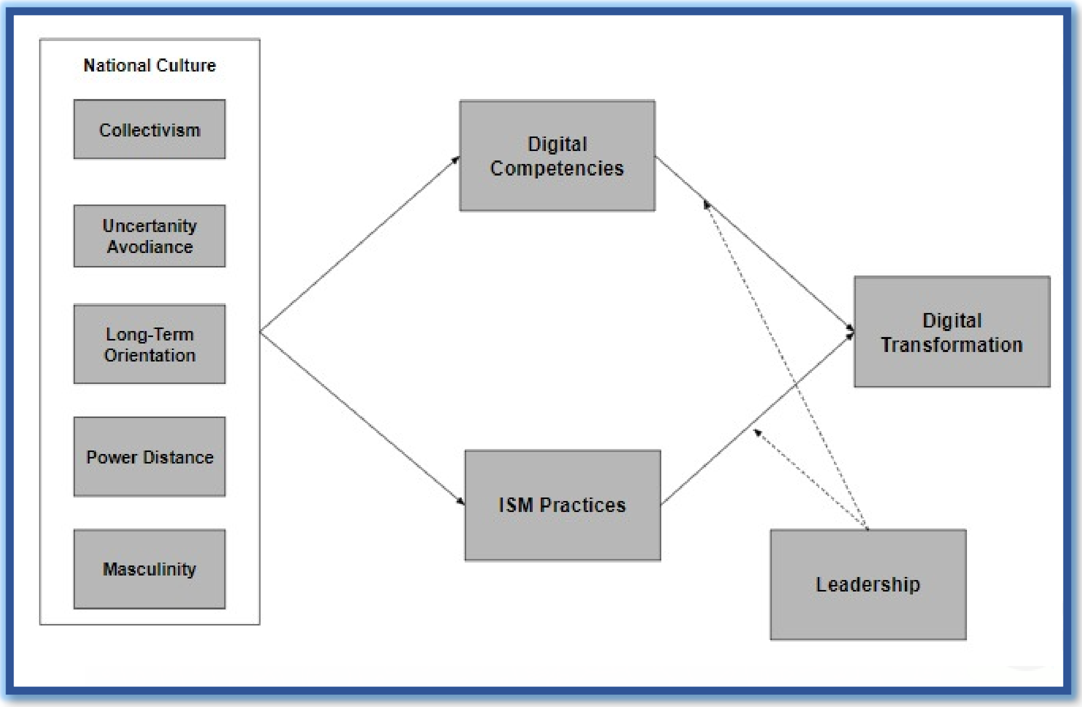

Figure 1. The study Model.

Research design

The research design selected for that study was a quantitative research approach, and the study aimed to explore the impact of national culture on digital transformation, while examining the mediating role of digital competencies and information system management practices, and the moderating role of leadership.

To address the research questions of this study, a rigorous and systematic research design was employed, utilizing a quantitative research approach and survey method. The survey questions were carefully developed based on previously validated instruments to ensure the reliability and validity of the data collected. By employing both structural equation modelling (SEM) and the SPSS statistical tool, the study was able to analyze the collected data and test the proposed conceptual framework.

Instrument Design and Measures

The study used validated scales to measure the constructs, and the measures for the constructs were as follows: 24 item scale adopted from (Hofstede, 2011) was used to measure national culture, while 5item scale was used to measure digital competencies adopted from (Sarango-Lapo et al., 2021). Additionally, 5 item scale adopted from (Kim, Yagi, & Kiminami, 2023) was used to measure information system management practices, and leadership was measured by using 5 item scale adopted from (Jedwab et al., 2023). Finally, Digital Transformation Assessment (DTA) was used to measure digital transformation adopted from (Nikmehr et al., 2021).

Findings

Demographic Profile

Table 1.
Demographic profile of the respondents

Demographic item		Frequency	Percentage
Gender			
	Male	162	65%
	Female	88	35%
Age			
	25-34 years old	36	14%
	35-44 years old	73	29%
	45-54 years old	82	33%
	55-64 years old	47	19%
	65+ years old	12	5%
Education			
	Bachelor's degree	93	37%
	Master's degree	125	50%
	Doctorate degree	32	13%
Digital Competencies			
	Low	27	11%
	Medium	134	53%
	High	89	36%

Testing measurement model (Stage 1)

The most recent and dependable PLS-SEM technique for second-order structures used in this study is reflective-formative modeling. Using recurrent indications, the method makes it easier to estimate hierarchical second-order constructs (Hair et al., 2019). The factor-based PLS method yielded outer loadings values that mirrored the measuring model of a multidimensional educational strategy for process-based instruction, direct instruction, hybrid instruction, and all other variables. Each item's outer loading value is greater than 0.4. Table 2 shows the outside loading of each item.

Table 2.
Outer Loading of Items

	Items	Outer Loading
Direct Instruction	C1	0.808
	C2	0.721
	C3	0.846
Hybrid Instruction	C4	0.868
	DC1	0.756
	DC2	0.569
Process Based Instruction	DC3	0.854
	DC4	0.905
	DC5	0.818
Syntactic Complexity in Argumentative Essays	DT1	0.452
	DT2	0.883
	DT3	0.761
TESOL's Attitude Towards Writing	DT4	0.873
	DT5	0.863
	ISMP1	0.777
Writing Task Complexity	ISMP2	0.804
	ISMP3	0.817
	ISMP4	0.906
	ISMP5	0.907
	L1	0.558
	L2	0.914
	L3	0.488
	L4	0.795
	L5	0.916
	LTO1	0.476
	LTO2	0.809
	LTO3	0.714
	LTO4	0.831
	M1	0.810
	M2	0.502
	M3	0.769
	M4	0.849
	PD1	0.806
	PD2	0.715
	PD3	0.804
	PD4	0.807
	UA1	0.813
	UA2	0.818
	UA3	0.907
	UA4	0.832

A high Cronbach's alpha value indicates a strong internal consistency and suggests that the items within the scale are measuring the same underlying construct (Hair et al., 2019).

Table 3.
Construct Reliability

Variables	**Cronbach Alpha**	**CR**	**AVE**
Collectivism	0.827	0.886	0.660
Digital Competencies	0.845	0.890	0.623
Digital Transformation	0.825	0.884	0.614
ISM Practices	0.898	0.925	0.712
Leadership	0.833	0.863	0.571

Long-term Orientation	0.700	0.807	0.520
Masculinity	0.719	0.828	0.555
Power Distance	0.792	0.864	0.615
Uncertainty Avoidance	0.875	0.908	0.711

By assessing discriminant validity, the study aimed to ensure that the correlations between reflective constructs and their indicators were higher than the correlations with other constructs and indicators (Hair et al., 2019). As a result, discriminant validity testing aids in the empirical differentiation of various notions. Table 4 displays the correlation coefficients between the model constructs.

Table 4.
Discriminant Validity (Fornell-Lacker)

	C	DC	DT	ISMP	L	LTO	M	PD	UA
Collectivism	0.813								
Digital Competencies	0.262	0.789							
Digital Transformation	0.023	0.351	0.783						
ISM Practices	0.353	0.700	0.279	0.844					
Leadership	0.476	0.320	0.276	0.407	0.756				
Long-term Orientation	0.425	0.235	0.092	0.100	0.153	0.721			
Masculinity	0.375	0.196	0.031	0.282	0.283	0.549	0.745		
Power Distance	0.401	0.098	0.132	0.282	0.422	0.497	0.745	0.784	
Uncertainty Avoidance	0.659	0.053	0.181	0.214	0.322	0.268	0.377	0.389	0.843

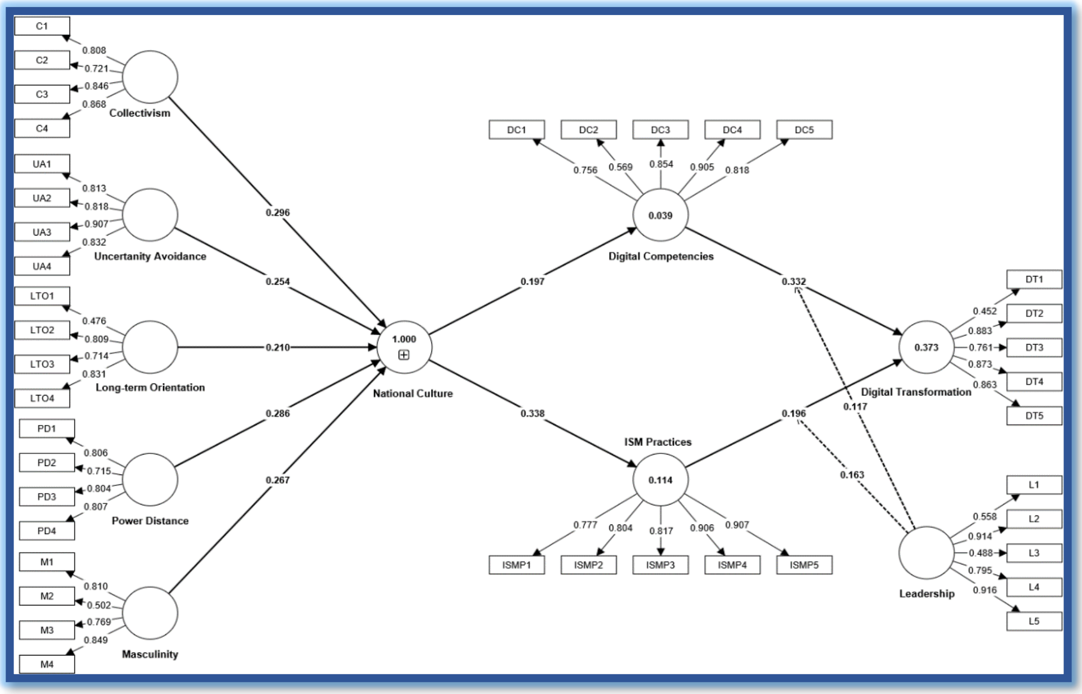

Figure 2. Measurement Model

Testing measurement model (Stage 2)

Reporting of the outer weights and p-values of the first-order (reflective) dimensions is necessary, as stipulated by the standards for evaluating formatively modeled HOC (Hair et al., 2019). Outer weights and p-values are used in Table 5 to determine the significance of national culture (second order reflective) and its dimensions (first order formative). In addition, the absence of multi-collinearity problems was demonstrated by the collinearity statistics of the reflective construct indicators. This was accomplished by ensuring that all of the variance inflation factor values were less than 0.5, which is the suggested threshold (Hair et al., 2019).

Table 5.
Assessment of reflective dimensions of instructional approach

First order construct (Reflective)	Second order construct (Reflective)	Path Coefficient	t-value	VIF	p value
National Culture	Collectivism	0.296	21.399	2.017	0.000
	Long-term Orientation	0.210	11.010	1.602	0.000
	Masculinity	0.267	18.155	2.527	0.000
	Power Distance	0.286	18.925	2.384	0.000
	Uncertainty Avoidance	0.254	7.775	1.872	0.000

Significance of Structural Model

The structural model in this study examined the statistical significance of all path coefficients between the exogenous (independent) and endogenous (dependent) variables (Hair et al., 2019). To analyze the significance level of the structural correlations, the study employed the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach and utilized bootstrapping, a resampling procedure (Hair et al., 2019).

The PLS-SEM approach and bootstrapping were utilized to assess the significance of the path coefficients and determine the significance level of the study constructs. Path coefficients represent standardized regression coefficients, indicating the strength and direction of the relationships between variables (Hair et al., 2019). On the other hand, t-values were used to determine the significance level of the study constructs. In this analysis, the t-values were required to be greater than 1.64 to indicate statistical significance (Hair et al., 2019).

Table 6 presents the path coefficients, t-values, and significance levels for the research variables. This table provides a comprehensive overview of the relationships between the variables, indicating the strength and significance of each path coefficient (Hair et al., 2019).

Table 6.
Direct Path Analysis

Constructs	Path Coefficient	T value	P value	Q^2	R^2	SRMR
NC → DC	0.197	2.591	0.005	0.212	0.373	0.062
NC →ISM Practices	0.338	5.099	0.000			
DC →DT	0.332	2.474	0.007			
ISM Practices →DT	0.196	1.853	0.032			

Testing of hypotheses

For the statistical determination of the structural model path coefficients representing the hypothesized relationships, a PLS-SEM bootstrapping technique was utilized. The PLS-SEM assessment for national culture empirically confirmed that it is a significant predictor of digital competencies and ISM practices, as shown in Table 6, which depicts the path relationships (via beta and t-values) and hypothesis testing decisions. The first and second hypotheses were confirmed, namely that there is a significant positive relationship between national culture and digital competencies (t = 2.591, p = 0.005) and national culture and ISM practices (t = 5.099, p= 0.000). Similarly, digital competencies and ISM practices also have significant and positive impact on digital transformation (t = 2.474, p= 0.007) and (t= 1.853, p= 0.032) respectively.

Mediation Analysis

The mediation effect of digital competencies was investigated between the relationship of national culture and digital transformation. Digital competencies significantly mediate the relationship between national culture and digital transformation (t=1.731; p = 0.042). H6 is therefore accepted. The mediation effect of ISM practices was investigated between the relationship of national culture and digital transformation. ISM practices significantly mediate the relationship between national culture and digital transformation (t=1.659; p = 0.049). H7 is therefore accepted as shown in Table 7.

Table 7.
Mediation Analysis

Constructs	Path Coefficient	T value	P value
NC → DC → DT	0.065	1.731	0.042
NC→ ISMP → DT	0.066	1.659	0.049

Moderation Analysis

The moderating influence of leadership was explored on the relationship between digital competencies and digital transformation. The results of this investigation are shown below. Leadership (t=1.839; p = 0.033) establishes significantly positive moderations on the relationship between digital competencies and digital transformation. The moderating influence of leadership was explored on the relationship between ISM practices and digital transformation, as graphically displayed in Figures 3 and Table 8. The results of this investigation are shown below. Leadership (t=1.907; p = 0.028) establish significantly positive moderations on the relationship between ISM practices and digital transformation.

Table 8.
Moderation Analysis

Constructs	Path Coefficient	T value	P value
Leadership x Digital Competencies → Digital Transformation	0.117	1.839	0.033
Leadership x ISM Practices → Digital Transformation	0.163	1.907	0.028

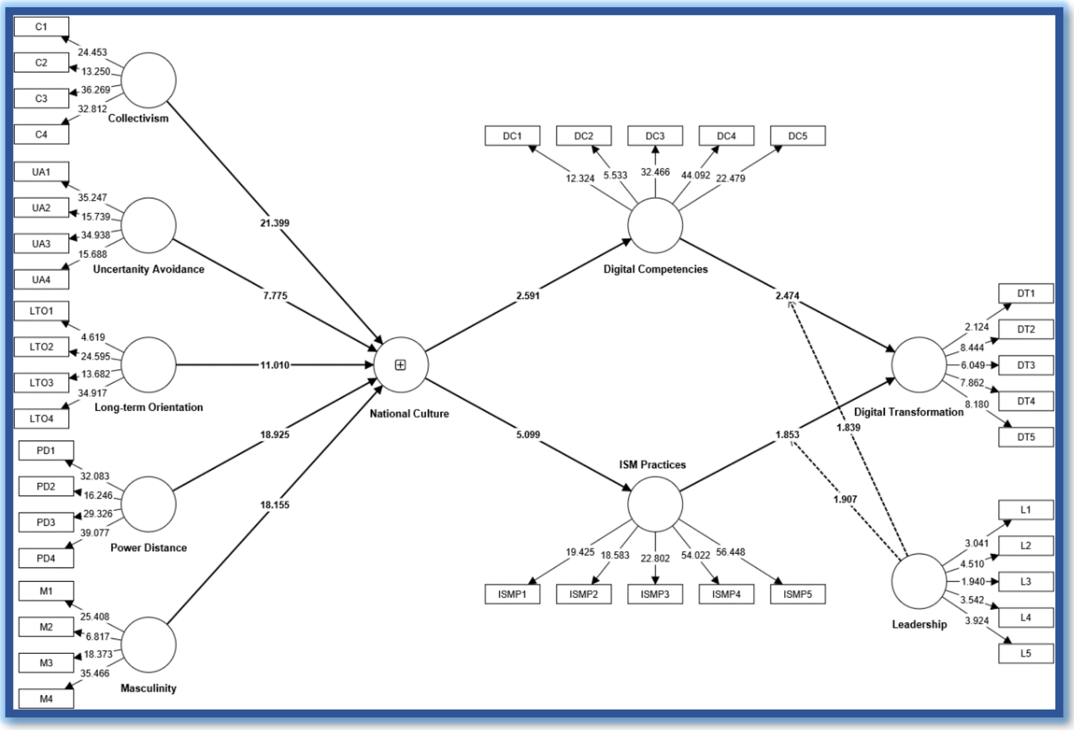

Figure 3. Structural Model

Discussion

The first hypothesis is to investigate national culture on digital competencies. National culture influences digital competencies. Cultural traits dictate individuals' perception and usage of digital technologies. Some cultures prioritize digital communication, resulting in higher digital literacy. Emphasis on education in certain cultures leads to increased digital competency (Hidalgo et al., 2020; Tatarinova et al., 2022).

The second hypothesis is to investigate national culture on information system management practices. National culture affects attitudes and practices towards information system adoption (Alghamdi, 2021). Trusting cultures favors systems promoting collaboration, also, individualistic cultures prioritize individual work support. Culture also influences system design: high uncertainty avoidance cultures desire robust systems, while low avoidance ones opt for flexibility (Alhosani, 2022).

The third hypothesis is to investigate digital competencies culture on digital transformation. Strong digital competencies culture positively impacts digital transformation, aiding organizations' success in this realm (Hämäläinen et al., 2021). Such a culture equips employees with necessary digital skills, fosters a continuous learning environment, and promotes a digital mindset of innovation and adaptability (Busulwa et al., 2022). This ensures effective adoption of digital technologies and smoother transitions during transformative changes. Emphasizing innovation, digital competencies culture prevents stagnation in fast-evolving tech landscapes (Gasco-Hernandez et al., 2022).

The fourth hypothesis is to investigate the information system management practices on digital transformation. In the digital age, information system management practices are pivotal for organizations adapting to technological shifts. Beyond technology, digital transformation involves organizational and cultural changes. Adopting these practices positively impacts transformation by aiding effective data management, decision-making, process streamlining, and cost reduction (Alkinani, 2021). These practices enhance collaboration, reduce silos, and promote innovation by leveraging digital tools (López-Sosa & García, 2022). They also enable organizations to stay updated with emerging technologies, ensuring adaptability and a competitive edge (Toring et al., 2022).

The fifth hypothesis examines the mediating effect of digital competencies between national culture and digital transformation. Digital competencies mediate national culture and digital transformation. In tech-trusting cultures, even low-competency organizations may adopt digital transformation. Conversely, in skeptical cultures, organizations with low digital competencies may be less likely to embrace digital transformation (Blanka et al., 2022).

The sixth hypothesis is to investigate mediating effect of information system management practices between national culture and digital transformation implies that a nation's ability to implement digital transformation initiatives are greatly influenced by the way its information systems are managed Cultural values influence a nation's digital tech acceptance, with efficient information system practices mitigating cultural barriers. While national culture affects digital transformation, company culture, leadership, and resources also play significant roles (Cao & AlKubaisy, 2022; Tummers et al., 2019).

The seventh hypothesis is to investigate the moderating effect of leadership between digital competencies and digital transformation. Leadership is vital in driving successful digital transformation. Its quality significantly influences the relationship between digital competencies and transformation. Committed leaders foster an innovative culture, provide essential resources, and navigate the digital landscape effectively (Liang & Law, 2023; AlNuaimi et al., 2022). However, leaders lacking digital competencies can hinder progress (Weber et al., 2022). The eighth hypothesis asserts leadership's moderating role between information system practices and digital transformation, emphasizing leadership's role in bolstering innovation and ensuring successful transformation (Savolainen, 2023; Pratsri et al., 2021).

Conclusions

National culture's influence on digital transformation is a complicated phenomenon that is influenced by many different things. For businesses looking to launch digital transformation efforts, especially those operating in a global setting, it has become clear that the analysis of this impact is essential. According to research findings, information system management practices and digital competencies play a crucial mediating role in the interaction between national culture and digital transformation. To lessen the detrimental effects of national culture on digital transformation, firms should prioritize establishing digital competences and implementing efficient information system management procedures. Additionally, it has been shown that leadership has a moderating function in this relationship. By encouraging a digitally friendly culture within the organization, providing the necessary resources and support for digital transformation initiatives, and ensuring that the digital competencies and information system management practices are effectively implemented, effective leadership can assist in overcoming the detrimental effects of national culture on digital transformation.

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DOI: https://doi.org/10.34069/AI/2023.68.08.12

How to Cite:

Tretiak, D., Sizov, A., Miedviedkova, N., Murovana, T., & Karpych, A. (2023). Fiscal risk management in Ukraine under new challenges. *Amazonia Investiga*, *12*(68), 126-140. https://doi.org/10.34069/AI/2023.68.08.12

Fiscal risk management in Ukraine under new challenges

Управління фіскальними ризиками в Україні в умовах нових викликів

Received: June 3, 2023 Accepted: August 27, 2023

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Abstract

This article examines fiscal risks and their management in Ukraine and abroad, drawing on international best practices. The main aim is to analyze global risks in the short and long term and evaluate how public finances have been managed in Ukraine and other countries during economic crises, while suggesting areas for improvement. The study utilized various scientific methods, including the structural-functional method to uncover risk management mechanisms within public finance systems and the comparative method to contrast key indicators of Ukraine's public finance system with those of other nations. Key findings include the identification of primary tools used nationally and internationally to mitigate the impact of fiscal shocks during crises. Budgetary practices from different countries were also examined, emphasizing fiscal rules, social expenditure allocation, and incentives for innovation and investment. The research highlights how global challenges and economic crises have led countries to adopt different approaches based on their economic development and risk

Анотація

Ця стаття досліджує фіскальні ризики та їх управління в Україні та за кордоном, використовуючи міжнародні передові практики як приклади. Основна мета - проаналізувати глобальні ризики на короткий і довгий терміни та оцінити, як управлялися державними фінансами в Україні та інших країнах під час економічних криз, а також запропонувати напрями покращення.

Для досягнення цієї мети використовувалися різні наукові методи, зокрема структурно-функціональний метод для виявлення механізмів управління ризиками в системі державних фінансів і порівняльний метод для контрастування ключових показників системи державних фінансів України з іншими країнами.

Основні висновки включають ідентифікацію основних інструментів, які використовуються національно та міжнародно для пом'якшення впливу фіскальних шоків під час криз. Також були досліджені бюджетні практики різних країн, з наголосом на впровадженні фіскальних правил, виділенні коштів на соціальні витрати та стимулюванні інновацій та інвестицій.

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management integration into fiscal processes. Recommendations are provided to enhance fiscal risk management measures in Ukraine, particularly in the ongoing wartime context. In conclusion, this article underscores the importance of effective fiscal risk management and offers specific suggestions to strengthen fiscal risk management practices in Ukraine, considering current circumstances and unforeseen challenges.

Keywords: fiscal risks, risk management, public finance, budget, war.

Дослідження підкреслює, як глобальні виклики та економічні кризи змусили країни вживати різні підходи залежно від рівня їх економічного розвитку та інтеграції управління ризиками в фіскальні процеси. Також надаються рекомендації з покращення заходів управління фіскальними ризиками в Україні, особливо в умовах триваючого військового конфлікту.
На завершення слід зазначити, що ця стаття підкреслює важливість ефективного управління фіскальними ризиками та надає конкретні рекомендації для зміцнення практик управління фіскальними ризиками в Україні, враховуючи поточні обставини та непередбачені виклики.

Ключові слова: фіскальні ризики, управління ризиками, державні фінанси, бюджет, війна.

Introduction

The state of the state budget is one of the most important factors of macroeconomic stabilization. Its formation is significantly affected by the risks associated with the macroeconomic situation with accumulated public debt, government guarantees, economic entities' activities in the economy's public sector, etc. In economic problems, financial risks are associated with covering additional state losses, particularly through military operations.

The introduction of martial law in February 2022 on the territory of the entire sovereign and independent state of Ukraine in connection with the military aggression of the Russian Federation led to the activation of new challenges regarding the proper functioning of not only the domestic sphere of public finance but also for the domestic economic system.

In the context of the above, it is obvious that fiscal risk is a very dangerous factor in the further development of the public finance system, which requires careful monitoring, control, and the search for optimal ways to minimize it.

Literature Review shows research by the National Bank of Ukraine, OECD, IMF, and other international organizations. We also considered theoretical and practical issues of risk management in the system of formation of the state budget studied by domestic scientists.

In ***Methodology part*** we used the following methods: structural-functional method to identify the mechanism of the influence of public finance risks on the main indicators of the public finance system; method of comparison to describe macroeconomic risks and compare countries regarding the Open budget index, public availability of budget documents in Ukraine in accordance with the type of the document and features of fiscal risk management in OECD countries.

Results and Discussion part consists of a developed classification of risks in the field of public finance, namely, macroeconomic dangers, risks associated with public debt and government guarantees, risks associated with the activities of public sector entities, risks associated with the financial sector, risks associated with the social sphere, risks associated with the sphere of agriculture and food security of the state, risks of poor budget transparency. An integrated approach to identifying risks made it possible to form a holistic picture of fiscal risks in Ukraine and justify the corresponding recommendations. The main recommendations for improving fiscal risk management in Ukraine under new challenges include the following: expansion of government business support programs, the main lending mechanism during the war; optimization of budget spending; approximation of the terms of placement of government bonds to the market value of resources in UAH; application of fiscal rules; settlement of lost housing and potentially problematic mortgages; diversification of import taxation.

Literature Review

Since the management of fiscal risks is one of the central elements in the formation of the fiscal policy of modern states, this issue is given a lot of research by the OECD, IMF and other international organizations. In particular, the OECD report "OECD Best Practices in Fiscal Risk Management" systematizes the components of the best risk management practices, according to OECD experts. In addition, to study global risks, challenges, and trends, we analyzed in detail the reports prepared annually for the World Economic Forum (WEF) — "Global Risks 2022" and "Global Risks 2023". They are analytical reports containing a list of the most relevant global risks humanity will face over the next two and ten years, among them already familiar and new threats.

Also analyzed is a survey conducted by the National Bank of Ukraine in 2022 on the systemic risks of the financial sector, in which top managers of the largest banks and non-banking financial institutions in Ukraine answer questions about the risks threatening the financial sector.

Fundamental studies of fiscal risks are presented in the works of T. Persson & G. Tabellini (1996), M. Cassardi & D. Folkerts-Landau (1997), G. Mackenzie & P. Stella (1996). The IMF specialists studied the sources of fiscal risks and provided recommendations on disclosing and managing these risks.

Theoretical and practical issues of risk management in the system of formation of the state budget were studied by domestic scientists O. Bilousova (2013), K. Blishchuk (2018), T. Bohdan (2022), O.Ivanytska (2019), I. Liutyi & M. Kravchenko (2014), L.Kozoriz (2020), I. Lunina (2012), O. Rozhko, N. Tkachenko & Yu. Kovalenko (2021). Researchers in the field of public finance A. Danylenko and I. Zimovets (2015) considered the factors that create risks to the stability of the public finances of Ukraine. The mechanism for preventing threats to the economic security of Ukraine was studied by scientists O. Rozhko (2016) and Z. Varnalii (2016), ways to increase the effectiveness of control measures to prevent risks — N. Miedviedkova (2016), I. Drozd & M. Pysmenna (2021). The results of these studies indicate that the risk management policy of the state budget of Ukraine could have been more effective. Paying tribute to the developments of domestic economists, we note that some issues need additional research, especially in the face of the latest global challenges.

This study aims to analyze trends in global risks in general and fiscal risks, in particular, to summarize the global and domestic practice of fiscal risk management, as well as the features of managing fiscal risks of the state budget of Ukraine in the face of new challenges. To achieve these goals, the following tasks were set: 1) to explore global risks in world practice; 2) to study the approaches of foreign and domestic scientists to the concept of "fiscal risks" and the main tools for managing them; 3) determine the types of risks in the field of public finance; 4) explore the challenges that arise when implementing risk management systems; 5) consider the prospects for the introduction of tools for managing fiscal risks of the state budget, taking into account new challenges.

Methodology

Methods of theoretical generalizations apply to studying and systematizing risks in the system of public finances and the state concept of ensuring economic security (Danylenko & Zymovets, 2015; Lunina, 2012; Liutyi & Kravchenko, 2014). Ivanytska O. & Koshchuk T. (2019) defined the main approaches to managing fiscal risks used in the domestic practice of financial management and developed countries. Researchers Riabushka L., Kubakh T., and Pavlenko I. reviewed modern approaches to managing fiscal risks: methodology and practice (Riabushka et al., 2021). A systematic approach was used to determine the types and elements of state financial control into event risks in the public finance system (Varnalii et al., 2016). Some authors used conceptual approaches to the essence of public finance risks (Danylenko & Zymovets 2015; Hasanov, 2017; Lunina, 2012; Liutyi & Kravchenko, 2014). System-structural analysis was applied in prioritizing priorities to ensure the national economy's economic security (Varnalii et al., 2016). Grouping and the tabular method were used for the properties of different types of risks in the public money system (Varnalii et al, 2016; Hasanov, 2017; Lunina, 2012).

To achieve the goals of this work, general scientific and special methods were used, such as:

- structural-functional method (to reveal the risk management mechanism in the public finance system). We used this method to identify the mechanism of the influence of public finance risks on the main indicators of the public finance system;
- method of comparison (to compare the main indicators of the public finance system of Ukraine and other countries). This method reviewed macroeconomic risks and compared countries regarding the open budget index.

To understand the progress made by the Ukrainian government in meeting public finance targets, we examine the dynamics over recent years, which made it possible to understand the shortcomings and risks of the public finance system. This, in turn, allows the development of recommendations on measures in public financial management.

Structural-functional method was used to identify types of risks in the field of public finance, namely, macroeconomic dangers, risks associated with public debt and government guarantees, risks associated with the activities of public sector entities, risks associated with the financial sector, risks associated with the social sphere, risks associated with the sphere of agriculture and food security of the state, risks of poor budget transparency. An integrated approach to identifying risks made it possible to form a holistic picture of fiscal risks in Ukraine and justify the corresponding recommendations.

Comparison method was used in the case of analyzing features of fiscal risk management in OECD countries. For instance, the identification of fiscal risks based on the possibility of their occurrence and possible impact on public finance is a component of the fiscal risk management systems in Australia and Great Britain. The so-called internal fiscal risks connected to the execution of governmental programs are defined in Finland. New Zealand estimates the probable costs involved with disaster-related infrastructure reconstruction. The UK is now grappling with fiscal risks that have catastrophic effects on the world's economy and public finances with a high degree of uncertainty regarding time, the size of the expenses, and the forecasting process: public debt, the coronavirus outbreak, and climate change.

We analyzed *Public availability of budget documents in Ukraine* in the context of such documents as Pre-Budget Statement, Executive's Budget Proposal, Enacted Budget, Citizens Budget, In-Year Reports, Mid-Year Review, Year-End Report and Audit Report during 2010-2021. A positive trend is that the Citizens Budget has been available since 2017. The analysis helped us to conclude that, in general, the public gets all the necessary information.

We also used another statement — the *Open Budget Survey* (OBS) which evaluates the public's ability to determine how the central government raises and spends public resources. Besides Ukraine, we considered Bulgaria, Moldova, Slovakia, Romania, Armenia, Poland, Czech Republic and Hungary. We concluded that since 2015, there has been a positive trend: Ukraine has increased its rating from 46 to 65.

Results and Discussion

On January 11, 2022, the World Economic Forum (WEF, 2023) published its 18th annual Global Risks 2023 report. Estimates are based on a survey of over 1200 experts from 121 countries from academia, business, and international organizations. The study showed that the most serious risks in the next 2 years are the following:

1. The cost-of-living crisis.
2. Natural disasters and extreme weather events.
3. Geo-economic confrontation.
4. Failure to mitigate the effects of climate change.
5. Destruction of social cohesion and polarization.
6. Incidents with large-scale environmental damage.
7. Failure to adapt to climate change.
8. Cybercrime and lack of cybersecurity.
9. Crisis of natural resources.
10. Large-scale forced migration.

Among the most serious risks in the next 10 years, experts identify the following:

1. Failure to mitigate climate change.
2. Failure to adapt to climate change.
3. Natural disasters and extreme weather events.
4. Loss of biodiversity and collapse of the ecosystem.
5. Large-scale forced migration.
6. Crisis of natural resources.
7. Destruction of social cohesion and social polarization.
8. Cybercrime and cybersecurity.
9. Geo-economic confrontation.
10. Incidents with large-scale environmental damage.

The World Economic Forum's annual report on global risks showed that the threat of a recession, a cost-of-living crisis, and a growing debt crisis will dominate forecasts for the next two years. The study noted that the most immediate risk is the cost-of-living crisis, while the biggest long-term threats remain climate-related.

According to The Global Risks Report 2022, the following main short-term risks (0-2 years) were identified in 2022: extreme weather (31.1%), livelihood crisis (30.4%), failure to take climate action (27.5%); erosion of social cohesion (27.5%); infectious diseases (26.4%); deterioration in mental health (26.1%); cybersecurity (19.5%); debt crisis (19.3%); digital divide (18.2%); deflating asset bubbles (14.2%) (WEF, 2022).

According to a survey conducted by the National Bank of Ukraine in November 2022, involving the heads of 22 banks, 11 insurance companies, and 3 investment companies, the war with Russia creates very high risks. The risks of economic activity, fraud, and cyber threats have significantly increased — they are among the top five threats. Top managers of financial institutions in Ukraine have slightly improved their estimates of the current state of the financial sector. The proportion of those rated his condition as bad or very bad is 17%. At the same time, three-quarters of respondents perceived the current state of the financial sector as satisfactory. Most respondents noted the financial sector's deterioration over the past six months.

At the same time, expectations of further development of the financial market have improved. The proportion of respondents who expect the financial sector to deteriorate in the next six months has almost halved to half of the respondents, and about 43% do not expect changes.

Global economic growth is projected to slow to 1.7 percent in 2023, one of the slowest in nearly 30 years, second only to the global recessions of 2009 and 2020. This slowdown is partly due to tightening monetary policy to combat high inflation. Negative shocks such as rising inflation, tightening monetary policy, or financial turmoil can send the global economy into recession. Urgent action is needed to reduce global recession and debt crisis risks. In addition, governments need to ensure support for vulnerable populations, keeping inflation expectations stable and financial systems resilient (Table 1).

Table 1.
World Economic Outlook

Indicators	Real GDP (%)							
	2020	2021	2022e	2023f	2024f	2022e	2023f	2024f
World	-3.2	5.9	2.9	1.7	2.7	0.0	-1.3	-0.3
Advanced Economies	-4.3	5.3	2.5	0.5	1.6	-0.1	-1.7	-0.3
Emerging markets and developing countries	-1.5	6.7	3.4	3.4	4.1	0.0	-0.8	-0.3
East Asia and the Pacific	1.2	7.2	3.2	4.3	4.9	-1.2	-0.9	-0.2
Europe and Central Asia	-1.7	6.7	0.2	0.1	2.8	3.2	-1.4	-0.5
Latin America and the Caribbean	-6.2	6.8	3.6	1.3	2.4	1.1	-0.6	0.0
Middle East and North Africa	-3.6	3.7	5.7	3.5	2.7	0.4	-0.1	-0.5
South Asia	-4.5	7.9	6.1	5.5	5.8	-0.7	-0.3	-0.3
Africa south of the Sahara	-2.0	4.3	3.4	3.6	3.9	-0.3	-0.2	-0.7

Source: World Bank (n.d.)

Against the backdrop of high inflation and rapidly decelerating global economic growth, emerging market regions and developing economies face a variety of adverse factors. Growth forecasts across all regions for the next two years have worsened from those made in June. Tighter monetary policy and credit conditions will constrain economic growth, especially in Latin America, the Caribbean, South Asia, and sub-Saharan Africa. The slowdown in advanced economies is projected to have a particularly strong impact on East Asia, the Pacific, Europe, and Central Asia due to the spillover effect from the contraction in foreign trade. Persistently high energy prices cloud the outlook for energy-importing countries worldwide. All regions are dominated by risk factors that threaten to strengthen economic growth. Among them are potential financial shocks, new shocks in commodity markets, deepening conflicts, and natural disasters (World Bank, n.d.).

The IMF specialists consider macroeconomic and specific risks caused by contingent liabilities of the state to be the main fiscal risks, it is expedient to assess and disclose them. The latter include fiscal risks, the sources of which are the provision of state guarantees, public-private partnership projects, government support for the financial sector, the use of exhaustive natural resources, overcoming environmental problems, and the activities of local governments and business entities of the public sector of the economy.

The main fiscal risks in Ukraine, the assessment of which is provided for by the Methodology for assessing fiscal risks, approved by the Resolution of the Cabinet of Ministers of Ukraine dated April 24, 2019 No. 351 (Methodology, 2019), include risks arising from, *firstly*, changes in the macroeconomic environment; *secondly*, contingent liabilities — potential liabilities of the state budget, confirmed only after the occurrence or non-occurrence of certain events; *thirdly*, non-fulfillment of the plan for proceeds from the privatization of state property; *fourthly*, the deviation from the planned indicators in the field of pension provision. Contingent liabilities cover the following areas: the provision of state guarantees for loans, unprofitable activities of economic entities in the public sector of the economy, inefficient functioning of the financial sector, unplanned results of the implementation of public-private partnership projects, and the elimination of the consequences of man-made, natural and other emergencies (Methodology, 2019).

The OECD report "Best Practices in Fiscal Risk Management" (Managing Fiscal Risks, 2020) presents the experience of Australia, Finland, New Zealand, the Netherlands, and the United Kingdom. The systematization of the components of the best risk management practices, according to OECD experts, is presented in Table 2.

Table. 2.
Features of fiscal risk management in OECD countries

Components	Characteristic	Country
Identification	The subjects of the Commonwealth determine the fiscal risks in their area of responsibility and are obliged to provide information to the Ministry of Finance and the Treasury	Australia
	Each central government entity is responsible for risk identification, description, and monitoring.	Finland
	Competence lies with authorized entities responsible for identifying and monitoring risks	Netherlands
	Risk identification stages are carried out, such as monitoring and reviewing previous periods.	New Zealand
	The Treasury coordinates its work with other bodies competent for fiscal risks	Great Britain
Measurement	Commonwealth entities identify and assess risks when preparing their financial statements, risks are consolidated	Australia
	The measurement of fiscal risks is carried out in the form of financing of state guarantees at face value	Finland
	Macroeconomic and financial risks are measured by analyzing alternative scenarios (stress tests)	Netherlands
	Each agency measures its specific fiscal risks under the guidance and monitoring of the Treasury.	New Zealand
	The likelihood of risk and its potential impact on both reserve performance and public finance flows are assessed	Great Britain
Information disclosure	Risk Statement included in the Budget Strategy	Australia
	The annual nationwide fiscal plan includes a summary of the overall risks associated with the fiscal outlook	Finland
	Information provided with medium-term forecasts and annual budget	Netherlands
	Biennial and pre-election economic and budget updates reveal general, specific, and balance sheet risks.	New Zealand
	Risks for medium-term forecasts are mentioned in economic and fiscal forecasts, and sensitivity analysis relative to long-term forecasts is presented in the Fiscal Sustainability Report	Great Britain
Mitigation	Departments and other business entities prevent and mitigate business risks, contingent liabilities, and assets	Australia
	Each government agency is expected to prevent or reduce its risks	Finland
	Contingency risk management policy includes restrictions and prevention of government incurring new contingent liabilities	Netherlands
	Each department prevents and mitigates specific risks by re-setting priority targets.	New Zealand
	The government's strategy consists of five steps: identifying the source, scope, and risk; risk disclosure; risk reduction; risk assurance and calculation of risk residuals	Great Britain

Source: Riabushka et al, 2021; OECD, 2020

For example, the system of fiscal risk management in Great Britain and Australia includes the identification of fiscal risks by the likelihood of their occurrence and potential impact on public finances. Finland defines the so-called internal fiscal risks associated with implementing government programs. New Zealand measures the potential costs associated with rebuilding infrastructure in a disaster. The UK is now dealing with fiscal risks that have a significant degree of uncertainty in terms of timing, the scale of the costs, is characterized by a non-linear nature of forecasting, catastrophic consequences for the world's economies and public finances of countries: the coronavirus pandemic, climate change, public debt (Riabushka et al, 2021).

A paper published by the World Bank defines fiscal risk as a source of financial stress that the government may face in the future (Hrechanichenko, 2018). At the same time, fiscal risks are particularly associated with contingencies arising mainly from political decisions and fiscal opportunism to avoid difficult adjustments and unpopular structural reforms.

Another interpretation of fiscal risks, contained in a study by International Monetary Fund specialists, concerns the potential difference between actual and expected fiscal results, for example, in terms of the budget, the balance sheet, or the amount of public debt (Everaert et al, 2009) or possible deviations of fiscal variables at the level that was expected at the time adoption of the budget or its forecast. Researcher Hasanov (2017) believes that fiscal risks can be divided into two large groups: 1) internal risks of the fiscal system; 2) risks of external origin, including those outside the country.

Risks in the sphere of public money are understood as the possibility of a difference in the size of government revenues, expenditures, and borrowings from their expected sizes during certain budget periods by one, three, or more years.

There are many views on the definition of risk-based management, although they all have similar components. Public finances in Ukraine are sensitive to several significant fiscal risks, including risks associated with state-owned enterprises and state property management; public debt and government guarantees; the financial sector; configuration of the macroeconomic situation These risks are also called fiscal risks and are factors that can lead to a deviation of revenues, expenditures, government budget deficits, and public debt from planned indicators (Fig. 1).

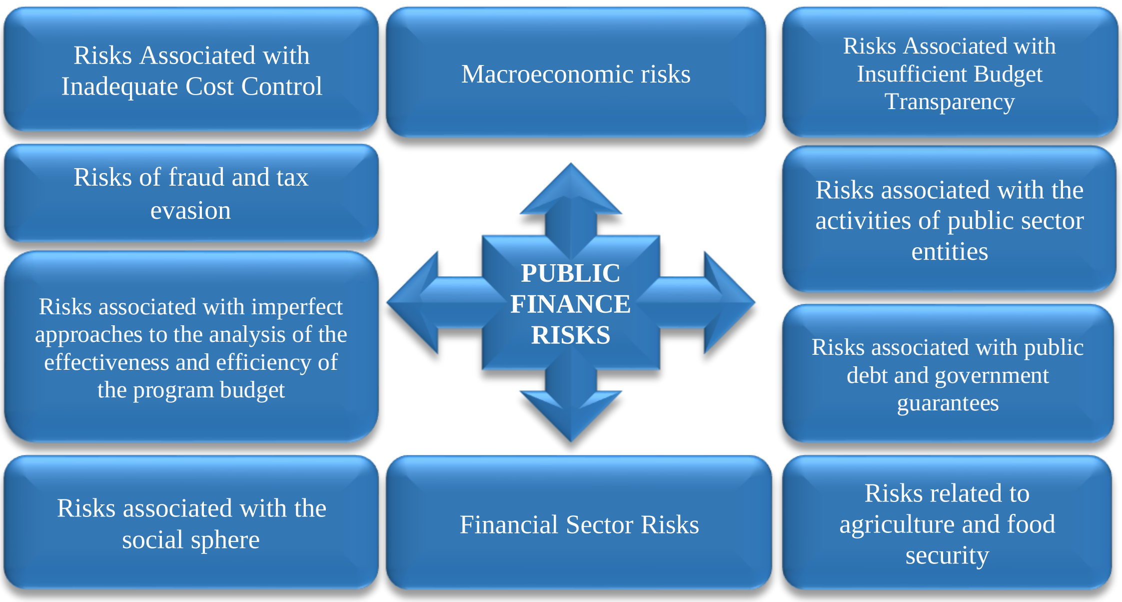

Fig. 1. Types of risks in the field of public finance.
Source: developed by the authors based on Fiscal risks (2008), Information on fiscal risks (2023), Ministry of Finance of Ukraine (2021)

The soundness of fiscal policy negatively affects the lack of a comprehensive management system for these risks, which has negative consequences for the sustainability of public debt and the efficient allocation of public resources in line with public policy priorities.

1. ***Macroeconomic dangers***. The macroeconomic forecast of the Cabinet of Ministers of Ukraine (CMU), based on which the calculation of the 2023 budget indicators is more pessimistic than the National Bank of Ukraine (NBU) forecast. If in 2022 the NBU expected a deeper decline in the economy, than in 2023 — a more powerful recovery (Table 3).

Table 3.
Comparison of government and NBU macro forecasts

Indicators	2023	
	CMU	**NBU**
Real GDP growth, %	+4,6	+5,5
GDP deflator, %	+30,7	+25,0
Nominal GDP, billion UAH	6399	5990
CPI, December to December, %	+30,0	+20,7
Average monthly salary, %, r/s (nominal)	+32,0	+36,3
(real)	+1,0	+6,7
Unemployment rate, %	28,2	+27,0
Export of goods and services, % Y/Y	+9,1	+20,8
Import of goods and services, % Y/Y	+1,0	+9,5

Source: Danylyshyn, 2022

As a result of the negative impact of the war, the budget deficit is planned at 20% of GDP. The government plans to raise most funding needs from external loans and grants, and the rest from internal loans, privatization, and other sources (Table 4).

Table 4.
Characteristics of the public money system for 2023

Indicators	**UAH billion**	**In % of GDP**
Income	1278.8	20.0
Tax revenues	1156.0	18.1
VAT	596.3	9.3
Income tax	132.0	2.1
Part of the profits of the GP	7.3	0.1
Expenses	2513.9	39.3
Defense	870.0	13.6
Social sphere	647.3	10.1
Investments	95.0	1.5
Debt service	330.7	5.2
Shortage (+grants)	-1280.1	-20.0
External loans and grants	1497.4	23.4
Domestic loans	-225.3	-3.5
Other sources	8.0	0.1
National GDP	**6399.0**	**100**

Source: Danylyshyn, 2022

Since 2014, the Ukrainian economy has operated in a hybrid war waged by the Russian Federation against Ukraine. However, the massive military actions of the aggressor state on the territory of Ukraine have created new extraordinary challenges, namely:

- non-receipt of financial assistance from international financial organizations and donor countries can lead to additional money emissions, and a reduction of budget expenditures, which will negatively affect the volume of economic demand and production and further affect price dynamics;
- uncertainty about the duration and intensity of the military conflict between Ukraine and the Russian Federation, which could lead to further involuntary resettlement of the population, the continued destruction of vital infrastructure, and increased loss of economic and productive potential;
- loss of crops as a result of the destruction by the Russian Federation of fields and crop storage sites, which will lead to a reduction in food crops and agricultural production, which, firstly, will lead to a decrease in

exports and foreign exchange earnings from exports, and, secondly, also food shortages in the domestic market and rising consumer food prices.

2. ***Risks associated with public debt and government guarantees.*** Due to the deterioration in the work of enterprises in the state and municipal sectors of the economy as a result of the war, in 2023 for these enterprises, there is a risk that such entities will not fulfill their obligations to creditors for loans attracted under state guarantees, to the Ministry of Finance of Ukraine as a creditor, for loans attracted by the state from international financial organizations.

A significant deficit and its predominantly loan financing led to a rapid accumulation of public debt. The limit value of the state direct debt for 2023 is provided in the amount of UAH 6.4 trillion (100.1% of GDP), and exceeding the value of more than 60% is a threatening level of public debt.

So, among the possible risks in the next year, it is advisable to highlight the following.

Firstly, in 2023 there is a significant likelihood of warranty cases for the obligations of PJSC State Food and Grain Corporation of Ukraine and the risk of Ukravtodor fulfilling its debt obligations.

Secondly, the increase in the NBU discount rate is also an additional burden for economic entities of the public sector and municipalities, whose portfolio contains loans linked to the NBU discount rate, in particular, guaranteed by the state. In the future, this may lead to defaults and additional unpredictable state budget expenditures. Moreover, an increase in the NBU discount and inflation rates will lead to additional state budget expenditures for servicing the public debt in 2023.

Thirdly, it should be noted that the reduction in the volume of tax payments to the budget and the urgent need to cover the country's significant current expenses in war conditions create significant fiscal risks for the state budget - they lead to an increase in the state budget deficit and public debt.

3. ***Risks associated with the activities of public sector entities.*** State-owned enterprises acutely felt all the negative consequences of the war in the country, which led to the deterioration of their financial and economic condition. The emergence of new challenges in the activities of state-owned companies has led to the following negative consequences: loss of assets and labor resources, insufficiency of working capital and, thus, an increase in the need to attract additional resources; a significant reduction in production and sales volumes; a significant increase in prices for energy carriers, raw materials, and materials; problems with logistics and its price rise; loss of markets.

State-owned companies suffered significant losses due to the negative effects of the war, including the destruction of production assets and the threat to workers' lives. It is also advisable to add to this list the deterioration of solvency and the growth of debt, the deterioration and rise in the cost of logistics, which, as a result, leads to a restriction of activities.

4. ***Risks associated with the financial sector***. Although the banking system of Ukraine successfully resists new challenges, which confirms the high volume of free liquidity of the banking system, at the same time, the growth of net business loans in the national currency since the beginning of the war was provided primarily by support programs. That is why mass lending to businesses now seems possible only with the expansion of state support programs.

Credit risk remains one of the key risks, and its realization is the biggest threat to the sector, according to the NBU, banks will lose at least 20% of their loan portfolio due to the war and, as a result, the financial and economic crisis. Under the greatest risk are secured loans issued in the temporarily occupied territories and territories where active hostilities are taking place. Due to the destruction of collateral in the form of housing and vehicles, as well as the deterioration of the solvency of the population, a significant proportion of the loan portfolio of banks may need to improve (RBC, n.d.)

5. ***Risks associated with the social sphere.*** Priority financing of expenditures this year is aimed at military purposes, increasing the country's defense capability and making the most necessary social expenditures supporting the population affected by the war.

Firstly, in 2022 there were fiscal risks associated with the failure to meet the planned indicators of the Pension Fund's revenues due to a decrease in the number of employees and failure to achieve the planned growth rates of the payroll fund: an increase in arrears in paying unified social contributions and reimbursement of preferential pensions; decrease in the level of solvency of enterprises, institutions, organizations in terms of paying mandatory insurance premiums due to a decrease in income, termination of activities as a result of the military aggression of the Russian Federation, hostilities and the introduction of martial law on the territory of Ukraine. The upward trend in the Pension Fund's debt on loans granted from a single treasury account to cover temporary cash gaps continues.

Secondly, according to the Ministry of Social Policy, there is a high risk of growth in debt on the payment of material security for insurance due to temporary disability because of a decrease in revenues from the single contribution for compulsory state social insurance. Thus, losses in the revenue part of the budget of the Social Insurance Fund of Ukraine as a result of a shortfall in funds from the single contribution amount by the end of 2022 may amount to UAH 4.2 billion (Information on fiscal risks, 2023).

6. ***Risks associated with the sphere of agriculture and food security of the state.*** Before the start of the war, Ukraine was one of the largest suppliers of food and agricultural products to the world market, so over the past five years, agri-food products provided about half of the state's total exports. The full-scale invasion of the Russian Federation into Ukraine has created new challenges in the state's agriculture and food security.

The destruction and significant damage to the agricultural, storage, and transport infrastructure and the energy and processing industries led to a significant decrease in Ukraine's export opportunities and a shortage of products in world markets.

The war radically changed the achievements of Ukraine's export potential and affected world markets. The failure of stable supplies of agricultural products from Ukraine has already led to a rapid increase in world grain prices, so it is important to increase the possibilities of its export to receive foreign exchange earnings in the Ukrainian economy (Information on fiscal risks, 2023).

7. ***Risks of poor budget transparency.*** The transparency of the budget and the budgeting process is an essential or critical requirement for a democratic society to function. The openness of the budget allows the public, particularly its socially engaged element, which represents the interests of many sectors of the population, to understand the complexities and alternatives of budget choices and influence the authorities while actively preserving their civil rights.

The Open Budget Survey (OBS) is the world's only independent, comparative, and fact-based research instrument that uses internationally accepted criteria to assess public access to central government budget information; formal opportunities for the public to participate in the national budget process; and the role of budget oversight institutions, such as legislatures and national audit offices, in the budget process (Open Budget Survey, 2021).

It evaluates the public's ability to determine how the central government raises and spends public resources. Ukraine ranks 65th. A score of 61 or above indicates that a country is likely to publish enough information to allow for informed public debate on the budget (Fig.2).

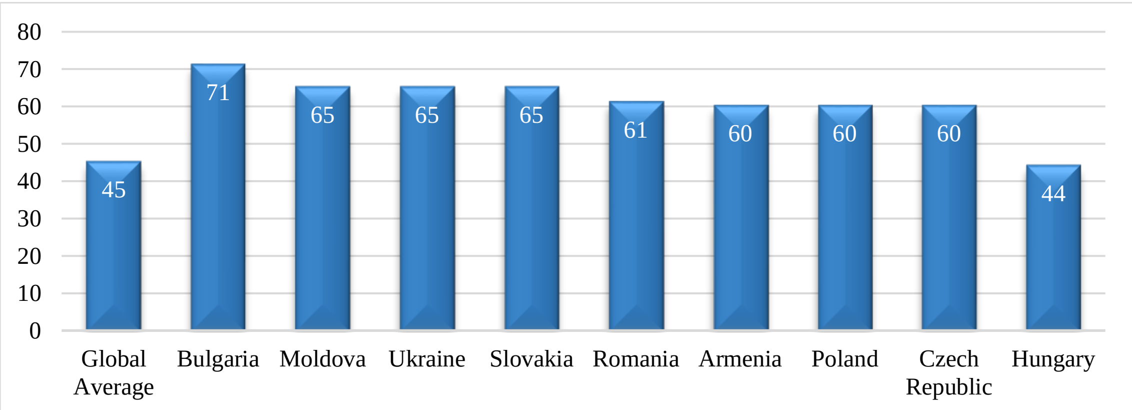

Fig. 2. Transparency in Ukraine compared to others
Source: Open Budget Survey, 2021

Since 2015, there has been a positive trend: Ukraine has increased its rating from 46 to 65 (Fig.3).

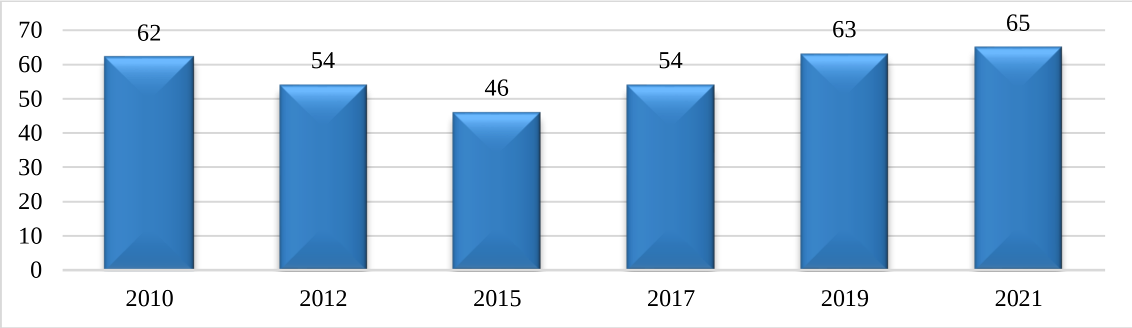

Fig. 3. How has the transparency score for Ukraine changed over time?
Source: Open Budget Survey, 2021

In general, the public gets all the necessary information. A positive trend is that the Citizens Budget has been available since 2017 (Table 5).

Table 5.
Public availability of budget documents in Ukraine

Document	2010	2012	2015	2017	2019	2021
Pre-Budget Statement	+	+	+	+	+	-
Executive's Budget Proposal	+	+	+	+	+	+
Enacted Budget	+	+	+	+	+	+
Citizens Budget	-	-	-	+	+	+
In-Year Reports	+	+	+	+	+	+
Mid-Year Review	+/-	+/-	-	-	-	-
Year-End Report	+	+	+	+	+	+
Audit Report	+	+	+	+	+	+

«+" - Available to the Public
"+/— "- Published Late, or Not Published Online, or Produced for Internal Use Only
"— "- Not Produced

8. ***Risks connected with insufficient expenditure controls include public-sector fraud and corruption.*** The practice of withholding information about the use of taxpayers' funds has become the basis for increased corruption in Ukraine. Following the first stage of the Dignity Revolution in 2014, Ukraine was given a window of opportunity to enact swift, effective changes in numerous public government sectors. One of the priority areas was public procurement reform, where a successful example is Prozorro.

ProZorro is a completely online public procurement platform and cooperation environment in Ukraine that enables open access to public procurement (tenders). It was fully implemented in 2016 as a hybrid (both centralized public and decentralized private marketplaces) system, and it has since been recognized globally as one of the most innovative public procurement systems for delivering government services in a stakeholder-focused, transparent, effective, fair, and low-cost manner.

Another platform for reporting data in the field of public finance is *E-data* which was implemented in the order of the Cabinet of Ministers of Ukraine dated February 11, 2016, No. 92-r, "On approval of the Concept for the creation of an integrated information and analytical system" Transparent Budget" (Order No. 92-r, 2016). It is the official state information portal, which publishes information on the use of public funds and implements the idea of a "Transparent Budget", that is why it is an accessible tool for public control over the planning and use of public funds.

9. ***Risks connected with flawed ways of assessing the efficacy and efficiency of program budgets.*** The country's difficult political and economic situation causes an urgent solution to the issue of increasing the efficiency of the formation and distribution of public finances. The problem of digitalizing public finances is especially aggravated during the war when it is necessary to quickly respond to external challenges and change the distribution of

planned financial resources after the approved budget.

The effectiveness of budget programs is evaluated at all stages of the budget process. It provides measures to monitor and analyze the use of funds and control their targeted and effective use.

Also, performance evaluation contributes to the revision of activities, tasks, and indicators of the budget program, both in the course of its implementation and planning in the next budget period and the medium term. Another benefit of performance evaluation is the early warning of possible program performance problems and the development of cost-effectiveness measures.

To date, there is yet to be a single methodology for assessing the effectiveness of budget programs of local budgets. But the most used method is the method of comparative analysis, which makes it possible to compare the effectiveness of the use of budgetary funds and the results achieved by different administrators in implementing similar programs (Clarification for the communities, n.d.).

10. ***Risks of fraud and tax evasion***. Multinational companies have long exploited gaps and inconsistencies in tax rules. World trends in combating the erosion of the tax base and the withdrawal of taxable profits (Base Erosion and Profit Shifting - BEPS) have not gone through Ukraine either.

In 2013, the Council of the OECD developed the BEPS project, which provides measures to combat abuses associated with using special tax regimes and double taxation conventions.

More than 100 countries worldwide have joined the program, and since January 1, 2017, Ukraine has also joined. In 2020, Ukrainian legislation was amended to ensure the implementation of 8 steps out of 15 activities of the BEPS plan.

Implementing the BEPS Action Plan contributes to harmonizing international tax rules with more than 70 countries and creates a more transparent tax environment. In the EU Member States, the PERS plan and global threats to tax security have brought the fiscal function of taxation to the fore (Finap Software Solutions, 2022).

Therefore, to reduce the risks of public finances, consistent steps are needed to provide the budget with reliable sources of revenue, reform its expenditure side, and improve the budget process to create conditions for improving the quality and efficiency of budget decisions. The risk management of the state budget is carried out to increase security. The main recommendations are as follows:

1. *Expansion of government business support programs, the main lending engines in times of war*. Considering these programs' success, increasing their volume and covering a wider range of borrowers is advisable. In addition, the planned expenses for this program in 2023 should be revised, considering the prospects for growth in the loan portfolio and an increase in market interest rates.
2. *Optimization of budget spending*. To stabilize the state of the national economy of Ukraine in the long term, it is necessary to ensure an increase in the level and efficiency of the use of budgetary funds by increasing the part of expenditures aimed at developing and modernizing the economy, by reducing the costs of maintaining the bureaucracy, reducing tax pressure on business entities by improving the administration system taxes, which will help increase the number of own funds of enterprises that can be used for investment purposes.

The main areas of recovery, requiring a significant part of the budget, are as follows:

– reconstruction and modernization of transport and energy infrastructure;
– social rehabilitation and renewal of social institutions affected by the war;
– repair and reconstruction of the housing stock;
– the restoration of damaged agricultural facilities;
– expansion of production capacities of the military-industrial complex;
– reconstruction of the network of educational and healthcare institutions optimized for new needs, a continuation of reforms in these areas;
– restoration and modernization of industrial facilities, creation of jobs, and support for small and medium-sized businesses (Committee, n.d.).

3. *Approximation of the terms of placement of government bonds to the market value of resources in UAH*. The Ministry of Finance should increase the size of market borrowings to cover the budget deficit and minimize direct financing of the National

Bank. Banks, traditionally the main creditors of the state, have sufficient liquidity reserves to invest in government bonds. Low yields on current war bonds are holding them back. An increase in government bond rates will help increase demand for them. At the same time, this will reduce the amount of funding for the issue in the NBU budget, thereby reducing price and financial stability risks.

4. *Application of fiscal rules*. The hostilities and the economic downturn led to the violation of the system of quantitative fiscal rules in Ukraine. That is, fiscal rules are legislative or regulatory restrictions on the long-term nature of fiscal policy in the form of quantitative limits on major fiscal aggregates (International Monetary Fund, 2017). Such limits are reflected in national legislation or international treaties and are binding on public authorities (Iefymenko et al., 2014; Bohdan, 2023).
5. *Settlement of lost housing and potentially problematic mortgages*. Current legislation allows borrowers to suspend loan service until they receive compensation for damaged or lost property. The procedure for further resolution of credit relations will depend on the degree of damage caused to the borrower and his property. At the same time, the principle of distribution of losses is implemented: the state and the bank share the losses arising from the repayment of credit debt. For the effective operation of the mechanism, it is necessary to determine the procedure for compensating borrowers and initiating payments.
6. *Diversification of import taxation*. It should be noted that the reduction in import duties in the first months of the war made it possible to meet Ukraine's demand for scarce goods, which was necessary for an effective rebuff against the invaders. The import duty is now back. The government should also impose additional import duties on non-critical categories of goods and services. This will increase budget revenues and reduce imbalances in the foreign exchange market.

Conclusions

Theoretical and practical aspects of the application of recommended measures in Ukraine require further research, which will contribute to the activation of investment processes, innovative and technological modernization of production, the formation of an innovative investment model of economic development, and most importantly, will ensure the implementation of priority tasks for economic recovery and modernization of the public finance system.

Increasing the efficiency of public finances, which is crucial for the economic development of Ukraine and improving the welfare of citizens, can be achieved, in particular, by systematically improving the mechanism of public administration by central and local executive authorities.

Introducing a risk-based public administration mechanism in the system of public internal financial control is an important guarantee of an effective public administration reform, which will reduce the number of problematic issues in the activities of public executive authorities and, accordingly, increase the country's competitiveness.

Therefore, to reduce the risks of public finances, consistent steps are needed to provide the budget with reliable sources of revenue, reform its expenditure side, and improve the budget process to create conditions for improving the quality and efficiency of budget decisions.

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How to Cite:
Halytska-Didukh, T., Salata, S., Nashyvochnikov, O., Leyla, D., & Solovei, H. (2023). Emergence of modern historical policy in the Russian-Ukrainian war Context: Assessing transformations in global order paradigms and present challenges. *Amazonia Investiga*, *12*(68), 141-150. https://doi.org/10.34069/AI/2023.68.08.13

Emergence of modern historical policy in the Russian-Ukrainian war context: Assessing transformations in global order paradigms and present challenges

Surgimiento de la política histórica moderna en el contexto de la Guerra Ruso-Ucraniana: Evaluación de las transformaciones en los paradigmas del orden mundial y retos actuales

Received: July 23, 2023 Accepted: August 29, 2023

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Abstract

The purpose of the article is to study contemporary historical policy in the context of the Russian-Ukrainian war and against the background of paradigm shifts in the world order and other contemporary challenges. To achieve this goal, the article uses the methods of critical analysis of literature (content analysis), historical-comparative, and historical-typological methods. The results show that historical politics is becoming an important component of modern life in Ukrainian society, especially in the context of the Russian invasion. The use of history as an instrument of expansion has become an essential feature of Russian politics. This model can be seen as an attempt to restore Soviet identity, with a strong emphasis on "common history and brotherhood." The modern version of this idea, promoted by the Kremlin, is based on the concept of reviving Russian influence after the collapse of the Soviet Union

Resumen

El propósito del artículo es estudiar la política histórica contemporánea en el contexto de la guerra ruso-ucraniana y con el trasfondo de los cambios de paradigma en el orden mundial y otros retos contemporáneos. Para lograr este objetivo, el artículo utiliza los métodos de análisis crítico de la literatura (análisis de contenido), histórico-comparativo e histórico-tipológico. Los resultados muestran que la política histórica se está convirtiendo en un componente importante de la vida moderna de la sociedad ucraniana, especialmente en el contexto de la invasión rusa. El uso de la historia como instrumento de expansión se ha convertido en una característica esencial de la política rusa. Este modelo puede verse como un intento de restaurar la identidad soviética, con un fuerte énfasis en "la historia común y la hermandad." La versión moderna de esta idea, promovida por el Kremlin, se basa en el concepto de revivir la influencia rusa tras el

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(which, in the Kremlin's view, was a geopolitical catastrophe) on the territories of independent states. The conclusions emphasise that such manifestations of chauvinistic historical policy have become a tool in the hybrid war against Ukraine and the democratic world as a whole.

Keywords: Russian-Ukrainian war, historical politics, aggression, politics of memory.

colapso de la Unión Soviética (que, en opinión del Kremlin, fue una catástrofe geopolítica) en los territorios de Estados independientes. Las conclusiones subrayan que tales manifestaciones de política histórica chovinista se han convertido en una herramienta de la guerra híbrida contra Ucrania y el mundo democrático en su conjunto.

Palabras clave: Guerra ruso-ucraniana, política histórica, agresión, política de la memoria.

Introduction

Russia's aggression against Ukraine in 2014 opened up a new perspective on the historical past of the country for Ukrainian society, which in many aspects began to differ from Russian or post-Soviet paradigms. The Revolution of Dignity and the armed aggression and occupation of the Crimean peninsula by Russia demonstrated the vulnerability of Ukrainian public opinion to externally imposed stereotypes about the past. Thanks to the interest in the events of Ukrainian history, when the Kremlin authorities launched a new large-scale invasion of Ukraine in 2022, society was better prepared to counter hybrid challenges and threats. First of all, it was the active spread of ideological theses about “brotherly peoples,” “common history”, joint profitable projects in economic and social life - common, as it turned out, Russian propaganda sifas that were put at the service of the imperial ambitions of the Kremlin authorities and Russians who actively supported this policy.

Research problem

Although Ukrainian politics after the Russian invasion did not develop into a clear separate branch of the humanitarian policy conducted by state institutions, the spread of real historical research, the popularity of relevant videos and programmes on television and the Internet, etc. have gained considerable weight against the backdrop of confrontation with Russian propaganda. As a result, the fashion for historical knowledge has become an important component of public life in Ukraine, and although it cannot be called total, its manifestations will continue to require unification into a certain unified whole - a common and popularised vision of the Ukrainian past, formalised in political decisions. On the other hand, the analysis of the Russian experience demonstrates how a monopoly on power and historical policy can lead to the formation of a biased, authoritarian picture of the world and cause tectonic shifts in public sentiment towards post-Soviet revanchism and Russian imperial thought. Even the very combination of the monarchical imperial past and the Soviet government (which, as you know, exterminated all manifestations of belonging to the monarchical environment) demonstrates the deliberate formation of a political line aimed at external expansion.

Research focus

Against the backdrop of the unfolding Russian aggression and counteraction to its manifestations in the humanitarian sphere, the creation and conduct of Ukrainian historical policy demonstrates the importance of this area for modern society. The lack of skills in conducting historical policy and discussions about its feasibility indicate a further need to discuss this issue against the background of considering the opinions of reputable scholars, building new concepts and hypotheses aimed at improving knowledge and the role of history in society. At the same time, such a process will require an analysis of the challenges of our time related to the rapid development of digital technologies, hybrid threats, etc., since historical policies are also being formed in other countries, and their experience can be useful even in the difficult times of war with the Russian regime.

Research aim and research questions

Therefore, the purpose of the article is to analyse the formation of the latest historical policy in the context of the Russian-Ukrainian war and against the background of changes in the paradigm of the world order and other challenges of our time. The realisation of this goal involves consideration of the following tasks: 1. to highlight the peculiarities of Ukrainian historical policy against the background of global transformations. 2. Consideration of the modern Russian historical policy as an instrument of political pressure and formation of the challenge of instability in international relations.

Theoretical Framework or Literature Review

The term "historical politics," which originated in the 1980s in Germany and was reintroduced in the early 2000s by a group of Polish historians, quickly spread to other countries of Central and Eastern Europe. It has come to denote the sharp intensification of the use of history for political purposes that took place in the early twenty-first century in Eastern Europe (Stryjek, 2007). Liebsch (1995) actually identifies these processes and advocates the use of the term "memory politics" instead of "historical politics", defining the former as "any deliberate and formally legitimate actions of politicians and officials aimed at strengthening, deleting or overcoming certain fragments of public memory". According to some contemporary historians, the phenomenon of politicisation of history is an eternal and inevitable phenomenon (Schmidtke, 2023; Verovšek, 2016). At the same time, the politics of memory defines a set of social practices and norms that contribute to the regulation of collective memory (Nora, 1989; McH & White, 1987). It is also inevitable and has existed since ancient times. At the same time, the phenomenon of historical politics seems to be a new, specific phenomenon, the existence of which is possible in various democratic and civil societies that allow for a plurality of opinions and interpretations (Wertsch et al., 2022). It is defined as a set of practices through which certain political forces seek to establish certain interpretations of historical events as important. In modern Ukrainian history, the concept of "historical politics" began to be introduced into scientific and journalistic circulation at the turn of the 2010s and 2020s. Initially, this was due to the reaction of a part of the Ukrainian academic community to the government's attempts to interfere in the struggle of public groups for the right to approve their interpretation of significant historical events. On the other hand, this issue has become more relevant in view of the outbreak and development of the Russian-Ukrainian war.

American researchers who pay attention to the evolution of Ukrainian historiography after Ukraine's independence point to its "exploratory and experimental" nature, which opens up new opportunities for scientific development in the context of modern innovative approaches (von Hagen, 1995). At the same time, contemporary researchers express concern about the tendency to return to outdated ideas about history and historical knowledge under the influence of certain socio-political factors. Indeed, a careful analysis of the development of Ukrainian historiography over the past 25 years reveals two main trends that have influenced its content and methodology (Zaszkilniak, 2019). These trends are already well known to Ukrainian historians and are actively discussed in the academic community (See Figure 1).

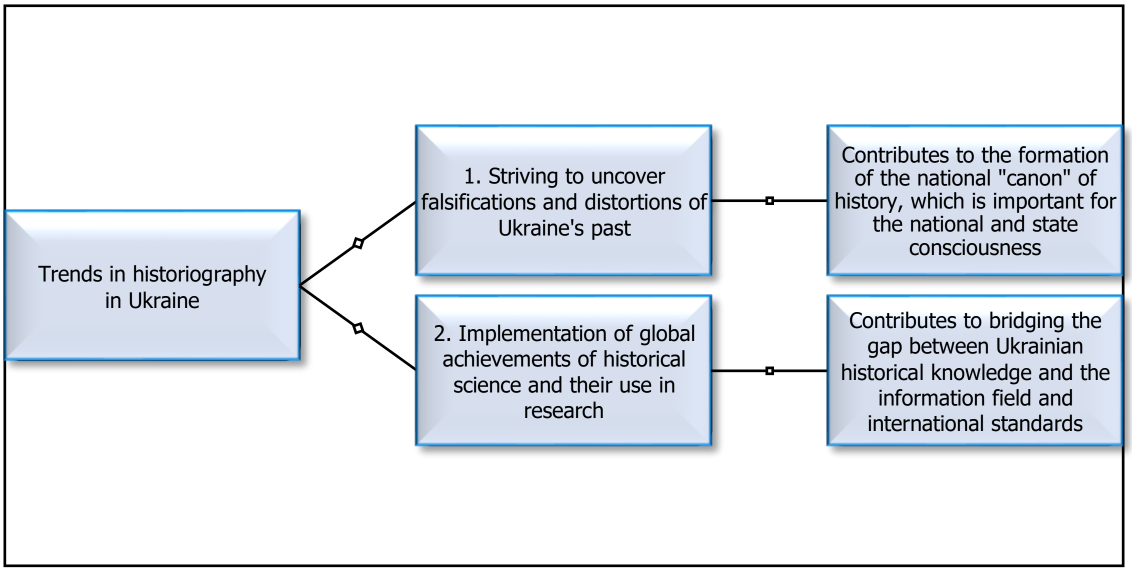

Figure 1. Trends in historiography in Ukraine
Source: Zaszkilniak (2019)

Therefore, contemporary Ukrainian historians are trying to uncover and correct numerous falsifications or distortions of Ukraine's past that were formed during the colonial period and the stay in different empires, especially in Soviet times (Zaszkilniak, 2016). This, in turn, contributes to the formation of a national "canon" of history, which is important for national consciousness and social memory. The second trend is the introduction of global achievements of historical science and their use in research to overcome the process of lagging behind Ukrainian historical and academic knowledge and the information field from international standards (Zaszkilniak, 2019). At the same time, interpretations of historical memory are important, as an important part of the historical past and present. Ukrainian researcher Kyrydon (2013) noted that the dynamism of changes, catalyzed by the events of the late 1980s and early 1990s, the compression of historical time lead to rapid transformations of social systems, the emergence of multi-vector crises of various levels in the development of society and the individual. Therefore, there is the destruction of social structures established in the past, fundamental changes in the understanding of the processes of being and moral and value imperatives in the conditions of modification of the entire socio-cultural system. Algorithms of human social action are being transformed. Interest in the problems of the past, history, and memory is growing, and there is a need to rethink the relationship between the present and the past (Kyrydon, 2013). Therefore, the problems of the connection between the politics of memory and democratic transformations, memory and political culture, the role of memory in civil reconciliation, the achievement of tolerance and the restoration of trust are actualized. In the conditions of breaking the traditional foundations of life, there is a rethinking of one's own past path and an idea of the historical path of a group, nation, society. There is an intensification of the processes of unification and separation of interests, goals of individuals, groups, and states of various kinds of associations. The definition and redefinition of positions and their correlation with the positions of others is observed (Kyrydon, 2013). Mnemology (the field of memory study) is increasingly coming into the field of view of representatives of the social sciences. Therefore, the research of "memory" has an interdisciplinary character.

Hyrych (2013) noted that Ukraine was the first CIS country that managed to make its own set of history textbooks and thereby manifested its desire to win back its historical and informational space from Russia. The reaction of the Russians to this was sharply negative. Our textbooks were accused of Russophobia and intolerance, historical tendency and falsehood. Meanwhile, the new concept of Russian historical education during the presidency of Putin once again interpreted the Ukrainian space as a part of the imperial all-Russian history. Agents of Russia's influence in Ukraine were activated, and they began to harass the Ukrainian view of their history. The reasons for this should be sought in the political sphere. Tkachenko (2020) explained the peculiarities of Russian historical politics in a certain way. Today, Russia is much smaller than the USSR among world powers, but it is categorically unwilling to lose the leverage it inherited from the postwar settlement. Hence the Russian proposal to hold a summit of the leaders of the five permanent members of the UN Security Council, which Putin insists on in his speeches. Of course, this is not the same "concert of states" as in the 19th century, but at least something Tkachenko (2020). Meanwhile, the Russian government seeks to protect itself from its deceived and robbed citizens, to offer them the "pride of winners" instead of a free and dignified life. As for current politics, the myth of war fuels imperial ambitions.

Contemporary historiography discusses the importance of academic historians in the implementation and execution of state historical policy. It is obvious that history, in the form of historical knowledge and social memory, is shaped by representatives of a particular community, not by abstract individuals or communities. Historians and intellectuals change history on the basis of materials and their own ideas about the past, which affects the current socio-cultural context (Assmann & Czaplicka, 1995; Foscarini, 2018). The processes of "cultural amputation" and the "model of historical thinking and research" identified by historians play an important role in this. This approach evokes a dialectical dynamic between the desire to improve the future and a constant response to the past. Regardless of the replacement of old historical narratives with new ones, this dynamic remains. This inescapable tension is analogous to the cognitive contradiction between the known and the knowable. Thus, history is a tool for shaping individual and social consciousness, and its misuse can affect the perception of the present and the future (Kubal, 2008). Araújo & Santos (2009) raised the issue of recovering from traumatic situations, such as the Vietnam War, the bombing of Hiroshima, the Holocaust, etc. Although a number of classical works identify important aspects related to history and memory, there are several methods of dealing with the past, which primarily involve state interests and power (Confino, 1997; Dessí, 2008). At the same time, just memory policies for certain crimes committed in the past "depend on selection processes as well as on elements that go beyond human reason: a balance must be found between an obsession with the past and attempts to impose forgetting". Klymenko's (2022) study proves that the authorities use historical narratives to support their foreign policy programmes. This work openly argues that in order to justify its pro-European foreign policy strategy, Ukraine has promoted the idea that Ukrainians have an important historical experience similar to that of Europe, emphasising the difference in historical experience from Russians. According to the authors of the article, this fact justifies the desire of Ukrainians to distance themselves from the Russians and become full member of the EU.

Historical knowledge is used not only for political and ideological purposes but also for the "legitimation" of statehood, national identity, and group interests (Halas, 2002). Thus, according to Kean (2021), historians have the freedom to reinterpret the past, but their possibilities are limited by subjective circumstances such as socio-cultural environment and individual experience. This can be seen quite aptly in the study of the key aspects of the restoration of statehood in the historical policy of the Second Polish Republic (Matviichuk, 2020).

At the same time, it is public history that is important in the modern system. As Halas (2002) argues, the flourishing of public history is linked to the development of the nation, and thus it is important to study the aspects through which abstract concepts such as the nation can be communicated. This should help to address how different, public identities and new memories are formed (Kubal, 2008). Current trends in world culture emphasise that history is not only what historians write, but also the way language is used in public discourse (Zaszkilniak, 2019). Nevertheless, the future can be seen as a number of possible alternatives, and it is also shaped by ideological perspectives (See Figure 2).

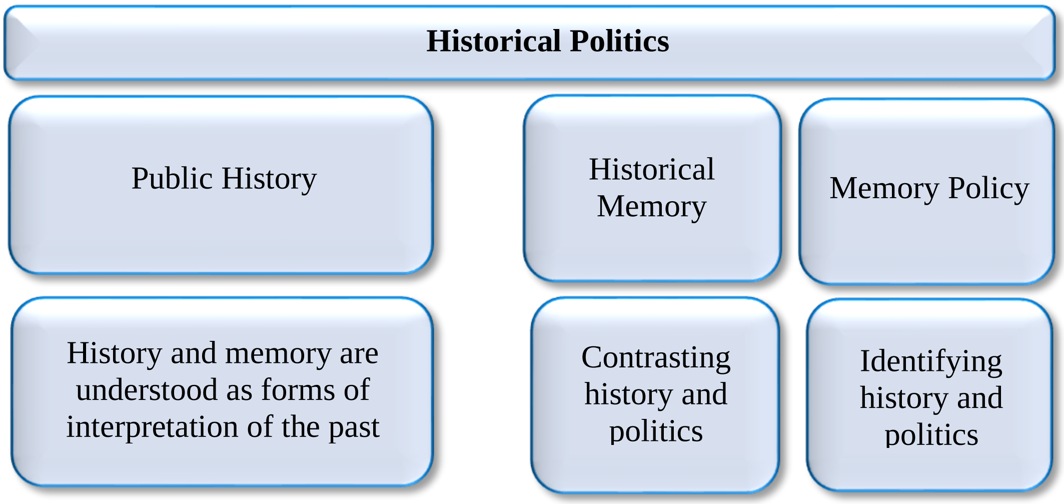

Figure 2. Historical politicals
Source: author's own development

Thus, historical narratives reflect dependence on modernity, but also allow for the historian's "freedom of non-freedom". The specialist should be aware that the object of knowledge can also be a subject and an actor, depending on the researcher's point of view.

Methodology

The methodological basis of the study is made up of special historical and general scientific (theoretical) research methods. In particular, a critical analysis of the literature (content analysis) was used: a retrospective analysis of academic and literature helped to find out what views were expressed earlier on the formation of historical policy, what concepts and theories were considered. This allowed us to identify changes in approaches and challenges faced by contemporary researchers. Among the historical research methods, the following have become important: historical-comparative and historical-typological. In particular, as a result of using the method of comparative analogy, the established interpretations of historical events in Russian and Ukrainian scholarship have been revised. The use of historical-typological and historical-systemic research methods allowed us to consider historical phenomena in a broader context, analyse connections, analogies, and interrelationships, which contributed to a deep and comprehensive understanding of the process of historical policy formation and the challenges this process may face.

Results and Discussion

Historical Policy in Ukraine: Current Status and Prospects

Conducting historical politics is a much broader concept than political interference in the understanding or teaching of historical science (Zaretsky, 2013). At the heart of historical policy is the transmission of various kinds of memories and experiences, as well as the disclosure of unknown or forgotten facts, i.e. it is a kind of policy towards history and memory (Connerton, 2012). The main goal of the Ukrainian memory policy, according to researchers, is to construct cultural memory and create a separate model of political vision of the Ukrainian national past. In addition, historical policy is aimed at creating socially important historical images, and identity paradigms used in rituals or social and scientific discourse (Bertelsen, 2017). The Ukrainian democratic society does not limit historical policy to the political sphere, but also involves scholars, teachers, specialists in archives, public communication, etc.

The implementation of the memory policy in Ukraine also has certain peculiarities. In particular, there is an additional emphasis on the colonial Soviet past of the Ukrainian people, which will require further development in the context of global transformations caused by Russian aggression against Ukraine (Lysenko, 2022). Thus, among the distinctive features of Ukrainian memory policy are the following:

1. The struggle for the recognition of the Holodomor of 1932-1933 as genocide of the Ukrainian people under the totalitarian rule of the “Red Russians”. Although the Holodomor and its consequences have long been discussed in academic and journalistic circles, the emphasis on these tragic events began only in the twenty-first century. The opening of relevant museum complexes (including the National Museum “Holodomor Victims Memorial in Ukraine”), the adoption and annual commemoration of the tragedy of the Ukrainian people were important steps towards establishing knowledge about the horrific events of Stalin's time in Ukrainian society (Lysenko, 2022). At the same time, the processes of understanding the real significance of the Holodomor intensified after February 2022, when the real crimes of Russians in the occupied Ukrainian lands demonstrated the extreme cruelty of ordinary Russian soldiers. The Russian scheme of history, designed to emphasise “fraternal relations” with Ukrainians and deny Russian crimes in the past, has been confronted with an irrefutable reality. In addition, while earlier international recognition of the Holodomor of 1932-1933 as an act of genocide was modest, against the backdrop of the crimes of Russian troops, the international community is more actively recognising the fact of genocide at the international level.
2. Revise current school textbooks on Ukrainian history, law, geography, and ethics, as they may contain elements of the Soviet concept of Ukraine's development (Yakovenko, 2009). The emphasis should be on the development of new educational programmes, and textbooks should be created in accordance with the traditions of the Ukrainian historical school and the Eurocentric perspective of Ukraine's future. The promotion of Ukraine's Ukraine-centric humanitarian policy is also important. To do this, it is necessary to introduce special courses, hold open lectures, create programmes on television channels and special social media platforms that will tell the population about the true history of Ukraine at a popular scientific level (Lysenko, 2022). It is also important to support documentary and historical films, create historical online content, etc. to promote Ukraine's historical heritage. Given the Ukrainian segment of the popular YouTube service, some successes in this regard are tangible. Russian aggression has led to Ukrainian viewers deliberately refusing to watch Russian content and turning their attention to Ukrainian platforms.
3. Decommunisation and rehabilitation of fighters against the Soviet regime. To date, the process of renaming streets is in its final stages. However, once it is completed, the main focus should be on reviewing and transforming Soviet institutional norms and other operating principles. This will allow for the official eradication of Soviet working methods from many state institutions. Preference should be given to European standards, taking into account the Ukrainian national heritage. A separate stage will be the official implementation of decolonisation (Kuzio, 2022). This means

defining the key principles for removing certain names and monuments associated with the Ukrainian territories being under the rule of empires from public space. On the other hand, it is important to complement this process by creating new monuments and street names in honour of Ukraine's contemporary heroes. This will help strengthen the national idea and remind all Ukrainians of the dignity and honour of Ukraine's defenders. Given the conditions of the Russian-Ukrainian war, the formation of a Ukrainian pantheon of heroes could become an important part of the ideological influence on the Ukrainian people.
4. Supporting research in the humanities (in particular, in the historical field). Establishing new research centres and supporting existing ones will make it possible to rethink certain elements of Ukrainian history and build new research based on modern paradigms of scientific knowledge. For example, the Russian aggression against Ukraine in 2014 is incompletely represented in such a specific field as oral history. At the same time, the events of February 2022 are full of materials that can be used in future research.

The Ukrainian version of historical policy manifests a complex interaction of identity issues, collective memory, and the reconstruction of post-Soviet remnants in the interpretation of the past. Historical policy is intended to form the foundations of the state: it promotes its internal and external recognition and activates the mobilisation of society.

Russia's Challenge to Historical Politics: A Model for the Unification of History, State Power and Violence

History is important for legitimising the existence of the state and shaping national consciousness, but it can also be used as a tool to exert influence on society and impose a politically motivated vision of the past (Kuo & Marwick, 2021). Under such circumstances, in its efforts to implement an aggressive policy, the official Kremlin has developed and partially implemented a conquering historical strategy, which at the present stage is aimed at destroying Ukrainian political independence, destroying human and economic potential, and seizing territories (Claessen, 2021). Current events in the course of Russian aggression indicate that history can be used as a powerful tool in hybrid warfare. At the same time, other researchers also emphasise that historical policy is also quite effective in non-military use (Foscarini, 2018). In modern scholarship, the term “historical politics” reflects a set of practices through which states try to consolidate specific interpretations of historical events, phenomena, and facts as acceptable and dominant (Bînă & Dragomir, 2020). Some experts view historical policy as a means of transmitting specific socio-political values by the state.

Today, it is clear that the official Kremlin's historical policy towards Ukraine is implemented through the prism of imposing foreign values on Ukrainian society. Attempts by the Russian authorities to position themselves as a kind of superpower seem to be based on the “historical” existence of a powerful and separate Russian nation. The basis of this scheme is the common origin and unity of the Eastern Slavs: Ukrainians, Belarusians, and Russians (Parshyn, 2018). In addition, the latter are recognised as “big brothers” on whose will the life of the “smaller” Ukrainian and Belarusian nations should depend. This model can be perceived as an attempt to restore the Soviet identity, which emphasised “common history and brotherhood” (Kuzio, 2022). The post-Soviet version of this model, disseminated by the Kremlin, placed the revival of Russian power after the collapse of the Soviet Union (which was allegedly a geopolitical disaster for the local elite) on the territory of sovereign countries at the heart of the concept of historical policy. This idea is based on several principles: the Western democratic world's attempts to divide the “great nation” by rewriting history, the lack of acceptance of new borders, and the disrespect and recognition of the national cultures of Ukraine and Belarus as marginal (Gorinov & Mereniuk, 2022).

The restoration of the lost superpower status led the Russian leadership to form and implement broad supranational projects, such as the Eurasian Economic Union or the military Collective Security Treaty Organisation. The vulnerability of these structures was that Ukraine did not join any of these supranational organisations. As researchers rightly point out, without Ukraine, Russia's re-emergence as a European “superpower” is impossible.

When formulating the concept of historical policy, the Ukrainian side should take into account that the Kremlin regime constantly refers to historical manipulations that try to argue its right to resources and territories. The Russian leadership actively uses the idea of the “Russian world”, which, in theory, justifies the annexation of Ukrainian territories (Lysenko, 2022).

According to this concept, the occupation of Crimea was of particular importance, as the Russian authorities claimed that the peninsula was a symbolic place where Prince Volodymyr of Kyiv was baptised. However, these and many other interpretations are subject to historical debate and are erroneous from a historical and legal perspective. It is worth noting that Prince Volodymyr Sviatoslavovych ruled Kyiv in the late 10th and early 11th centuries. In addition, the international community does not believe that there is any basis in international law for justifying current political actions by using events that happened to historical figures more than a thousand years ago.

The new Russian aggression in 2022 demonstrated attempts to implement aggressive historical policy in practice (Bînă & Dragomir, 2020). Ukrainian school textbooks, historical and fiction books were destroyed in the occupied Ukrainian territories. At the same time, the Russian leadership, which was unable to clearly define the goals and purpose of its aggression, rejoiced at the restoration of “historically just” territorial gains, including the transformation of the Azov Sea into Russian inland waters (as allegedly bequeathed by the Russian imperial authorities). The use of “historical rights” became an important part of first the policy of historical memory, and then the armed invasion.

Obviously, these developments in the strategy of historical policy in Ukraine will be aimed at overcoming these Russian projects, but it should be acknowledged that these actions are threatening to the system of international security and stability. The model of historical policy development proposed by the Kremlin regime demonstrates the willingness of authoritarian political groups to find motives and justifications for aggressive actions, demonstrating in the international arena the supposed historical justice of such steps (restoration of the USSR and destruction of Ukrainian independence, belonging of these territories to the empire, etc. It can be argued that historical policy has become an element of the hybrid war declared by the Russian authorities against Ukrainians and other democratic countries, so countering this challenge can be overcome by truthful coverage of historical events, promotion of historical knowledge, etc.

Conclusions

Thus, historical politics is an important part of contemporary Ukrainian society, actively developing against the backdrop of the Russian invasion. The Kremlin regime, which apparently aimed to destroy Ukraine, has achieved the opposite result at the present stage - the consolidation of Ukrainians has also been based on the idea of a common historical unity. For this reason, the further development of Ukrainian historical policy is quite natural. As demonstrated, it covers the problems of decommunisation, the formation of a new pantheon of heroes, overcoming the Soviet past in training and education programmes, the development of culture, humanities, including history. The further development of historical policy may also be caused by its special position in Russian reality. The use of history as an instrument of expansion has become an important feature of Russian politics. This model can be seen as an attempt to restore the Soviet identity, where great emphasis was placed on “common history and brotherhood”.

The modern version of this idea, promoted by the Kremlin, is based on the concept of reviving Russian influence after the collapse of the Soviet Union (which was predicted to be a geopolitical disaster for the local elite) on the territories of sovereign states. This idea is based on several principles: the Western democratic world's attempts to “divide a great nation” by rewriting its history, its refusal to recognise new borders, and its disregard for the national cultures of Ukraine and Belarus. To sum up, historical policy has become a component of the hybrid war that the Russian authorities have launched against Ukraine and other democratic countries. Therefore, to counter this challenge, it is necessary to use truthful coverage of historical events, dissemination of historical knowledge, and other relevant methods. At the same time, the development of specific methods of countering hybrid challenges in the historical sphere will require further updating.

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DOI: https://doi.org/10.34069/AI/2023.68.08.14

How to Cite:

Dovzhynets, I., Petrenko, M., Karpenko, E., Zabolotnyi, I., & Holiaka, H. (2023). Social values in musical art in the context of intercultural communication: international experience. *Amazonia Investiga*, *12*(68), 151-161. https://doi.org/10.34069/AI/2023.68.08.14

Social values in musical art in the context of intercultural communication: international experience

Valores sociales en el arte musical en el contexto de la comunicación intercultural: experiencia internacional

Received: July 5, 2023 Accepted: August 24, 2023

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Abstract

The purpose of the article is to analyse the role of Ukrainian musical art in the contemporary world cultural process and the integration of Ukrainian music into the European cultural space. The main method used to conduct the research was a survey. The methods of quantitative and qualitative analysis, synthesis, and content analysis used to study the scientific literature on the subject were used to reveal its results. The results demonstrate that in the context of Russian aggression, Ukrainian music has become a means of presenting Ukrainian culture at the international level and pointing out the uniqueness of the Ukrainian people from the Russians. The study showed that the vast majority of respondents listen to music several times a day or several times a week. This high popularity makes it possible to use music to convey important social messages and pointers to

Resumen

El objetivo del artículo es analizar el papel del arte musical ucraniano en el proceso cultural mundial contemporáneo y la integración de la música ucraniana en el espacio cultural europeo. El principal método utilizado para llevar a cabo la investigación fue una encuesta. Para revelar sus resultados se utilizaron los métodos de análisis cuantitativo y cualitativo, síntesis y análisis de contenido empleados para estudiar la literatura científica sobre el tema. Los resultados demuestran que, en el contexto de la agresión rusa, la música ucraniana se ha convertido en un medio para presentar la cultura ucraniana a nivel internacional y señalar la singularidad del pueblo ucraniano frente a los rusos. El estudio demostró que la gran mayoría de los encuestados escucha música varias veces al día o varias veces a la semana. Esta gran popularidad permite utilizar la música para transmitir importantes mensajes sociales y pistas

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solutions, including to audiences from other countries. The study also confirms the understanding of the role of music in intercultural communication, which is realised through listening to special musical compositions with an intercultural context or national (state) orientation. The conclusions emphasise that the understanding of music as part of cultural diplomacy remains an under-researched aspect in the Ukrainian context, as the global understanding of the role of musical art in the political arena still needs to be further developed. A promising area for future research could be to explore the possibilities of using music as an element of soft power in politics.

Keywords: Musical art, Ukrainian music, intercultural comunicación, spiritual values, survey.

de solución, incluso a públicos de otros países. El estudio también confirma la comprensión del papel de la música en la comunicación intercultural, que se realiza a través de la escucha de composiciones musicales especiales con un contexto intercultural o una orientación nacional (estatal). Las conclusiones ponen de relieve que la comprensión de la música como parte de la diplomacia cultural sigue siendo un aspecto poco investigado en el contexto ucraniano, ya que aún es necesario seguir desarrollando la comprensión global del papel del arte musical en el ámbito político. Un área prometedora para futuras investigaciones podría ser explorar las posibilidades de utilizar la música como elemento de poder blando en política.

Palabras clave: Musical art, Ukrainian music, intercultural comunicación, spiritual values, survey.

Introduction

Music has always been not only the most powerful means of expression but also the original sound bridge that has connected society into a universal unity. In a world that is becoming increasingly global and collaborative, the role of music in intercultural communication is of particular importance. This role is to help society understand and accept the social values of other cultures, to discover unknown perspectives, and to deepen our own knowledge of ourselves and the world around us.

The importance of music in the modern world is due to the processes of globalisation of intercultural relations, including practical technological capabilities for the creation, reproduction, and transmission of musical works. These several factors have led to the fact that since the second half of the twentieth century, music, in comparison with some other art forms, has become a leader in terms of the scale of broadcasting on television and in the media, digital space, etc. At some point in time, any person finds themselves in a musical and sound environment. At the same time, there is a need to turn to musical samples of the native cultural environment, as well as to musical trends from other countries, popular styles and genres, etc.

For this reason, it is extremely important to consider the role of music as a tool for expressing and perceiving social values in an intercultural context. It is also relevant to review international experience and research on how music unites cultures that are separated by geographical and cultural barriers. For this purpose, it is important to consider the stories of artists and bands that have managed to create music that has become a global phenomenon, as well as to determine what factors contribute to the success of this international unification through sounds. Deepening the understanding of how music becomes a language that crosses borders and unites people will facilitate the exchange of ideas, values, and cultural experiences. The process of musical influence on the modern perception of social values will help to establish links between nations and actualise the common cultural heritage. In particular, Ukrainian music helps to draw attention to Ukrainian culture in general. It promotes tourism and cultural exchange, which has a positive impact on the country's economy and international prestige and brings its unique ideas and approaches to the European music scene. Such integration facilitates the exchange of cultural values, promotes mutual understanding, and enriches musical experience.

The purpose of the article is to determine the role of Ukrainian musical art in the contemporary world cultural process and the entry of Ukrainian music into the European space. The realisation of this goal will require solving several important tasks: conducting a survey and interpreting its main results in accordance with the existing concepts of scientific literature.

Theoretical Framework or Literature Review

Social values are the beliefs and attitudes that define what is considered important, acceptable, and desirable in a society. They are general norms and principles that define which goals and ideals of a community are important and which behaviours are considered consistent with those goals and ideals.

Societal values can include various aspects such as morality, ethics, politics, religion, family relationships, economics, and culture. They are shaped by religion, tradition, history, political decisions, and cultural heritage. Modern scientific literature has shown that social values are an important part of a society's culture and shape behaviour, relationships, and accepted standards in that society. They can change over time and under the influence of socio-cultural changes, as well as as a result of globalisation and the joint interaction of different cultures (Bank, 2020). The methodological basis of the article is the work of contemporary scholars who highlight topical issues of the development of musical art. In particular, Camlin & Lisboa (2021) described the impact of digitalisation on the development of music. Also, the impact of globalisation on popular music is described in an empirical study by Favoretto (2018). In general, as demonstrated in the recent studies by Gebesmair (2022) and Hasegawa (2022), the globalisation of the music industry can facilitate the spread of music and cultural expressions between different countries and cultures. This can have an important impact on the perception and understanding of the societal values and cultural aspects explored in this paper. Heile (2017) and Touya (2018) also identified the impact of modern globalisation processes on the music industry and cultural exchange between different musical traditions and styles. Varriale (2016) traces the dynamics of cultural exchange through music. Zhang & Dai (2021) analysed the impact of globalisation on the creation of new musical genres, intercultural interactions between musicians and audiences, and dynamics. Thus, modern globalist trends have a decisive influence on the development of the contemporary music industry: they form certain trends, affect the intercultural spread of art.

At the same time, Dovzhynets et al., (2022) characterised the main musical projects in Ukraine in the twenty-first century as manifestations of contemporary art. The main musical trends in Ukraine are also described in Vashchenko et al., (2022). After the collapse of the Soviet Union, Ukrainian-language music faced some challenges, but it gained popularity, especially after 24 February 2022. Different genres of music are thriving in Ukraine, including pop, rock, rap, jazz, etc. However, the emergence of the Internet has opened up both new opportunities and hidden risks for musicians, primarily related to piracy, which significantly reduces the income from their work (Vashchenko et al., 2022). Nevertheless, the digital age has facilitated the effective exchange of musical innovations. For a long time, Ukrainian music reflected Western trends in song themes, rhythms, and popular musical styles. It is worth noting that the demand for Ukrainian music increased after Russia's military aggression, as Russian music was banned. Recent studies, such as Dovzhynets et al., (2022) and Vashchenko et al., (2022), have shown that contemporary Ukrainian music promotes national unity and solidarity and contains some manifestations of pacifism.

Kholjurayevich & Madaminovich (2021) investigated the role of musical art in the process of rooting the concept of national independence in the minds of the younger generation. Krechko & Sokolova (2021) described the role of flash mobs as modern types of presentation of musical products that increase the interest of modern audiences in academic choral art. We believe that such events help to unite people, introduce them to the achievements of musical art, and promote the development of certain social values, such as solidarity and unity. Transformations in the attitude towards music as a cultural achievement of a particular national state tradition are described in Lum (2016). This researcher operates with such important social criteria as nostalgia, cultural heritage, and national identity, which have been important in music for centuries. The peculiarities of the development of Lithuanian musical art were described by Petrauskaitė (2023). This researcher described the role of Lithuanian societies as expressors of the development of national musical culture and statehood. Music has a significant impact on human development and life satisfaction, starting from early childhood. Music has been shown to have far-reaching neurological benefits, is ubiquitous in modern cultures, and leads to an integrative understanding of interdisciplinary concepts and symbolic systems (Scripp & Gilbert, 2019). Thus, from the perspective of 21st-century science, humans have evolved to the point where the universal ability to create and respond to music makes musical growth an inseparable category, and thus an important part of individual development.

Methodology

Research design

This study will use a mixed-methods research approach to characterise the social values embedded in music and their role in intercultural communication. It will combine both quantitative and qualitative methods of data collection and analysis.

Participants

Sample Population

The study will focus on people who are actively engaged in or appreciate the art of music in different cultures and age groups. A total of 130 people are included in the study. The emphasis was not on national respondents, but on diverse cultures. This was done to attract music lovers from different regions.

Sampling Criteria

Participants will be drawn from a variety of cultures, including musicians, music enthusiasts, and those involved in intercultural communication, ensuring broad representation.

Sampling procedures

To ensure the diversity of the sample, a stratified random sampling method will be used. The stratification will be based on factors such as age, gender, cultural background, and level of involvement in music. Participants will be recruited through online platforms, music events, and social media.

Data collection

Survey questionnaires. Quantitative data will be collected through online surveys with questions designed to measure participants' attitudes and perceptions about the role of music in intercultural communication. The questions may include multiple-choice tasks. In general, the questionnaire consisted of both open and closed questions. The questionnaire was distributed via social media and uploaded to Google forms (see Table 1).

Table 1.
Questionnaire template

Section 1. Cultural background and musical experience	1.1. Your cultural background (country/ethnic group). 1.2. How often do you listen to music from other cultures? Daily Several times a week Rarely Never 1.3. Do you play any musical instruments or sing on your own? (Yes/No) If yes, please tell us more about your musical abilities and the instruments you use.
Section 2. Music and intercultural communication	2.1. Do you think that music can be a means of promoting intercultural communication? Yes No. 2.2. What musical genres or artists from other cultures do you like or are you interested in? (Name specific genres or artists.) 2.3 Are there any songs or pieces of music that you consider particularly important for intercultural conversation? Yes No. Not sure 2.4. How does music from other cultures influence your feelings and attitudes towards people from those cultures? Positives. Negative Neutral
Section 3. Social values and the art of music	3.1. Do you think that music reflects the social values of a particular culture? Yes No. Not sure 3.2. What social values, in your opinion, can be transmitted through the art of music? (Select all the answers that apply to you.) Tolerance Equality Diversity Respect for other cultures Solidarity Other (please specify)

	3.3 Has music changed your perception and understanding of the social values of a particular culture? Yes No. Not sure
Section 4. Concluding comments	4.1 Is there anything else you would like to add or say about the role of music and social values in intercultural communication?

Source: compiled by the authors

Interviews are also used in the study. Qualitative data will be collected through in-depth interviews with selected participants. These interviews will explore their personal experiences, emotions, and narratives related to the impact of music on their intercultural interactions. Open-ended questions will be used to facilitate extended responses.

Data analysis

Data analysis consists of quantitative and qualitative analysis. The survey data will be analysed using statistical software (e.g., SPSS). Descriptive statistics will be calculated to summarise the responses of the participants. Qualitative analysis means that the interviews and content analysis will be subjected to thematic analysis. This involves identifying recurring themes, categorising responses, and drawing models based on the qualitative data. This will be followed by integration. The quantitative and qualitative results will be compared and integrated to provide a complete understanding of how societal values in the music arts influence intercultural communication.

Ethical considerations

Informed consent. Participants will be informed about the purpose of the study, confidentiality, and their right to withdraw from the study at any time. In addition, the anonymity of personal data is ensured.

Following this methodology, the study aims to shed light on the social values embedded in the art of music and how they contribute to intercultural communication, drawing on international experience and perspectives.

Results

Modern interaction between cultures is broad in nature and includes different levels of contact: individual cultures, regional cultures, individual cultures of nations, and even global socio-cultural systems of the West and the East (van der Hoeven, 2018). Thus, according to researchers, solving multidimensional problems of intercultural relations involves studying the mechanisms of their communication, communication, and mutual understanding (Farrell, 2019). Researchers of communication processes in culture and art note that culture is formed through communication (which is important to characterise as the transfer of information in time and space, the formation of meaning through the symbolic exchange, i.e., the possibility of communication), so communication as a phenomenon is constantly cultural (Haenfler, 2017). On the other hand, culture is a consideration of the mechanism of creating, retaining, and effectively disseminating socially important information in the process of accumulating social experience.

The question of how often you listen to music was answered daily by 47 participants. While several times a week - 50 participants. Rarely - 30 participants. At the same time, 3 people do not listen at all (see Table 2). Respondents mostly listen to national compositions, with preference also given to European and American artists.

Table 2.
Frequency of music listening

Frequency	Quantity	%
Daily	47	36%
Several times a week	50	38%
Not often	30	23%
They don't listen at all	3	2%

Source: compiled by the authors

This shows that the majority of participants listen to music regularly, which is important for studying the impact of music on intercultural communication.

Most respondents agree that music is an important means of intercultural communication. This can be realised by listening to special musical compositions that have an intercultural context and national (state) orientation. This demonstrates interest and understanding of the importance of music in the context of intercultural interaction. Modern respondents were mostly interested in classical music (people over 50). At the same time, young people preferred such genres as pop, rap, rock, and alternative music. This demonstrates the diversity of musical preferences depending on the age group.

Music from other cultures can have a significant impact on our experiences and attitudes towards people from those cultures. Taking into account the answers of the respondents, we can outline the main ways that explain this influence (see Table 3).

Table 3.
Characteristics of the influence of music on the attitude of individuals

The impact of music on individuals' attitudes	**Explanation**
Fostering empathy	Music from other cultures can evoke emotion and empathy. It can tell stories and convey emotions that help us to better understand the experiences and perspectives of people from that culture. It can help to expand our empathy and understanding.
Promoting cultural exchange	By listening to music from other cultures, we can learn new melodies, rhythms, and instruments. It promotes cultural exchange and helps us discover new aspects of different cultures.
Reducing stereotypes and omens	Music can break down stereotypes and preconceptions about other cultures. It allows us to connect with a culture through its creative expression and to feel a sense of community in art.
Promoting intercultural communication	Music is a universal language that can unite people from different cultures. It can serve as a bridge for communication and cooperation between different groups.
Increasing interest in other cultures	Listening to music from other cultures can make us more interested in learning about those cultures. This can influence our willingness to travel, learn languages, or even engage in intercultural interactions.
Enriching our worldview	Music can open up new aspects of the human experience and broaden our horizons. It can teach us about the history, traditions, and values of other cultures.

Source: compiled by the authors

In general, music from other cultures can be a powerful tool for promoting mutual understanding and sharing values between different cultures (Liashchenko et al., 2021). It can open up new horizons and help us learn more about the world and the people who live in it.

At the same time, music can reflect the social values of a culture. Music is used as an expression to communicate various aspects of culture, including social values, and this can occur on several levels (see Figure 1).

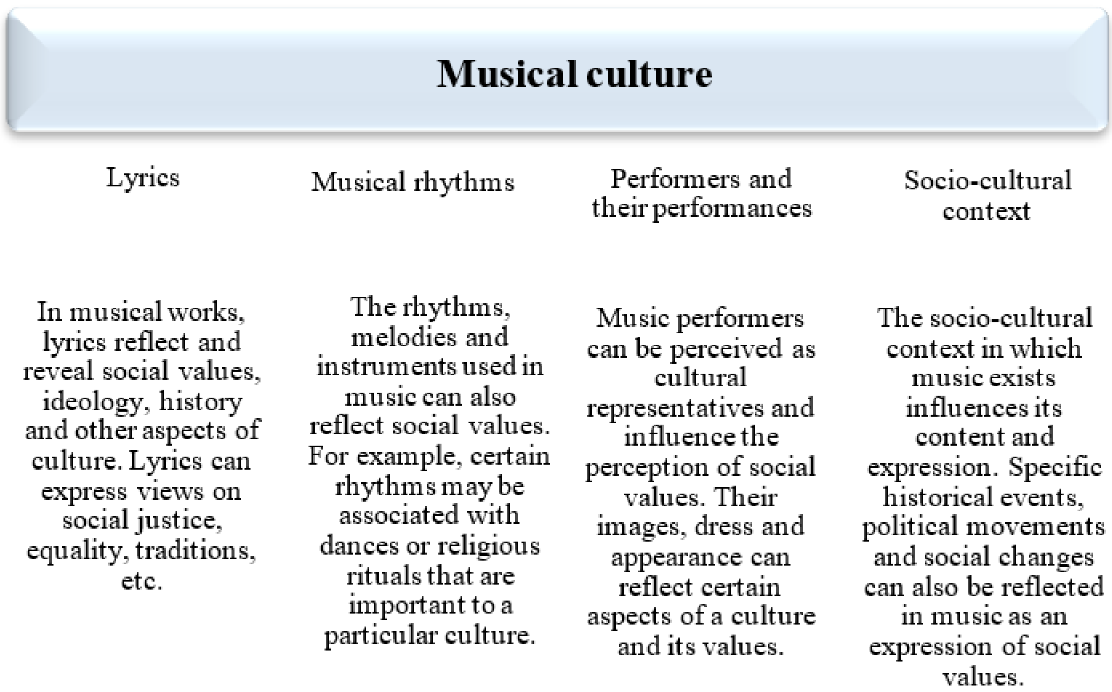

Figure 1. Ways to spread social values in the musical arts.
Source: compiled by the authors

Thus, music is an important cultural expression that can help us understand the social values and ideology of a particular society or culture. In particular, songs about freedom and the fight for rights are important examples of lyrics (Bahry, 2019). For example, “We Shall Overcome” is a song that became the anthem of the American civil rights movement. This piece reflects the values of equality, solidarity, and the fight for justice. Traditional religious hymns are also important in this context. For example, “Ave Maria,” a Catholic religious song, reflects the values of faith, worship, and spirituality. At the same time, social values are also influenced by folk songs (even in their modern interpretation). We should also emphasise the existence of popular music that expresses social views. A striking example is the song “Imagine” by John Lennon. This song expresses the ideas of peace, unity, and rejection of violence.

It is important to divide musical compositions by cultural affiliation and to characterise their influence on the formation of social values in this respect (see Table 4).

Table 4.
The influence of musical art on the formation of certain social values

Title	Explanation
Mexican music and the value of family	Mexican music, particularly mariachi, often celebrates family values. The lyrics can talk about love for family, devotion to parents, and the importance of spending time together as a family.
Brazilian samba and the joy of life	Samba music in Brazil emphasises joy, energy, and the meaning of life. It reflects the social values of festivals, dancing, and good cheer.
African music and community	In many African cultures, music is not just entertainment, but a way of communicating and strengthening the community. Rhythmic drumming and choruses reflect the importance of shared experiences and activities.
American hip-hop and social justice	Many hip-hop songs, particularly in the United States, address social issues such as racism and the struggle for equality and justice. This music serves as

	a platform for expressing voice and social consciousness
Japanese traditional music and tranquillity	Japanese music, such as the koto (traditional harp), emphasises calmness, meditation, and harmony with nature. This reflects traditional Japanese values of a peaceful community with nature and other people
Indian classical music and spirituality	Indian classical music is well known for its spiritual orientation. It often reflects spiritual values such as the radiance of God and the search for inner harmony.
Flamenco in Spain and passion:	Flamenco is known for its expressive emotionality. This music reflects the deep feelings of individuals and highlights the Spanish social values of expressiveness and emotional communication.
Irish folk music and history	The songs and melodies of Irish folk music often celebrate historical events, the struggle for freedom, and national identity. This music reflects the Irish social values of solidarity and independence.
Ukrainian musical culture and historical heritage through the prism of folklore aspects	Ukrainian music has deep roots in national folklore. Folk songs and melodies reflect various aspects of Ukrainian culture, including religious holidays, rituals, and historical events. Traditional Ukrainian music often commemorates historical events and the exploits of the Ukrainian people. Ukrainian music is an important element of a unifying cultural heritage. Songs and melodies are used to express national identity, as well as to support social movements and public actions.
Ragga and reggae in Jamaica and the struggle for social justice	The genres of ragga and reggae in Jamaica often celebrate social issues, the struggle for equality and justice. The lyrics protest against inequality and oppression.

Source: compiled by the authors

These examples demonstrate how music can reflect the social values of different cultures and express them through music and lyrics.

According to the survey results, 34 respondents noted that social justice and equality are important social values that can be conveyed through music. Thus, music can reflect justice and the concept of equality by telling stories about the struggle for rights and equality. At the same time, 32 respondents mentioned tolerance and equality of cultures as important social values that can be expressed through music. Music can unite different cultures and reflect the diversity of the world. Also, 38 respondents emphasised the importance of ideals of love and loyalty that can be expressed in music. Love and loyalty songs can reflect these important aspects of interpersonal relationships. Finally, 26 respondents mentioned pacifism as a social value that can be expressed through music. Music can be a tool for communicating across language barriers and expressing a desire for peace and unbridled violence. Music can therefore play an important role in promoting peace and inter-ethnic understanding. Music can be an important element in peaceful rallies, demonstrations, and joint events, encouraging people to come together and express their desire for peace. It can create a favourable context for communication, mutual understanding, and peaceful coexistence, and is therefore important in facilitating processes of peace and inter-ethnic understanding. These social values reflect the diverse aspects of society and culture, and music is a powerful tool for expressing them and promoting understanding and communication between different groups and cultures.

Discussion

In the modern musical environment, processes of socialisation and inculturation of participants at the professional and amateur levels are taking place. A significant role in this is played by the ability of musical culture participants to effectively create a virtual musical space focused on the presentation of world and national musical heritage on the Internet, as well as on expanding opportunities for musical self-education through the use of electronic technologies. We can agree with the researchers who believe that improving the communicative culture of music participants and activating their creative potential leads to the formation of the semantic content of the cultural space (Miyake, 2016). Spaces that do not constitute certain closed structures as a result of globalisation can also be considered dynamic. Contemporary researchers rightly point out that the Western European community is open to Ukrainian culture and art, as many musical performers and creative teams are actively performing outside Ukraine or are abroad due to various circumstances (Sinelnikov et al., 2023). First and foremost, this state of affairs was caused by the Russian aggression (Kuzio, 2021), which forced many cultural figures to start their activities from scratch outside Ukraine. On the other hand, it has also increased the public demand for Ukrainian music culture, which has led to its popularisation and mutual influence at the international level.

Therefore, according to researchers, the prerequisites are being formed for the tangible popularisation of Ukrainian musical art in all its manifestations (Sydorenko & Dubetska, 2022). The process of European integration, which is currently taking place at a very rapid pace, creates conditions for the promotion of Ukrainian music in the European space and its interaction with other musical trends (Roslon & Zavada, 2021). It is the language of art that allows us to overcome a number of barriers, find commonalities in the culture of other nations and, at the same time, identify its unique features. According to experts, in modern conditions, cross-cultural communication in the artistic dimensions provides people with opportunities to exchange artistic and cultural contexts and meanings (Suvorov et al., 2022). Music, above all, destroys stereotypes and views of one people towards another. Communication through art helps to expand the boundaries of specific styles and shape various phenomena.

Researchers believe that music unites people, allowing them to feel part of a single musical community. At concerts and festivals, music brings together thousands, even millions of people who share common moments of emotional feeling. Given the frequency of its use (as our survey also demonstrated), this instrument is turning into a powerful cross-cultural force capable of mixing diverse influences and societies. The music reflects the cultural heritage of each nation and speaks of its history, values, and traditions (Schevchenko, 2022). A sense of pride in one's own culture and a desire to share it with others can be an incentive for international musical cooperation. The majority of respondents also confirmed the fact that music is an important means of intercultural understanding, which can be realised through the use and listening to special musical compositions that have an intercultural context and national (state) orientation.

Recent studies have further highlighted that music tours and musician exchanges facilitate the exchange of cultural experiences and create opportunities for mutual learning (Zinchenko et al., 2023). This helps to enrich the musical palette of each country. Expressions of protest and unity are also important. In particular, at important historical moments, music can be a tool for expressing protest and unity (Zavalko, 2021). Songs about freedom, human rights, or peace can unite people in the fight for common values. All these factors underline the importance of music as a means of international communication. It not only entertains and inspires, but also helps build bridges between cultures, brings people together, and contributes to a more united and understanding world. Respondents noted this trend, pointing out that music is an important tool that indicates relevant societal values. At the same time, an important element was left out of the survey: music diplomacy. Some states use music as an instrument of international diplomacy. Performances by musicians and orchestras can help improve relations between countries and create an additional bridge for dialogue and cooperation. In the context of the Russian-Ukrainian war, this phenomenon is prominent on Ukraine's cultural front. The lack of response from respondents can be explained by certain limitations of the survey. In particular, the fact that not all respondents could be sincere during the survey.

Conclusions

Therefore, the social value of musical art in the context of intercultural communication is an important and relevant topic for research. The study has shown that contemporary music fans highly value its ability to organise intercultural dialogue. In the context of Russian aggression, Ukrainian music has become a kind of bridge for representing Ukrainian culture on a global level, demonstrating the separateness of the Ukrainian people from Russians, which the Kremlin regime openly denied. The study shows that the vast majority of respondents listen to music either several times a day or several times a week. This popularity allows important social issues to be relayed through music, and to point out their solutions to international audiences as well. The study also confirms the understanding in the modern world of the role of music as intercultural communication, which is realised through listening to special musical compositions that have an intercultural context or national (state) orientation. At the same time, understanding music as a part of cultural diplomacy is a problem in the Ukrainian context, as this understanding of the global role of musical art in the political arena is still poorly understood. Therefore, the use of music as an element of soft power in politics, analysis of relevant methods and tools with an eye to the Ukrainian realities of its use can be considered a promising area for further research.

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DOI: https://doi.org/10.34069/AI/2023.68.08.15
How to Cite:
Alotaibi, A.N. (2023). Antecedents of individuals' participation in the community of practice. *Amazonia Investiga*, *12*(68), 162-171. https://doi.org/10.34069/AI/2023.68.08.15

Antecedents of individuals' participation in the community of practice

العوامل المسببة لإشتراك الافراد في مجتمع المعرفة

Received: June 16, 2023 Accepted: August 25, 2023

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Abstract

The aim of this study is to explore the impact of outcome expectations on individuals' participation in the community of practice. It examines the impact of expected association, expected contribution and expected support on individuals' participation in community of practice. Data collected through questionnaire from 216 participants working in healthcare sector in Saudi Arabia to test the research hypotheses. The results of this study indicate that expected association and expected support have significant positive impact on individuals' participation in community of practice. Whereas, expect contribution found to have a negative impact on individuals' participation in community of practice. This research offer empirical evidence on the impact of individual factors such as outcome expectations on the involvement of individuals in the community of practice in their organizations. Moreover, the results shed new light on the impact of the contextual factors that may diminish the impact of outcome expectations factors such as job localization.

Keywords: Community of practice, knowledge sharing, self-interest, intangible return, expected association, expected contribution and expected support.

الملخص

تسعى هذه الدراسة إلى استكشاف تأثير عدد من العوامل الخاصة بالنتائج المتوقعة على مشاركة الأفراد في مجتمع المعرفة. حيث تقوم هذه الدراسة بقياس تأثير توقع الافرد بأنتمائهم لمجتمع المعرفة، توقع الافرد بقدرتهم على الاثراء المعرفي و توقعل الافراد بتلقي الدعم على مشاركة الأفراد في مجتمع المعرفة. تم جمع البيانات من خلال الاستبيان من 216 مشاركًا يعملون في قطاع الرعاية الصحية في المملكة العربية السعودية لاختبار فرضيات البحث. تشير نتائج هذه الدراسة إلى أن علاقات الافراد في المجتمع لدعم المتوقع من قبل المجتمع لهما تأثير إيجابي كبير على مشاركة الأفراد في مجتمع المعرفة. بينما اوضحت النتائج بأن قدرة الافراد على الاثراء المعرفي له تأثير سلبي على مشاركة الأفراد في مجتمع المعرفة. يقدم هذا البحث أدلة تجريبية على تأثير العوامل الفردية الخاصة بتوقعات النتائج على مشاركة الأفراد في مجتمع المعرفة في مؤسساتهم. علاوة على ذلك، اوضحت النتائج بأن العوال التنظيمية قد يكون لها تأثير على سلبي على اشتراك الافراد في مجتمع المعرفة.

مصطلحات الدراسة: مجتمع المعرفة، مشاركة المعرفة، المصلحة الخاصة، العوائد الغير مادية، توقع الافرد بأنتمائهم لمجتمع المعرفة، توقع الافرد بقدرتهم على الاثراء المعرفي و توقعل الافراد بتلقي الدعم.

Introduction

The evolution of knowledge economy has urged organizations to strive to sustain their competitive advantage to remain competitive in the market. As consequence of that, organizations seeks different approaches to accumulate knowledge through capturing individuals' knowledge and creating new knowledge. Thus, community of practice has emerged as strategic approach to foster individuals' learning and knowledge sharing in the organization through informal networks. The concept of community of practice has gained popularity and its implementation increased across different sectors such as education and

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healthcare. However, managing individuals' participation in the community of practice is difficult process because community of practice evolved informally based on individuals' needs. Meanwhile, the disparity of participation among members may have a great effect on organizational knowledge. Despite the extensive research that have been conducted in the community of practice, still we have not come to complete understanding of the factors that have impact on individuals' participation in the community of practice. By the means of reviewing relevant literature of community of practice this paper aims to identify the antecedents that drive individuals' participate in the community of practice

Literature Review

Community of practice is self-organized groups that cut across organizational units, geographical dispersion and professional frontiers to enable individuals that have same interest and tasks to communicate (Cabrera & Cabrera, 2005). It was first coined by Lave and Wenger 1991 when they introduced their book "*Situated Leaning*". Wenger et al., (2002, p. 4) have defined community of practice as " groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis". They added, individuals joining the communities of practice as they find benefits resulted from their interactions, as they share their knowledge, developing their skills and helping each other to solve problems. Participants in the community of practice are the ones that determined the issues of interactions, how they interact and the length of interaction (Agrifoglio, 2015). In fact, they are informally bounded by the benefits that they find in their learning from each other (Wenger et al., 2002).

According to Wasko and Faraj (2005 p. 37) "A community of practice consists of a tight knit group of members engage in a shared practice who know each other and work together, typically meet face-to-face, and continually negotiate, communicate, and coordinate with each other directly". Li et al., (2009) mentioned that there are three key characteristics that recognize a group of employees as community of practice. First, knowledge domain that employees share interest in, where membership requires minimum level of knowledge of that domain. Second, strong ties between the group members that enable them to cooperate and learn from each other. Third, the development of shared practice that lead to shared resources, knowledge, stories and tools. Communities of Practice is viewed as it is stemmed from the concept of teams (Wenger et al. 2002). However, it is different from network of practice that consists of large group of individuals that are distinguished to have loose knit, geographically dispersed, doing the same work and not necessarily know each other and not expecting to meet each other face-to-face. In network of practice knowledge is shared through different entities such as conferences, specialized newsletters and professional association (Wasko & Faraj, 2005; Orders, 2013).

Thus, Wenger et al. (2002) in their book stated that not all communities are community of practice. They identified three characteristics of community of practice, they are; domain, community and practice. They consider them as fundamental elements to distinguish community of practice from other types of communities (Agrifoglio, 2015) and a framework for all types of community of practice (Langley et al., 2017). Domain, according to Wenger et al., (2002), represent the area of knowledge that members of community have shared interest in and outlines their concerns that need to be addressed. The shared issues in the domain can range from simple knowledge, like eating healthy, to highly specialized knowledge of a profession, like designing an equipment. Community refers to the social fabric that allow individuals to interact on issues that were defined in the domain (Wenger et al., 2002). It is considered a strong entity that has a structure and consistent interaction that allow members continuously meet and discuss shared topics (Brown and Stokes, 2021). Practice, on the other hand, indicates the knowledge that community members are interested in (Brown and Stokes, 2021). As when they share, develop and maintain these knowledge, it will be embedded in documents, ideas, experiences, and methods used to address recurring problems (Li et al. 2009). In fact, through practice and by the use of dialogue, tacit knowledge can be easily articulated and converted into explicit knowledge (Hafeez and Alghatas, 2007).

Li et al., (2009) assume that when domain, community and practice integrated and work well together, they will be key structures to support knowledge management initiatives in the organization (Venkatraman & Venkatraman, 2018). Therefore, community of practice is seen as knowledge management framework (Brown & Stokes, 2021) and a way of managing knowledge in the organization (Blankenship & Ruona, 2008; Orders, 2013). Thus, to explore how community of practice is evolved previous research has considered three levels of analysis to identify the antecedents of members' participation in the community of practice. They are: individual level, concerning human factors that impact their involvement to their community of practice, community level, concerning the nature of the community and organizational level, concerning organizational culture (Zboralski, 2009). Since, most of knowledge sharing occurs at individual level in informal meetings, hence, individuals are the ones who build their community of practice through the development of their personal relationships and ongoing dyadic interactions that foster collective learning (Wasko & Faraj, 2000). According to Zboralsk (2009) individuals are rational in their thinking when participating in their community of practice, as their decision will be primarily based upon their self-interest. Researchers indicate that when knowledge is considered to be owned by individuals they will share it for intangible return that satisfy their intrinsic motivation such as reputation, self-esteem, status, respect and self-efficacy (Wasko & Faraj, 2000; Chen et al., 2012). In fact, these factors are generated inside the individual and satisfied by the individual. Hence, the main aim of this research is to identify the intrinsic factors that have impact on individuals' participation in their communities of practice.

The literature search has revealed several studies have been conducted on communities of practice from deferent perspectives. Some of these studies have explored community of practice at organizational level and they investigated the impact of knowledge networks (Burt, 1999; Allee, 2000) learning (Soekijad et al 2011; Boud & Middleton, 2003), leadership (Chua, 2006; Zboralski, 2009), the use of IT (Van Beynen T Fleury, 2010; Hara, 2007; Bhatt, 2001) and innovation (Brown and Duguid, 1991; Kahan, 2004) on members participation. Other studies have focused on individual level factors and they investigated the effect of norms (Brown & Duguid, 1991), commitments (Corso et al., 2006; Gibson and Meacheam, 2009; Hemmasi & Csanda, 2009), engagement (Corso et al., 2006; Probst and Borzillo, 2008; Cadiz et al., 2009) power of relations (Contu and Willmott, 2003; Hong & O, 2009), trust (Pastoors, 2007; Hemmasi & Csanda, 2009), behavior (Garavan et al., 2007), collaborative capabilities (Schreiner and Corsten, 2004). Others, have explored the effect of an unequal distribution of work among participants (Cook and Buck, 2014), tensions between members (Mak & Pun, 2015) and lack of time to participate in the community of practice (Mak & Pun, 2015).

While the previous research provide insight into the subject of community of practice, which, allowed us to understand the organizational, social, environmental and technological factors that have direct or indirect impact on individuals' involvement in the community of practice. However, not much is known about the factors that affect individuals' participation in the community of practice, especially, personal cognition as an outcome expectation based on their participation in the community of practice. Outcome expectation refers to "beliefs about the likelihood of various outcomes that might result from the behaviors that a person might choose to perform" (McAlister et al., 2015, p. 172). Hence, it concerns about the results of individuals activities, which may guide individuals' behaviors and have impact on their experiences and perceptions. According to Wasko and Faraj (2005) the expectation of personal benefits have a significant impact on individuals' motivation to contribute their knowledge to others. Further, Zboralski (2009) assumes that individuals' intentions to participate in the community of practice stem from their internal needs that associated with expected benefits. According to social cognitive theory individuals are inclined to engage in a behavior when they expect a results that have favorable consequences. This implying that individuals will place judgement on the consequences of their knowledge contribution behaviors as what will provide to them (Chiu & Wang, 2007). Since, the participation in the community of practice is informal, where the management of the organization cannot evaluate that behavior and reward it accordingly. Hence, it can be argued that members of the community of practice will participate only to satisfy their intrinsic needs. Such as through sharing knowledge with other members in their community individuals can enhance their competence or their confidence in their ability (Olatokun & Nwafor, 2012), feelings of belongings to community (Ergun & Avci, 2018) and gain support from their peers (Cabrera et al., 2006). Therefore, this research assumes that the expected benefits of association, contribution and social support will encourage individuals to actively participate in the community of the practice.

Expected association

Expected association refers to individuals' sense of belonging and the feeling of intimacy that develop a positive emotions towards their community (Chiu & Wang, 2007). It is defined as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith the members' needs will be met through their commitment to be together" (McMillan & Chavis, 1986, p. 9). Being part of the community is actually derived by the needs of belonging and love that illustrated by Maslow. It denotes that the expectation of an individual to fit into a group which is based on the intrinsic benefits that he will gain from his membership such as feelings of value and recognition. Hence, individuals will exert great effort, as investment, in their contribution to the discussion of the group to obtain a place within a group. As result of that, members will receive social enhancement that is derived from gaining acceptance and approval from others, also the enhancement of individual status within the community based on what the individual can provide to the community. Hence, the membership of the community will be meaningful and valuable to the individuals as that will help them to disperse their loneliness, meet like-minded, and receive companionship (McMillan & Chavis, 1986). Consequently, individuals will develop a positive attitude towards their involvement in the knowledge sharing processes as that can strength their relationship with others in the group. Based on that, it can be said that expected association is the driving force behind individuals' integration with their peers in their community of practice (Watkins et al., 2018, Javaid &vAbdullah, 2020). This will lead us to the following research hypotheses:

H1: Expected association significantly impact individuals' participation in the community of practice.

Expected contribution

Expected contribution refers to individuals' confidence in their knowledge that through their contribution to the collective it will improve organization's performance (Kuo, 2013). Hardin (1982) assumed that individuals will contribute their knowledge to the community when they perceive a gain from their contribution in the form of acknowledgement. As individuals can gain recognition of being an expert that comes from other individuals in the form of feedback, which indicates that others are using their knowledge. Also, knowledge contribution is considered as self-evaluation of an individual's skills and capabilities in answering questions posted by others (Widyani et al., 2017). Kankanhalli et al., (2005) illustrate that confidence in ability is typically evident in the form of individual believing that his knowledge can help in solving work related problems, improve work or make an add to the organization. They added that it serves as motivational driver to individuals' contribution to their communities. Moreover, contribution to the community of practice can be caused by altruistic behavior that is derived from individuals' intrinsic enjoyment in helping other without expecting return (Kankanhalli et al., 2005). Previous research has approved that altruism has significant impact on members' knowledge contribution to their groups in both quantity and quality (Wasko & Faraj 2005) and frequency (Taylor & Murthy, 2009). Hence, altruistic behavior is considered to be important in facilitating knowledge contribution intention in the communities (Fang & Chiu, 2010) and fostering collectivistic orientation (Eddleston & Kellermanns, 2007). It is also has been found to strengthen the relationships between members by increasing their loyalty, interdependence and commitment (Ma & Chan, 2014). Based on that, the following hypotheses proposed:

H2: Expected contribution has significantly impact individuals to participate in the community of practice.

Expected Support

Social support has an affective role in individuals' assimilation in social setting, and the interdependence of workgroup members (Ducharme & Martine, 2000). At work, social support defines the interpersonal relationships that mingle individuals in order to extend their capabilities at work place (Tufail et al., 2016). According to Carver et al., (1989) individuals seeking social support for three reasons; when individual is seeking feedback, knowledge and substantial assistance. It satisfies the belongingness needs and increase the chances of being effective in achieving work related goals (Schaufeli & Bakker, 2004). Rousseau & Aube (2010) contend that social support that come from social network (i.e. coworkers) is conducive to community building, where individuals are attracted to interact with each other as they perform similar types of work or complementary tasks. They added, in community of practice social support can come in the form of information and feedback, which is beneficial to newcomers for adjustment and learning. Also, it provides empathy, caring and encouragement that promote social integration among the members of the community. Hence, social support is considered to be one of the motivational factors that encourage individuals to participate in the community of practice (Yang et al., 2020), and tied individuals to their organizations (Rousseau & Aube, 2010). This provides the third hypotheses of this study:

H3: Expected support has significant impact individuals to participate in the community of practice.

Methodology

This study conducted a survey in the form of questionnaire to validate the research hypotheses. The questionnaire was selected because it is the most effective method to gather data about individuals' intentions toward community of practice and its related factors. The questionnaire items were adopted from related literature. The items measuring the impact of independent variables: expected association items adopted from Bock and Kim (2002), expected contribution items adopted from Bock et al., (2005) and expected support items adopted from Kankanhalli et al., (2005). The items of dependent variable were adopted from Bock and Kim (2002). The items are measured by using 5-point likert scale where 1 means strongly agree and 5 means strongly disagree. All items adopted in this research have been validated in the mentioned previous studies. To assess the reliability of the research measures, we used Cronbach's alpha to test for reliability. The questionnaire prior to be administrated for data collection it was given to a group of thirty participants of the same research sample. The test results show that Cronbach's alpha is above the threshold of 0.7 recommended by Hair et al., (1998), as reliability statistics indicate that the overall level is .75 meaning that the measurement items in this study are reliable.

The questionnaire was administrated in SG hospital in Saudi Arabia, which employs more than 800 employees. The healthcare sector was chosen because hospitals are considered knowledge based organizations (Kelder et al., 2015). They rely heavily on individuals' knowledge, since the delivery of the service requires collaboration among groups' members to provide high quality clinical outcomes. The participants in this study are the medical staff that working in different locations and under different specialties. A total of 450 questionnaires were randomly distributed to the study sample, where 216 completed questionnaires were returned. Yielding 48% response rate, where, 52.9% of the respondents are males while 45.4% of the respondents are females. To examine the impact of outcome expectations on the individuals' participation in community of practice. Regression analysis was conducted to identify the impact of expected association, expected contribution and expected support on individuals' participation in community of practice.

Findings and Discussion

This study explore how outcome expectations in form of expected association, expected contribution and expected support impact individuals' participation in community of practice. The results of regression analysis (table 1) indicate that some types of outcome expectations can be considered as motivators for individuals to participate in the community of practice. The independent variables accounted for 22 per cent of the total variance in the participation of individuals in the community of practice. The results show that expected association has a significant effect on individuals participation in the community of practice ($B= .370$; $p< .05$). Thus, the first hypothesis is supported, as expected association has significant impact individuals to participate in the community of practice. This results are in line with the findings of Chiu & Wang (2007), Watkins et al., (2018) and Javaid and Abdullah (2020). Moreover, this result confirms previous results by Fullwood and Rowley (2017) indicate that expected association impacts individuals to be more active in their discipline rather than on their institution. This is due to the reciprocal benefits received from others resulted from their knowledge sharing. Nahapiet and Ghoshal (1998) explain that impact as it comes from the influence of the network of the relationships that enable individuals to combine and exchange knowledge for the benefit of the participants.

Table 1.
Results of regression analysis

Variables	Coefficient	Error	t	Sig.
Constant	11.217	2.060	5.445	.000
Expected Association	.370	.091	4.081	.000
Expected Contribution	-.492	-.295	-3.433	.001
Expected Support	.224	.211	1.982	.049

Note: R = .476 ; R^2 = .227 ; Adjusted R^2 = .212 ; F = 15.523 ; Prob (F) = .000

Unexpectedly, the results show that expected contribution has a negative impact on individuals participation in the community of practice (*B*= -.492; *p*< .05). Based on this result the second hypothesis is rejected, as expected contribution has significant impact individuals to participate in the community of practice. The possible explanation of this result is attributed to the implemented government policy of job localization in Saudi Arabia. This policy focuses on assimilation of local job applicants through the process of replacement with foreign workers. By doing so, the government aims to increase the employment of local job seekers in all sectors of the local economy (Al-Dosary & Rahman, 2005). Imran et al., (2020) demonstrate that the possible outcome of this policy on expatriates is either to quit or to preserve their value in their organizations in order to protect their jobs. As such, expatriates will consider the knowledge that they gain during years of working their source of power. Where, sharing that knowledge will erode their value to their employers. Hence, they will not allow others to access that knowledge in order to secure their jobs (Ali et al., 2020).

On other hand, the results show that individuals' participation in the community of practice was positively affected by expected support (*B*= .224; *p*< .05). Hence, the third hypothesis is supported, as expected support has significant impact individuals to participate in the community of practice. This result ties well with the findings of previous studies by Ducharme and Martine (2000), Bock and Kim (2002), Tufail et al., (2016) and Yang et al., (2020). The result of this study suppots those of Bartol and Srivastava (2002) findings that indicates when individuals contribute their knowledge in informal setting is mostly based on the potential of social exchange. This is considered to be an away of building a strong relationship amongst individuals (Javaid & Abdullah, 2020). In fact, previous research pointed that individuals are encourage to participate in their work group to gain social integration that entails empathy, caring and providing help at work. Within each form of these benefits, the expectation of attainment of these benefits will motivate individuals to participate in their working group. Hence, community of practice is the place that enable the individuals in organization to receive support (Chiu & Wang, 2007).

As previous research has indicated that informal networks are affected by outcome expectations, where, the outcome expectations are associated with various personal benefits resulted from social interactions in these networks. In this study, expected association implies social approval that individuals gain when engage in knowledge sharing behavior through answering tasks related questions. In order to increase that the organization need to promote the sense of social inclusion to enhance interpersonal relationships, which in turn, can increase individuals' feeling of belonging to social grouping. This would be through enhancing communication between individuals and promoting the social norms that govern individuals' interactions and perceptions. Also, promoting social integration and satisfaction among individuals in the organization. On the other hand, as expected contribution concerns the provision of knowledge to others, which help them to perform their work better. In fact, this has reflection on the contributor image as knowledge holders through their knowledge sharing will show others that they possess valuable knowledge that benefit them. Consequently they become a trusted source of knowledge in their communities. Since, the results in this study indicate that expected contribution has negative impact, in fact, this is attributed to the implementation of job localization. Organizations operating in the same context in order to enhance individuals' contribution to their communities, they should create organizational culture that promoting fairness, social equality, clear carrier bath and transparent recruitment and promotion procedures to mitigate the impact of job insecurity. The expected support denotes the influence of coworkers on employees' opinions and attitudes towards their work through the utilization of coworkers' experiences and knowledge to learn and accomplish tasks. The organization can foster that through task-direct helping, coworker mentorship and on job training.

Conclusion

The importance of community of practice stems from its benefits that can be gained from the promotion of knowledge at individuals' and organizational level. Since, individuals' participation in their informal networks can help them to progress in their tasks, expand career prospects, streamlining their works and strengthen their relationships with others in the organization. Managing individuals' participation in the community of practice is not an easy task. As management cannot dictate the intensity of communication, its pattern and the type of knowledge exchanged. The difficulty of managing such of these behaviors is centered around the lack of understanding of the impact of personal benefits that encourage them to build their community of practice and participate in it. While, these communities are primarily formed by individuals to satisfy their needs of learning and knowledge reciprocation, either providing or acquiring knowledge. The organization can create an environment that facilitating social gathering, where individuals can interact with others to gain benefits from their interaction In fact, it has been identified in this study that individuals' outcome expectations has significant impact on individuals' participation in the community of practice. However, based on the results, the causal relationships between independent and dependent variables may vary according to the mediating role of the contextual factors such as job localization. The contribution of this study to the literature is through demonstrating that community of practice is socially constructed, where individuals' participation is based on benefit-related outcome. They participate in the community of practice to gain intrinsic return in the form of help, feeling of belongingness and confidence in their abilities. Whereas, the provision of these returns are not subjected to the rules and procedures of organization, as they are tied to individuals' participation with other members in the organizations.

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DOI: https://doi.org/10.34069/AI/2023.68.08.16

How to Cite:

Gudz, P., Gudz, M., Bezkhlibna, A., Zaytseva, V., & Brutman, A. (2023). Ensuring the competitiveness of the coastal region based on the study of the impact of cluster analysis results on the development of tourism in the conditions of the regenerative ecosystem. *Amazonia Investiga*, *12*(68), 172-183. https://doi.org/10.34069/AI/2023.68.08.16

Ensuring the competitiveness of the coastal region based on the study of the impact of cluster analysis results on the development of tourism in the conditions of the regenerative ecosystem

Забезпечення конкурентоспроможності приморського регіону на основі дослідження впливу результатів кластерного аналізу на розвиток туризму в умовах відновлювальної екосистеми

Received: July 1, 2023 Accepted: August 28, 2023

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Abstract

The purpose of the study is to determine the indicators' influence of regenerative ecosystem competitiveness cluster analysis on the development of tourism in the coastal region.
The method of cluster analysis allowed analyzing the Ukrainian region competitiveness in their territories' distinguishing with similar indicators in social and economic development. This method was applied in the assessment process of the Ukrainian coastal region's competitiveness, which has direct territorial access to the sea. This grouping covered indicators from various industries, selected basically on an understanding of the constituent elements of competitiveness such as tourism, production, infrastructure, demography and local finances. It was considered on the basis of a

Анотація

Мета дослідження - визначити вплив на основі результатів кластерного аналізу конкурентоспроможності на розвиток туризму в приморських регіонах в умовах відновлювальної екосистеми.
Метод кластерного аналізу дозволив проаналізувати конкурентоспроможність регіонів України, що базується на подібності показників соціального та економічного розвитку. Цей метод застосовувався в процесі оцінювання конкурентоспроможності приморських регіонів України, що мають прямий територіальний доступ до моря. Проведене групування охоплювало показники різних галузей, вибраних в основному на розумінні складових елементів конкурентоспроможності, таких як туризм,

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complex grouping of economic (business processes), social (human capital) and administrative-management (administration) indicators. This made it possible to reveal the similarity of the social and economic development of the coastal regions in dynamics, which have direct access to the sea and opportunities to conduct economic activities related to the maritime economy.
The cluster analysis results formed an appropriate informational and analytical justification for the guideline selection for the regional strategic policy of the regenerative ecosystems' competitive increasing as a basis for planning the actions of local authority bodies.

Keywords: region, region competitiveness, coastal regions, regenerative ecosystem, tourism development.

виробництво, інфраструктура, демографія та місцеві фінанси, що розглядалося на основі складного групування економічних (бізнес-процесів), соціальних (людського капіталу) та адміністративних (адміністраційних) показників. Це дало можливість виявити схожість соціального та економічного розвитку прибережних регіонів динаміки, які мають прямий доступ до моря та можливості проводити економічну діяльність, пов'язану з морською економікою.
Результати кластерного аналізу сформували відповідне інформаційне та аналітичне обгрунтування для вибору орієнтирів для регіональної стратегічної політики розвитку конкурентних відновлювальних екосистем як основи для планування дій для органів місцевої влади.

Ключові слова: регіон, конкурентоспроможність регіону, прибережні регіони, регенеративна екосистема, розвиток туризму.

Introduction

Decentralization process activation and current challenges require regions to search for advantages and disadvantages for competitive increasing at the local, the national and global levels. At the same time, it is important to observe the principles of sustainable development and preserve the balance of regional ecosystems, which is a prerequisite for balance at the national level. One of the most essential structural units is the coastal regions, which have significant advantages and create prerequisites for the balance of ecosystems. This affects the development of the tourism industry, which determines the prospects for development and forms the prerequisites for the intensive development of the regional ecosystem. After all, it is tourism that identifies the level of use of regional potential and determines additional opportunities for creating competitive advantages.

Moreover, the regenerative ecosystem competitiveness of the coastal regions is a prerequisite for the development of tourism, which in turn determines the future development prospects of the region. Cluster analysis, which is based on the selection and research of criteria and indicators, allows identifying structural units regarding the prospects of achieving a balanced regional ecosystem. This affects competitiveness and makes it possible to single out poles of growth. One of which for the coastal region is the tourism industry, which allows not only to identify potential opportunities but also to develop them in the future. This is due to the combination and synergy of human, natural, and other components of resource potential. Noted above actualizes the need to analyze the criteria and indicators of the cluster analysis of the regenerative ecosystem competitiveness of the coastal region. The purpose of the article is to study the results of the cluster analysis of indicators of the competitiveness of the region for tourism under the condition of ecosystem development of the coastal region

Theoretical Framework or Literature Review

The study of the competitiveness of the coastal region allows for an empirical analysis of factors that influence the development of tourism business in the context of ecosystem development (Zhu et al., 2014; Conner, 2009; Filonich & Prachenko, 2007: Huang et al., 2017; Romanko, 2015) Since tourism business changes as a result of external factors, it may be a flexible system that needs definitions and development threats (Budeanu, 2016).

The choice of methodological approaches to the evaluation of regional competitiveness factors depends both on the purpose of the evaluation and on the geographic, natural-climatic, and economic features of the region's development (Huggins et al., 2013; Nazarov, 2022). Coastal regions, among others, distinguish features related to the geographical location along the coast of the sea, which affects the landscape, ground structure, temperature regime and weather in general, winds, vegetation, animal life

(Conner, 2009). Taking into account these features in the Use construction of the economic complex of the region allows you to use the specified features as competitive advantages that hinder the development of energy, tourism and recreation, sea transport (shipping), hotel and restaurant business, extraction of minerals from the sea shelf, aquaculture and fish production, etc. economy of the coastal region allows you to take into account changes in the development system (biological, economic, social, management system) in the overall development strategy of the region (Dominati et al, 2010; Hu, 2014; Rodríguez-López et al., 2019).

The continuation of previous research is urgent issues of the boundary expansion of strategic planning and forecasting of the regions of Ukraine. From the point of view of improving the relevant management activities at the city level (Pascal et al., 2023).

The issue of regional social, economic and ecological development is one of the main tasks of regional policy, especially in the context of the decentralization reform. It is the subject of research by several scientists. Scientists (Burkynskyi et al., 2021) offer different methodological approaches to assessing the balance of the regional ecosystem, the most common of which are sustainable models based on the transition from an integral indicator to a limited range of key indicators (results).

An important direction of research is conceptual and methodological approaches to assessing the regional economic development effectiveness and cooperation based on positive European and world experience, the introduction of relevant mechanisms and tools into the practice of managing the economic development of the regions of Ukraine (Burkynskyi, 2021).

The scientific research analysis made it possible to determine the shortcomings of existing approaches (Goryachuk & Osypov, 2022). These shortcomings include: integral indicators do not have a social and economic essence, the use of a significant number of indicators without highlighting key ones, and double accounting of indicators when calculating an integral indicator. Lack of assessment of trends in key indicators of development and assessments of development indicators in the context of threshold values, certain non-representative groups of indicators.

An important direction of research is the identification of indicators of the development of local territorial formations based on the definition of certain strategic approaches (Gonchenko et al., 2020), which are based on the development of the local area such as physical environment or business development, or human resource development, or local public initiatives in the context of the development of the tourist business of the seaside region.

Fundamental studies are science-based works on architecture and urban economic space planning, which allows for the integration of landscape, architectural construction, financial and economic, marketing, and digital components as a triangle. The triangle is power – business – public (Gudz et al., 2020a)

It is worth mentioning that an important direction of research is the formation of the foreign economic potential of the region as a factor in the competitive development of the territory. As well as the assessment of the competitive development of the region and the principles of realizing the foreign economic potential of the region (Gudz, 2020; Gudz et al., 2020b).

The use of cluster analysis to study the efficiency of enterprise activity has become widely used (Tkacheva, 2012). At the same time, it should be noted that the issue of choosing and applying the cluster method for assessing the competitiveness of coastal regions remains unexplored.

The specified topic is the subject of own research, which is the basis for continuing scientific research in a certain direction (Bezkhlibna, 2017; 2018; 2020; Koval et al., 2018).

Methodology

The research methodology is based on the application of cluster analysis, which allows us to create a multidimensional statistical model for grouping regions according to the similarity of their socioeconomic parameters. The use of analysis and synthesis, induction and deduction, as well as graphical methods summarizes the possibilities of grouping regions.

Within the framework of this Study, the above cluster analysis stages were supplemented and detailed. Based on them a cluster grouping technique was adapted to the analysis of the coastal areas' competitiveness. It was developed on the ecosystem approach. This technique involves sequential execution of the main procedures presented in Fig. 1. Each of the above stages plays a significant role when using the cluster method in the analysis of data on the social and economic competitiveness of the Ukrainian coastal regions.

According to the described algorithm for the grouping of the Ukrainian coastal regions, based on the cluster analysis of competitiveness, the main goal of the cluster grouping was determined at Stage1.The purpose of the cluster analysis of the competitiveness of the Ukrainian coastal regions based on the ecosystem approach is to conduct a further detailed study of individual groups of coastal regions and improve their development strategies as well as to identify the relationship between the level of ecosystem service development and rivalry.

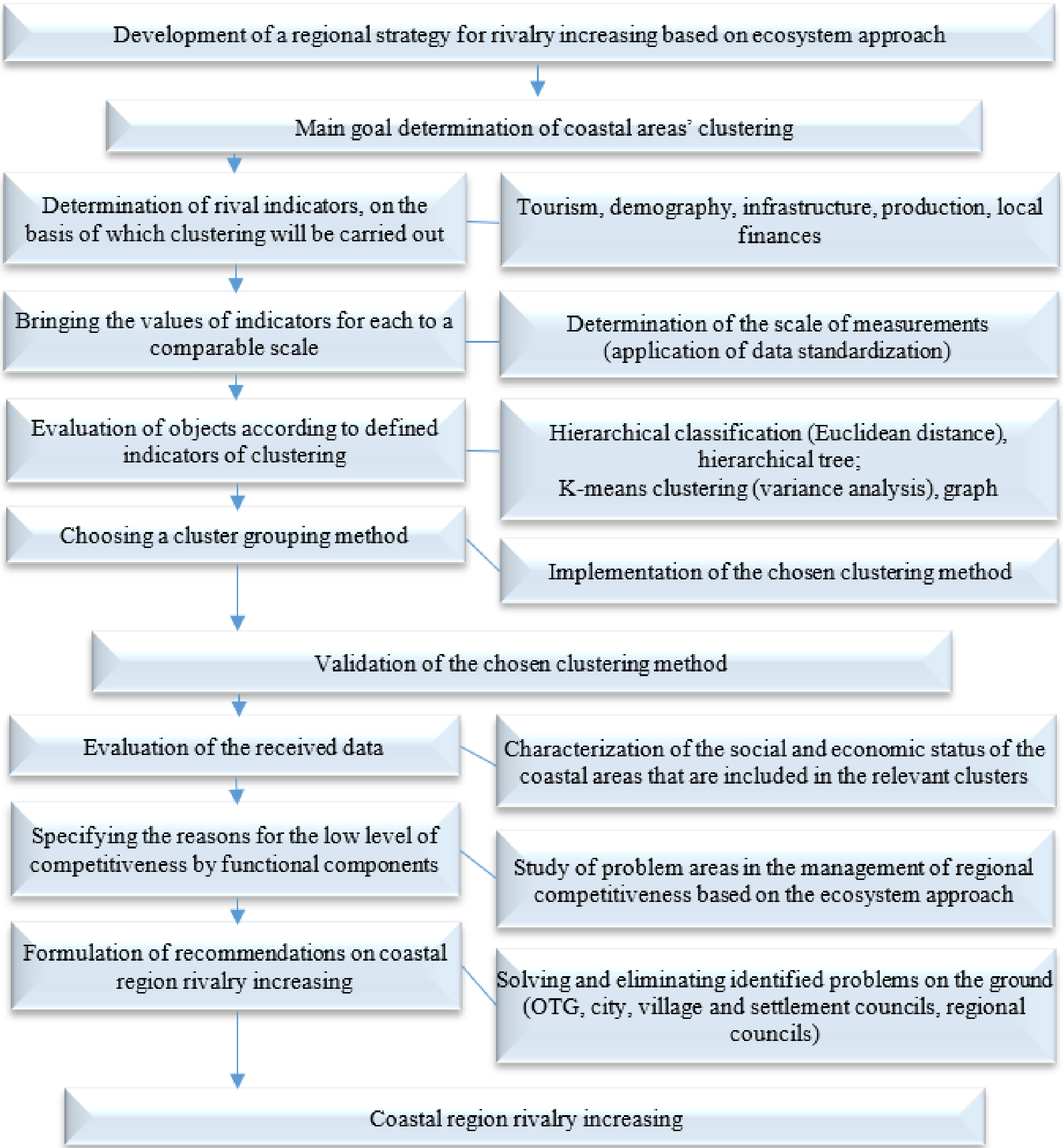

Fig. 1. Algorithm of cluster analysis of the coastal regions' competitiveness based on the ecosystem approach.
(Developed by author)

The selection of variables in cluster analysis is one of the most important stages in the research process.

To carry out the analysis, statistical indicators of the Primorie districts were taken as the source data in accordance with the requests sent to the regional statistical services and data from the official websites of city, village and settlement councils. Primorie districts (including cities of regional importance), for which the analysis was carried out:

1. Zaporozhzhia region - Melitopol district (including the city of Melitopol); Berdyansk district (including the city of Berdyansk);
2. Mykolaiv region - Mykolaiv district (including the city of Mykolaiv, the city of Ochakiv);
3. Odesa region - Odesa district (incl. Odesa, Yuzhne, Chernomorsk), Izmail district (incl. Izmail), Bilhorod-Dnistrovsky district (incl. Bilhorod-Dnistrovskyi);
4. Kherson region – Henicheskyi district, Kakhovskyi district (incl. Kakhovka city, Nova Kakhovka city), Skadovsk district (incl. Gola Prystan city).

The criterion for selecting indicators (factors) was group selection, the essence of which consists in choosing a set of factors, for their further grouping according to 5 socio-economic subsystems and three blocks of elements of competitiveness (table 1). This group of subsystems provides a multidimensional picture of the competitiveness of the socio-economic situation of the coastal regions, taking into account the ecosystem component of development for 2019 and 2020. The analysis of indicators by functional components will allow for a more detailed investigation of problem areas in management (organization) to solve and eliminate identified problems and identify areas with similar social and economic and ecosystem development. Further justification of the need to create coastal area clusters on an ecosystem basis.

Table 1.
Selected factors for the cluster analysis of the coastal areas' competitiveness of on an ecosystem basis.

Connection with elements of competitiveness	A group of factors	The strength of the selected factor	Indexes	Unit measurement
Business processes	Tourism	Recreational services as a type of ecosystem services	The number of means of accommodation	Unit
			Number of tourists served by tour operators and tour agents	Wasp
			The cost of tourist vouchers sold by travel agents. and law wasps	One thous. Hrv.
	Production		Use of electricity	Thous. kWh
			Cargo handling of ports	million tons
	Infrastructure	Opportunities for the development of the region and increase in types of ecosystem services	The total area of residential buildings put into operation,	m²
			Freight traffic of road transport	Thous. tkm
			Transportation of passengers by road transport	Thous. wasps
Human capital	Demography	Population as an active member of the ecosystem	Number of live births	Wasp
			The number of permanent population,	Wasp
			Number of dead,	Wasp
Administration	Local finance	Provision of coastal areas	Territory budgets per inhabitant	One thous. hrv. for 1 person

(Design and Calculated by the author)

In cluster analysis, the poly ethical principle of group formation is used – all characteristics simultaneously participate in the grouping, that is, they are taken into account at the same time when assigning an object to one or another group. At the same time, as a rule, clear boundaries for each group are not indicated, and it is also not known in advance how many groups it is appropriate to distinguish in the studied population (Tkacheva, 2012).

Since all algorithms used in cluster analysis require the estimation of distances between clusters or objects, it is necessary to set the measurement scale. The selected indicators use different types of scales and units of measurement that need to be standardized.

At the first stage, "natural" clusters are formed, which can be substantiated for the next analysis. Euclidean distance is defined as a measure of closeness.

The measure of closeness defined by the Euclidean distance is a geometric distance in n-dimensional space and is calculated as follows:

$$d(x,y) = \sqrt{\sum_{i=1}^{n}(x_i|-y_i)^2}$$

The most important result obtained as a result of tree-like clustering is a hierarchical tree (dendrogram) (Fig. 2-3). As soon as the peculiarity begins, the areas that are "closer" to each other are combined and form clusters. Each diagram node represents a union of two or more clusters. "Linkage distance" defines the distance at which the corresponding clusters were joined. All calculations were made using the Stat Soft Statistics software.

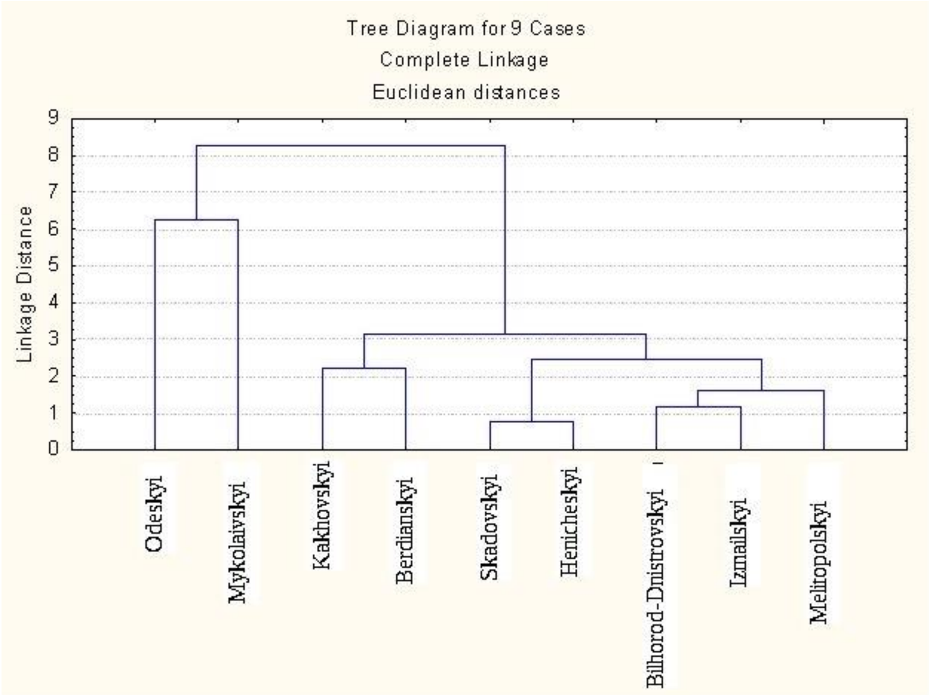

Fig. 2. The result of the hierarchical classification of the competitiveness of coastal areas based on the ecosystem approach in Euclidean distance, 2019.
(Design and Calculated by the author)

Describing the results of the hierarchical classification of the competitiveness of coastal regions based on the ecosystem approach in Euclidean distance for 2019 (Fig. 4.3), we can state that the coastal regions of Kherson (Skadovsk and Genichesk) and Odesa (Bilhorod-Dnistrovskyi, Izmail) regions are grouped into clusters at the first stages in Zaporizhzhia region, the unity of the indicators of the coastal districts is not observed. In the next step, Melitopol district joins Bilhorod-Dnistrovskyi and Izmailskyi. Berdyanskyi district is united with Kakhovskyi in a cluster at the second stage. The single coastal district of t Mykolaiv region is merging into a cluster with Odesa district on the 6th stage.

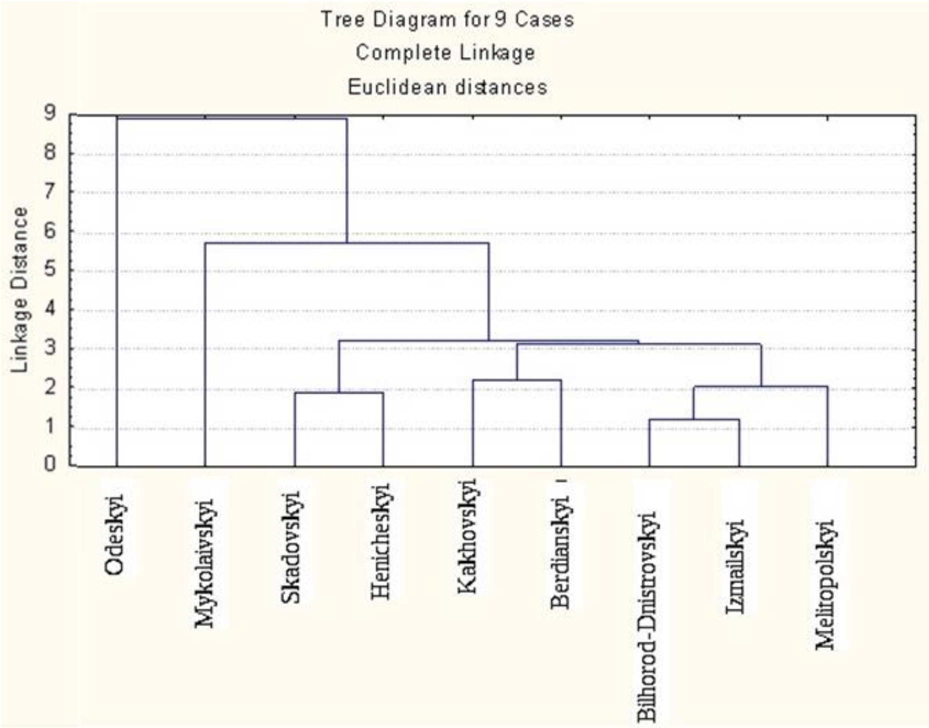

Fig. 3. The result of the hierarchical classification of the competitiveness of coastal areas based on the ecosystem approach in Euclidean distance, 2020.
(Design and Calculated by the author)

In 2020 (Fig. 3), there was a change in the cluster of Odesa and Mykolaiv districts. Odesa Primorie District shows separation from the cluster.

Based on the variance analysis, calculations shown in the table. 4.4-4.5, for further cluster analysis using the k-means method, it is recommended to use the statement about 4 natural clusters of coastal areas in 2019 and 5 natural clusters in 2020 (areas that are "closely in touch" with each other are determined).

This hypothesis can be tested using the k-means method, which consists in dividing the initial data into clusters (according to their indicators) and checking the significance of the differences between the obtained groups. The k-means method consists of the following: calculations begin with a selected number of observations, which are the centers of groups, after which the object composition of clusters is changed in order to minimize variability within clusters and maximize variability between clusters. Each subsequent observation refers to the group whose degree of similarity with the center of gravity is minimal. After changing the composition of the cluster, a new center of gravity is calculated, most often as a vector of averages for each parameter. The algorithm continues until the composition of the clusters stops changing. When the classification results are obtained, it is possible to calculate the average value of indicators by every cluster in order to assess their differences among themselves.

To determine the significance of the differences between the obtained clusters, the method of dispersion analysis was used for the years 2019-2020, the results are shown in the table. 2-3.

Table 2.
Results of dispersion analysis of the coastal area competitiveness based on the ecosystem approach, 2019

Variable	Between SS	df	Within SS	df	F	Signif. P
The number of means of accommodation	6.412684	3	1.587316	5	6.7333	0.033086
Number of tourists served by tour operators and tour agents	7.649793	3	0.350207	5	36.4061	0.000804
The cost of tourist vouchers sold by travel agents. and law firm	7.956594	3	0.043406	5	305.5138	0.000004
Number of live births	5.649137	3	2.350863	5	4.0050	0.084700
The number of permanent population	5.962384	3	2.037616	5	4.8769	0.060294
Number of dead	6.769487	3	1.230513	5	9.1689	0.017831
The total area of residential buildings put into operation	2.110977	3	5.889023	5	0.5974	0.643730
Freight traffic of road transport	6.907553	3	1.092447	5	10.5383	0.013334
Transportation of passengers by road transport	7.207160	3	0.792840	5	15.1505	0.006072
Use of electricity	2.633672	3	5.366328	5	0.8180	0.536980
Cargo handling of ports	5.904037	3	2.095963	5	4.6948	0.064494
Budget for 1 inhabitant	6.596971	3	1.403029	5	7.8366	0.024536

(Design and Calculated by the author)

When analyzing the results of variance analysis, it is necessary to pay attention to the value of the F-factor and the level of significance p (which should not be higher than 0.05). Criteria that do not satisfy this value are not significant for cluster analysis. According to the results of the dispersion analysis for 2019 (Table 4.4), it should be noted that most of the criteria for the competitiveness of coastal regions on an ecosystem basis meet the necessary criteria. The criteria for the number of live births, the size of the permanent population, the total area of residential buildings put into operation, the use of electricity and port cargo handling turned out to be unsatisfactory.

The results of the dispersion analysis for 2020 (Table 3) indicate that the factors of the number of accommodation facilities, the total area of residential buildings put into operation, the transportation of passengers by road transport and the budget for 1 pers. Residents are insignificant.

Table 3.
Results of dispersion analysis of the competitiveness of coastal areas based on the ecosystem approach, 2020.

Variable	Between SS	df	Within SS	Df	F	Signif. P
The number of means of accommodation	6.395218	4	1.604782	4	3,985	0.104575
Number of tourists served by tour operators and tour agents	7.701143	4	0.298857	4	25,769	0.004082
The cost of tourist vouchers sold by travel agents. and law firm	7.910597	4	0.089403	4	88,483	0.000372
Number of live births	7.958370	4	0.041630	4	191,168	0.000081
The number of permanent population	7.963274	4	0.036726	4	216,827	0.000063
Number of dead	7.924108	4	0.075892	4	104,413	0.000268
The total area of residential buildings put into operation	6.872725	4	1.127275	4	6,097	0.053971
Freight traffic of road transport	7.981885	4	0.018115	4	440,634	0.000015
Transportation of passengers by road transport	6.712155	4	1.287845	4	5,212	0.069401
Use of electricity	7.558876	4	0.441124	4	17,135	0.008786
Cargo handling of ports	7.994830	4	0.005170	4	1546,285	0.000001
Budget for 1 person. resident	5.876263	4	2.123737	4	2,767	0.174002

Calculated by the author

The cluster analysis made it possible to combine coastal regions similar in terms of competitiveness criteria, taking into account the fact that the criteria of significance changed, the picture of the combination in 2019 and 2020 is similar. Table 4 shows which of districts form clusters based on the calculation results in 2019 and 2020.

Table 4.
Selection of clusters using the k-means method

2019		2020	
Storage	Distance	Storage	Distance
Cluster 1		**Cluster 1**	
Berdyanskyi	0.321074	Berdyanskyi	0.320767
Kakhovskyi	0.321074	Kakhovskyi	0.320767
Cluster 2		**Cluster 2**	
Henicheskyi	0.112770	Henicheskyi	0.271624
Skadovskyi	0.112770	Skadovskyi	0.271624
Cluster 3		**Cluster 3**	
Melitopolskyi	0.262006	Melitopolskyi	0.347028
Izmailskyi	0.243035	Izmailskayi	0.276637
Belgorod-Dnistrovskyi	0.180436	Belgorod-Dnistrovskyi	0.213497
Cluster 4		**Cluster 4**	
Odesa	0.902242	Odesa	0
Mykolaivskyi	0.902242	**Cluster 5**	
		Mykolaivskyi	0

Calculated by the author

It is vivid that the composition of clusters 1, 2, and 3 does not change during 2019-2020, changes occurred in cluster 4 – in 2020, Odesa and Mykolaiv districts were separated. Each group of districts was selected according to clustering parameters for comparison with the results of the multidimensional grouping of districts according to selected indicators of ecosystem-based competitiveness. The generalization of the results made it possible to state that economic, demographic, social, and foreign economic, indicators of the development of tourism, infrastructure, and production. These indicators have a significant impact on the grouping of coastal areas according to indicators of competitiveness. Indicators of competitiveness included satisfaction of the needs of residents, improvement of their well-being.

At the next stage of cluster analysis, we will analyze the average values of the variable clusters of the coastal regions in 2019 and 2020 (Fig. 4, 5).

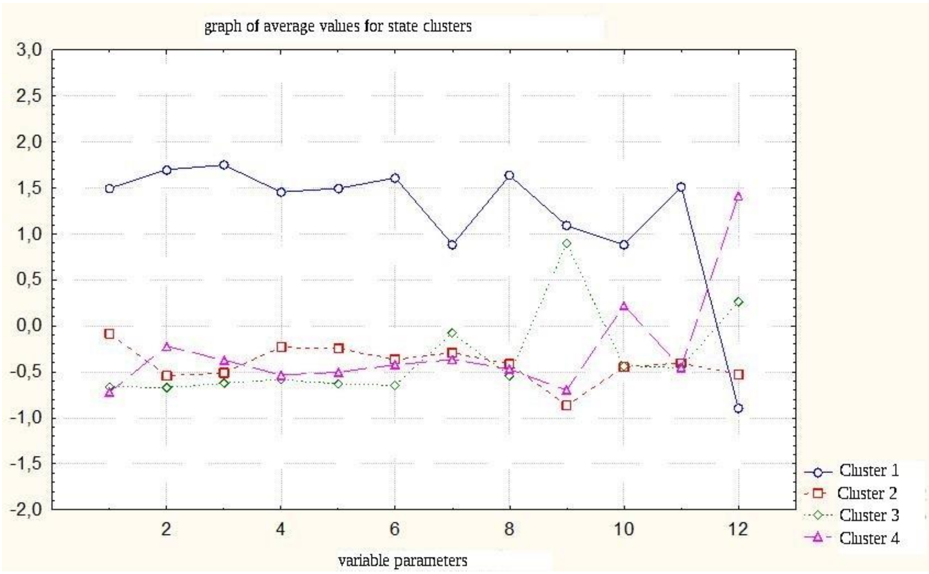

Fig. 4. Graph of average values of coastal district clusters 2019.

Results and Discussion

According to the data of the analysis, it should be noted that the first cluster (Berdyanskyi and Kakhovskyi districts) is characterized by high values of all indicators, compared to other clusters, except for the territory budget indicator per 1 inhabitant. It shows the effective development of the components of the competitiveness of the coastalregions, provided that the funding is the lowest, compared to other coastal regions.

Clusters 2, 3, and 4 are characterized by close average values of indicators that are lower than the average level. This indicator includes the number of accommodation facilities, the number of tourists served by tour operators and tour agents, and the cost of travel packages sold by travel agents. It also includes the number of live births, the number of permanent residents, and the number of deaths. The total area of residential buildings put into operation, traffic of road transport, cargo handling of ports. The above-mentioned average indicators of the clusters testify to similar problems of regional development, which require management efforts of a corrective nature on the part of the regional and national authorities. It is clearly shown that Melitopol, Izmail, and Bilhorod-Dniestrovskyi districts are characterized by average indicators of clusters that are lower than the average level. However, Genichesky and Skadovskyi districts are characterized by high average indicators of passenger transportation by on-land transport and the territory's budget per 1 inhabitant. Electricity consumption and territory budget per one inhabitant is average for Odesa and Mykolaiv districts.

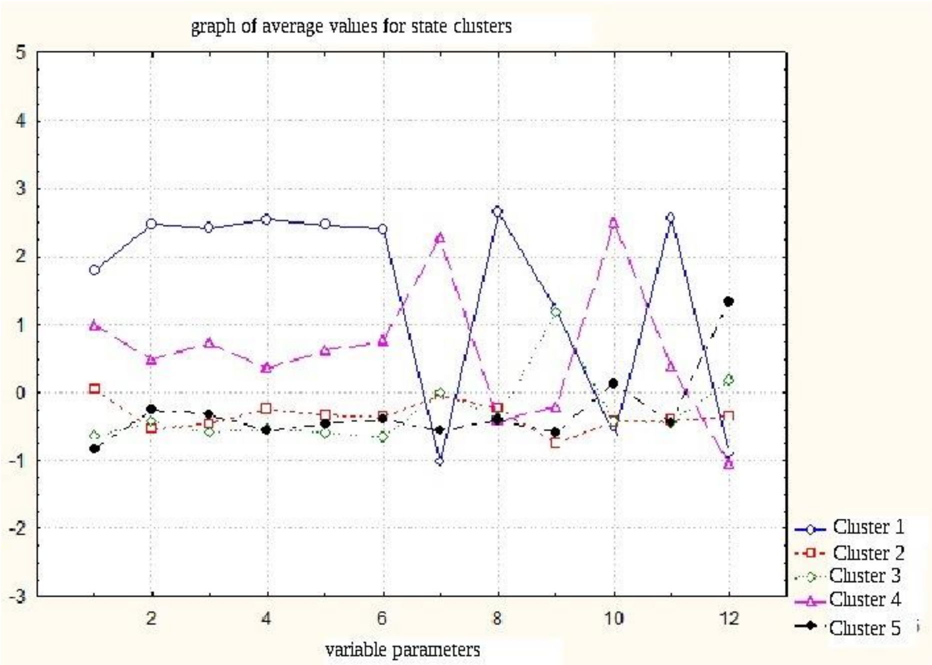

Fig. 5. Graph of average values of clusters of seaside regions, 2020

According to the analysis of the average values of the indicators of the clusters of the seaside districts for the year 2020. It should be noted that the first cluster has an overwhelmingly larger number of indicators that are higher than the average level. The first cluster has an overwhelmingly larger number of indicators that are higher than the average level (Berdyanskyi and Kakhovskyi districts). The first cluster is characterized by high values of all indicators, compared to other clusters, in addition to indicators of the total area of residential buildings put into operation, electricity use, and the budget of territories per 1 inhabitant. It shows the effective development of the components of the coastal region competitiveness and the implementation of energy efficiency measures under the condition of financing, which is the lowest compared to other coastal regions.

Cluster 4, which the Odesa district belongs to, has favorable starting conditions for the development of the coastal region ecosystems. At the same time it has the above-average indicators: the number of accommodation facilities; the number of tourists served by tour operators and tour agents; the cost of travel packages sold by travel agents; the number of live births; the number of permanent population; the number of dead. And it has the highest average indicators of the total area of residential buildings put into operation and the use of electricity. The data of the study help to distinguish the Odesa coastal district from others into a separate cluster characterized by active tourist activity and the construction of new housing. It is recommended to pay attention to increasing the energy efficiency of production and advanced technologies regarding the use of alternative energy sources.

Low indicators of road freight traffic, road passenger transportation, and the territory's budget per inhabitant indicate the need to improve road logistics and infrastructure.

Clusters 3, 4, and 5 are characterized by close average values of indicators that are lower than the average level. This is the number of accommodation facilities; the number of tourists served by tour operators and tour agents; the cost of travel packages sold by travel agents; the number of live births; the number of permanent population; the number of dead; the total area of residential buildings put into operation; traffic of road transport; use of electricity; cargo processing of ports. The above-mentioned average indicators of the clusters testify to similar problems of regional development. These issues are related to the development of tourism, increase in economic activity in the region, adjustment of the demographic situation, and development of transport infrastructure and logistics (road and river transport).

Clearly shown that it is typical for Henicheskyi and Skadovskyi districts that all the average indicators of the clusters are lower than the average level. However, Melitopol, Izmail, and Bilhorod-Dniester districts are characterized by above-average indicators of passenger transportation by road transport and the territory's budget per inhabitant. The indicators are lower for Mykolaiv district. It is only for the budget territory per 1 inhabitant.

Conclusions

The results of the conducted research made it possible to determine the influence of cluster analysis indicators of regenerative ecosystem competitiveness on the development of tourism in the coastal region. After all, tourism is one of the poles of growth for the region and determines the prospects for its development. After all, revitalizing the development of the tourism industry creates competitive advantages and makes it possible to achieve a balanced ecosystem. Thus, the selected criteria and indicators for cluster analysis correlate with the understanding of the components of the competitiveness of the coastal region described. The methodical approach to assessing the competitiveness of the coastal region is substantiated. The indicators form a certain basis for the complex grouping of economic (business processes), social (human capital), and administrative-management (administration) indicators. These indicators make it possible to identify the similarity (in dynamics) of the socio-economic development of the districts of the coastal regions, which have direct access to the sea and opportunities to conduct economic activities related to the maritime economy.

The results of the research show that the method of cluster analysis is carried out according to the criteria of indicators of the competitiveness of coastal regions on an ecosystem basis. This method allows expanding the framework of ideas about the state and possibilities of clustering of coastal regions. In addition, the cluster approach provides an appropriate informational and analytical justification for the selection of guidelines for the strategy of the regional policy of increasing the competitiveness of regenerative ecosystems. It can be used as a basis for planning the actions of local self-government bodies.

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DOI: https://doi.org/10.34069/AI/2023.68.08.17

How to Cite:

Verbivska, L., Abramova, M., Gudz, M., Lyfar, V., & Khilukha, O. (2023). Digitalization of the Ukrainian economy during a state of war is a necessity of the time. *Amazonia Investiga*, *12*(68), 184-194. https://doi.org/10.34069/AI/2023.68.08.17

Digitalization of the Ukrainian economy during a state of war is a necessity of the time

La digitalización de la economía ucraniana en estado de guerra es una necesidad del momento

Received: July 25, 2023 Accepted: August 29, 2023

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Abstract

This article explores the digital economy's importance for Ukraine's development, analyzing its current state, identifying digitization opportunities and threats, and assessing readiness for adopting digital technologies. The study employs a range of methods to assess the extent of development of Ukraine's digital economy. It examines global trends in digital transformation and evaluates Ukraine's digital resources and information infrastructure. The advantages and disadvantages of implementing digital technologies in the Ukrainian economy are identified. The study reveals that Ukraine lacks sufficient digital resources compared to other European countries. However, it highlights the country's active efforts in developing its information infrastructure and emphasizes the importance of digitization for economic growth. The research identifies the main prerequisites for the global era of the digital economy and establishes the significance of information and communication technologies for

Resumen

Este artículo explora la importancia de la economía digital para el desarrollo de Ucrania, analizando su estado actual, identificando las oportunidades y amenazas de la digitalización y evaluando la preparación para adoptar tecnologías digitales. La investigación utiliza varios métodos para determinar el nivel de formación de la economía digital de Ucrania. Examina las tendencias mundiales en transformación digital y evalúa los recursos digitales y la infraestructura de información de Ucrania. Se identifican las ventajas y desventajas de la implantación de las tecnologías digitales en la economía ucraniana. El estudio revela que Ucrania carece de recursos digitales suficientes en comparación con otros países europeos. Sin embargo, destaca los esfuerzos activos del país en el desarrollo de su infraestructura de información y subraya la importancia de la digitalización para el crecimiento económico. La investigación identifica los principales requisitos previos para la era global de la economía digital y establece la importancia de

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economic development and people's well-being. Conclusion: Based on the analysis of Ukraine's digital economy, the study concludes that digitization should be a priority direction for the country. It proposes key measures for effectively utilizing innovative technologies and stimulating the development of the Ukrainian digital economy in the "digital era." Expediting the advancement of the Ukrainian economy in the realm of innovative technologies is considered essential for its future progress and well-being.

Keywords: digitalization, digital economy, European integration process, digital technologies, digital transformation.

las tecnologías de la información y la comunicación para el desarrollo económico y el bienestar de las personas. Conclusiones: Basándose en el análisis de la economía digital de Ucrania, el estudio concluye que la digitalización debe ser una dirección prioritaria para el país. Propone medidas clave para utilizar eficazmente las tecnologías innovadoras y estimular el desarrollo de la economía digital ucraniana en la "era digital". Acelerar el desarrollo de la economía ucraniana en el ámbito de las tecnologías innovadoras se considera crucial para su crecimiento y prosperidad futuros.

Palabras clave: digitalización, economía digital, proceso de integración europea, tecnologías digitales, transformación digital.

Introduction

In an era marked by the rapid proliferation of information and communication digital technologies, their role in economic growth and social development is undeniable. The worldwide adoption of these technologies has been swift, although some regions, such as Ukraine, have experienced a slower pace of integration compared to highly developed countries. As we delve into this study, we will explore the imperative need to strengthen the application of digital technologies in various aspects of production and social life, with a particular focus on the economic sphere (Order No. 67-p, 2018). Notably, Ukraine stands as the sole European nation lacking sufficient digital resources for a complete transformation into a digital economy platform. This lag can be attributed, in part, to the ongoing full-scale war that continually strains the nation's economy and impedes its transition to a new digital era.

Therefore, the relevance of our research is centered around shedding light on the contemporary aspects of the formation of Ukraine's domestic digital economy. We aim to analyze the main trends and explore the potential for its development on the path to Eurointegration. In this endeavor, we will address the following research questions:

Research Questions:

To what extent has Ukraine embraced digital technologies in various sectors of its economy and society?

What are the primary challenges and barriers hindering Ukraine's digital transformation?

What steps should Ukraine take to ensure a seamless process of digitalizing its economy and addressing the challenges it faces in this endeavor?

Methodology

The following methods are used in the process of researching the digitization of economic processes in Ukraine:

- **Economic-statistical method**. This method is based on processing a large amount of statistical and empirical data. In the context of military conflict, it is essential to collect and analyze data on the state of the economy before, during, and after the conflict. This allows for identifying shifts and changes in economic processes, as well as identifying potential sources of instability or new opportunities for digitization. The present article includes processed data on the implementation of certain stages of digitization starting from 2016 up to the present day.
- **Thematic method.** This method allows for in-depth study of specific elements of the researched phenomenon. In the context of researching the digitization of economic processes, it is crucial to focus on key sectors that can benefit the most from digital technologies during the conflict. The article analyzes the most essential projects during the state of war, including services for internally displaced persons, payment services, job searches, digital literacy enhancement, and many others.
- **Schematic method.** The use of diagrams and graphs helps visualize complex

researched phenomena, processes, and laws. In the context of studying the digitization of the economy, diagrams can help identify relationships between economic factors and the impact of digital innovations on economic development. The article schematically presents theoretical approaches to understanding the concept of "digitization" of the economy, the directions of project financing under the "Digital Europe" program, the implementation of digital technologies, and their impact on Ukraine's GDP by 2030, as well as the prospects of digitizing the Ukrainian economy from 2021 to 2030.

- **Methods of analysis, synthesis, and comparison**. These methods allow for a detailed study of the researched phenomenon through the analysis of its key elements, consideration of the synergistic effect between digital technologies and economic processes, and comparison of achievements and challenges of digitization in Ukraine with other countries. The article analyzes Ukraine's position on digitization among European countries, the main challenges in improving the digitization process, and the necessary steps to improve Ukraine's ranking among European countries.

The use of these research methods allows for obtaining a systematic and analytical understanding of the digitization of the economy in the conditions of military conflict in Ukraine. Such an approach helps to comprehend which sectors may be particularly vulnerable and, conversely, which sectors may have opportunities for accelerated development through the implementation of digital innovations.

Theoretical Framework or Literature Review

The primary trajectory in the evolution of contemporary society is the digitization of all its spheres (Okhrimenko et al., 2019). Modern information technologies are an integral part of our lives and constantly influence various economic, social, technical, and managerial systems (Plakhotnik & Pavlenko, 2022; Order No. 67-p, 2018).

The processes of digitization play a vital role in the development of economic activity and the security of national economies (Rudenko, 2018; Tokar, 2022); Miethlich et al., 2020). As a result, the establishment and rapid development of the digital economy, characterized by the comprehensive implementation and application of new information technologies in all areas of economic life, are global trends in the development of the world economy (Yanenkova, 2017; Dovgal & Makhova, 2020; Tokar et al., 2023; Kasianova, et al., 2020). Modern scientific literature defines digitization as an integral component of the contemporary global economy, which contributes to more rational resource management (Borblik, 2022), optimization of business management models (Bushman, 2021), and structural changes (Hlazova, 2021). A collective of researchers underlines that digital transformation is a natural process of societal and business development (Riabov & Riabova, 2021; Zhavoronok et al., 2022; Hlazova, 2021; Vdovichena et al., 2022). This evolutionary stage is unique as it eliminates barriers and globalizes the market. Success or failure in this so-called race will divide the world into two classes: conscious leader countries that create values and innovations shaping the future, and countries that lag in civilization (Dorosh-Kizym et al., 2020). According to Yanenkova (2017), the basis for successful integration into global value chains lies in developed innovative ecosystems of high-tech industries, which can serve as a foundation for advanced sectoral and regional clusters, and where deeper smart specialization takes place.

A similar view is held by Dovgal & Makhova (2020), noting that there is a direct link between the development of the digital economy in a country and the well-being of its population: without improved well-being, the real establishment of the digital economy becomes challenging, and without it, the growth of well-being becomes practically impossible.

Therefore, as emphasized by Bank (2021), the digital development of Ukraine plays a significant role in accelerating the country's economic and social development, directing its economic and innovative potential toward international competitiveness and increasing the efficiency of the Ukrainian industry.

The establishment of the digital economy can be seen as an attractor, a gravity point in the trajectory of the country's economic development. Unfortunately, Ukraine currently lacks a unified view on the transition to the digital economy (Mosiichuk & Poita, 2020), which is the main reason for the divergence of efforts and low effectiveness in the country's digital sphere (Novikova, Diachenko, & Holovnia, 2022). Researchers note that Ukraine, with significant IT potential, is operating below its digital capabilities (Spivakovskyy et al., 2021). The measures outlined in the adopted concepts lay the foundation for digital transformation aimed at digitizing business processes (Viknianska et al., 2021). It's crucial to acknowledge that the advancement of digital technologies is inexorable in today's world, and the level of effectiveness and the future we'll inhabit largely hinge on our choices and actions. A group of researchers led by Novak et al. (2020) emphasizes that the implementation of digital technologies requires Ukrainian policymakers and public figures to apply economic, production, and social mechanisms aimed at supporting precise digital development, preparing qualified specialists with up-to-date knowledge, and creating a favorable atmosphere for the development of domestic digitization. Despite this, a significant number of problems regarding the further development of the digital economy remain insufficiently studied. The dynamic development in the field of digital innovations requires regular research and the development of more advanced methods to accelerate their implementation into the national economy.

Results and Discussion

To what extent has Ukraine embraced digital technologies in various sectors of its economy and society?

The digital economy, as a key feature of modern times, influences all spheres of social life. As a global economic trend, digitization has varying effects on these spheres, but the extent of its impact on a country's economic and social environment determines its position in the international community. The process of digitization not only plays an important role in the social and economic development of a country but also helps channel innovation potential in the right direction and establish competitiveness in the global market (Sokolovska, 2020). Digital technologies form the basis of a circular economy. By a closed-loop economy, we mean the secondary, nonlinear, closed utilization of all available material and natural resources to ensure production and consumption without losing the accessibility of goods and services developed through innovation and the use of information technologies (Ladonko et al., 2022). The systematic combination of digital technologies provides the greatest economic effect in the practical application across various sectors of social production, ranging from industry to various service sectors (Plakhotnik & Pavlenko, 2022). The term "digital economy" was first used in 1995 by American scientist Nicholas Negroponte from the Massachusetts Institute of Technology, who described the advantages of utilizing new information and communication technologies as a factor in shaping a new economy (Rudenko, 2018). To establish the fundamental prerequisites for the effective integration of digitization into the economy, it is imperative to precisely articulate its essence and fundamental components. It's worth noting that a universally accepted interpretation of the term "digitalization of the economy" within economic theory is currently lacking (Borblik, 2022). An analysis of theoretical developments has allowed for the systematization of theoretical approaches to defining the concept of the digitization of the economy (Table 1).

Table 1.
Theoretical approaches to defining the concept of economic digitalization

Name of the approach	Essence of interpretation
Time-space	A catalyst for worldwide economic expansion with the goal of hastening economic progress, enhancing the efficiency of established sectors, fostering the emergence of fresh markets and industries, and realizing inclusive, sustainable growth. A new type of economy based on knowledge and digital technologies that creates new digital skills and opportunities for society, business, and the country.
Functional	The utilization of digital information technologies for the consumption of goods and services, including e-government and online commerce, among others.
Communicative	This type of economic activity emerges as a consequence of countless network connections among individuals, companies, devices, data, and operations. At its core, this phenomenon relies on hyperconnectivity, characterized by the increasing interlinking of individuals, organizations, and machines, driven by the Internet and mobile technologies.
Processual	The development of a technology-driven system aimed at generating additional income streams and broadening the horizons of economic possibilities for a business entity. The proactive incorporation and real-world utilization of digital technologies for gathering, processing, storing, converting, and transmitting information across all domains of human endeavor.
Systematic	A process or ecosystem that encompasses the comprehensive conversion of all sectors of economic activity into a digital economy in its broadest interpretation.

Source: (Borblik, 2022; Ministry of Electronics and Information Technology, 2021).

When systematizing the perspectives on comprehending the core of economic digitalization, it's crucial to recognize that the temporal and spatial approach regards it as a phase within the evolution of the global economy. The functional approach delves into the essence of economic digitalization by emphasizing the content and crucial activities conducted in establishing an economic framework via the Internet. Meanwhile, the communicative approach uncovers economic digitalization as the process of interaction among diverse business entities. The processual approach centers on the immediate transformation of the economic system. Lastly, the systematic approach conceives the digitalization of the economy as a unified system composed of interconnected components (Sokolovska, 2020).

Hlazova (2021) states that digitalization of the economy allows:

- improving business processes in the country;
- creating new products and services using Internet technologies, cloud services, virtual reality, and artificial intelligence;
- reducing costs by minimizing personnel through automation and robotization of business processes;
- offering completely new business solutions: peer-to-peer systems, modern insurance models, mobile educational applications, alternatives to banking services, personalized advertising, and individual targeting for online shoppers.

Before the adoption of the Concept, Ukraine had introduced the Digital Agenda in 2016, with the goal of endorsing key areas, initiatives, and digitization projects until 2020, aligning with the Europe 2020 Strategy to enhance opportunities for Ukraine's development in partnership with the EU. This document outlined the foundational principles for advancing Ukraine's digital landscape on a national scale and laid the groundwork for the growth of the digital economy (Ministry of Economic Development and Trade of Ukraine, 2020).

According to Yanovska et al. (2019), the main statements of this document were the following:

- every citizen has the right to access digital technologies, the Internet of Knowledge;
- digital technologies should become a tool for achieving certain development goals of various sectors of the national economy;
- the possibility of additional investment attraction;
- creation of predominantly Ukrainian content to meet national needs, which will contribute to the development of not only the economy but also social and cultural development;
- Ukraine's integration into the global and European communication system;
- the need to create digitalization standards that will increase competition and reduce costs and production costs;
- compliance with international standards in the financial sector;
- avoiding the orientation of the digital economy exclusively in private business;
- ensuring cybersecurity measures at the state level;
- protecting the rights of Internet consumers;
- the government should play a key role in preparing, developing, and promoting national digital strategies.

Over the next few years, the Ministry and Council of Digital Transformation developed a series of projects that became particularly important in COVID-19 and during the state of war in Ukraine (Plakhotnik & Pavlenko, 2022). Among the projects presented were e-School, e-Notary, e-Social Protection, e-Property, e-Permit, and many others. Additionally, an important step in this direction was the adoption of the Law on March 30, 2021, "On Amendments to the Law of Ukraine 'On the Unified State Demographic Register and Documents Confirming the Citizenship of Ukraine, Identifying a Person or Their Special Status'.

In the context of war, the issue of migration at the national level has also become particularly relevant. In Ukraine, by October 30, 2022, more than 7 million Ukrainians were internally dislocated due to the war. More than a million of them are children. Although 60% of the territory of Zaporizhzhia region was occupied during the Russian military invasion, the city of Zaporizhzhia nevertheless remains a humanitarian hub for internally displaced persons (IDPs) from Zaporizhzhia, Donetsk, Kharkiv, Sumy, Kherson and other regions of Ukraine (Plakhotnik & Pavlenko, 2022).

The Ministry of Digital Transformation has developed new government services for internally displaced persons (IDPs) on the unified "Diia" portal. Among these services are services related to registration, payments, job search, business registration, obtaining candidate status for adoption, family creation, childbirth, and improving digital literacy through educational mini-series, and many others (Zhavoronok et al., 2022). The next area of activity is countering the aggressor in cyberspace, which is referred to as the "fifth theater" of military operations. In the conditions of a large-scale war with Russia, Ukraine is repelling constant aggression and paying attention to its cybersecurity. Projects related to this include CryptoFund, IT Army, Starlink, digital blockade, and others. Since March 2022, the Ministry of Digital Transformation has identified three key directions of activity for its team: firstly, utilizing Ukraine's IT Army to counter invaders in cyberspace; secondly, exerting sanction pressure on Western companies; and thirdly, developing new products.

The most powerful volunteer team, consisting of over 300,000 individuals, has been created to unite for Ukraine's victory in cyberspace. Activists have been engaged in further attacks on the enemy's state and private resources. It is also worth noting that military bonds have been issued to support the Armed Forces of Ukraine and our economy. Ukraine actively cooperates with leading organizations to raise awareness of cybersecurity issues at all levels of commercial and non-profit entities (Plakhotnik & Pavlenko, 2022).

ISACA has opened a branch in Kyiv for the development of methodologies and standards in IT management, audit, and security. It provides advanced guidance to cybersecurity professionals, assisting organizations and experts in overcoming challenges in technology and information management, control, and facilitating the implementation of IT management processes (Tokar, 2022).

A subdivision called CERT-UA, the State Center for the Protection of Information and Telecommunication Systems, has also been established. It detects and responds to cyber incidents and ensures the mitigation of threats to both foreign and private sectors. It provides cybersecurity professionals with significant resources to assist them in information and technology management and control. Various educational programs in cybersecurity are also being introduced in higher education institutions (Bulkot, 2021). The third direction is the further development of the information technology industry, exporting its services, fulfilling contracts, generating foreign currency inflows, and supporting the domestic economy. Ukraine's status as a candidate country for EU membership and the opportunities provided within the "Digital Europe" program for financing various digitalization projects will contribute to the progressive development of the digital economy in the conditions of a state of war. The program mentioned contributes to the process of digitalization in European countries in various ways. In order to participate in the program, countries are required to make a contribution. However, the EU exempted Ukraine from paying the contribution for the year 2022 and provided a 95% discount on contributions for the years 2023-2027 (Plakhotnik & Pavlenko, 2022).

The project financing under the "Digital Europe" program operates in five main directions (Figure 1).

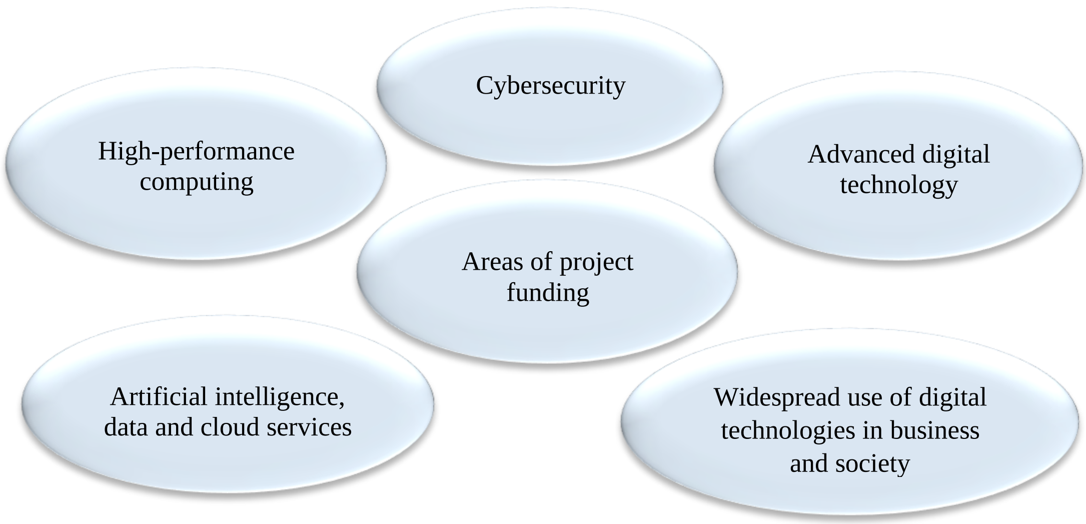

Figure 1. Main areas of project funding under the Digital Europe program
Source: created by the author based on (Plakhotnik & Pavlenko, 2022).

As per the Ukrainian Institute for the Future, the "Economic Strategy of Ukraine - 2030" outlines two potential paths for the growth of Ukraine's digital economy. These scenarios are contingent on the evaluation of the significance and urgency of implementing substantial changes in the conventional economy: the inertia (evolutionary) scenario and the target (compelled) scenario. (Ukrainian Institute of the Future, 2021). The inertia scenario foresees the persistence of historical patterns, encompassing the gradual adoption of technology, economic digitization, and human capital development. In this scenario, Ukraine's economy is expected to remain inefficient, labor migration will persist, and domestic production will struggle to maintain competitiveness in international markets. Conversely, the target scenario envisions a swift transformation of the Ukrainian economy over a 5-10 years period, with a substantial portion of the digital economy, accounting for up to 65% of GDP. Realizing a GDP of 1 trillion dollars is within Ukraine's reach, but it necessitates the integration of information technologies across all sectors of the economy (Ukrainian Institute of the Future, 2021).

Figure 2 shows that by 2030, digital products will account for 65% of the overall economy. However, to achieve this, the Ukrainian market needs to produce and consume information products worth 4 billion dollars by 2024, and by 2030, this figure is expected to reach approximately 16 billion dollars.

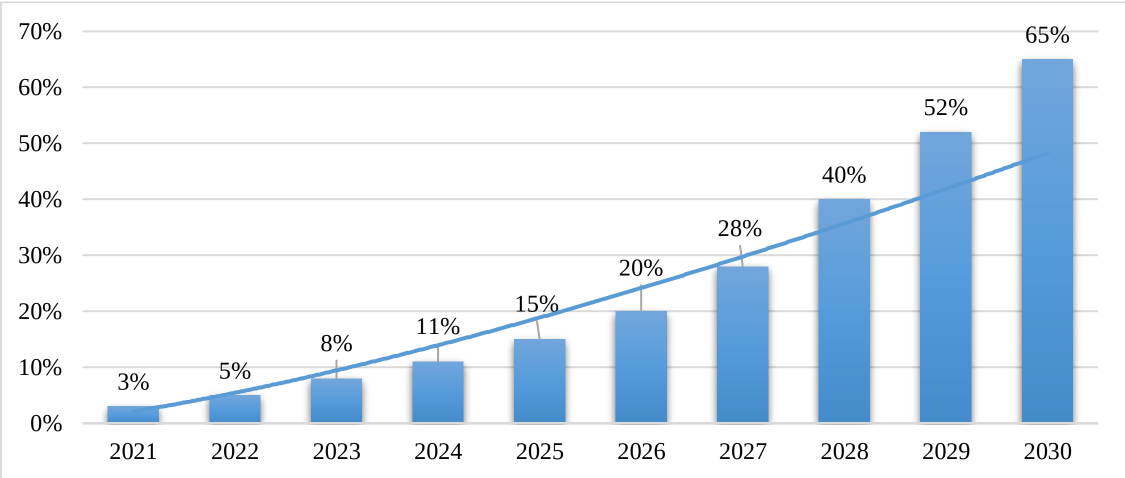

Figure 2. Adoption of digital technologies and their impact on Ukraine's GDP by 2030
Source: (Borblik, 2022; Ukrainian Institute of the Future, 2021).

According to the Ukrainian Institute of the Future (2021), to achieve this goal, it is necessary to invest SD 70 billion in digital technologies over the next ten years (Table 2)

Table 2.
Prospects for the digitalization of Ukraine's economy in 2021-2030

Indicators	2021	2025	2030	Total 2021-2030
Investments in digital infrastructure, USD billion.	0,7	3	6	16
Investments in the digitalization of business, manufacturing, and industry, USD billion.	1,5	5	14	70
Increase in productivity through digitalization, %.	1,1	1	13	
Additional GDP generated by digitalization, USD billion.	17	93	280	1 260
Additional GDP, %.	11	44	95	240
Number of new vacancies (excluding the export IT industry), thousand people	150	300	700	
Share of the digital economy in Ukraine (in total GDP), %.	3	15	65	

Source: created by the author based on (Ukrainian Institute of the Future, 2021)

The process of digitization is of crucial importance for the Ukrainian economy, as it can increase the number of new jobs and contribute to further growth in annual GDP. The development of new segments and productions will accelerate business and industrial development (Hlazova, 2021). Furthermore, researchers argue (Plakhotnik & Pavlenko, 2022).

that the labor market will create an additional 700,000 jobs if innovations are implemented in all sectors of the economy. Financing for digitization can come from both domestic and external markets. Investments in the digitalization of business, manufacturing, and industry, USD billion.

Tokar (2022) note that according to the Network Readiness Index and the Digital Competitiveness Index in 2021, Ukraine ranked 50th in terms of the level of digitalization of its economy.

What are the primary challenges and barriers hindering Ukraine's digital transformation?

We believe that this situation is undoubtedly associated with a series of major systemic problems that exist in Ukrainian society and the national economy.

In our opinion, these problems can be categorized into the following groups:

1. Economic barriers that hinder information and technological development within the national economy.
2. Institutional barriers arise in the functioning of state institutions and their participation in supporting the processes of digitalization in society.
3. Institutional barriers of a social nature, are characterized by historical formation and complexity in finding short-term solutions.
4. Infrastructure barriers arise in the sphere of supporting digitalization processes within the functioning of economic systems at various levels.

Yes, economic issues are always relevant to Ukraine's economy, particularly in terms of its innovative development. The current process of digitalization in the national economy is quite chaotic. It should be noted that the country has a certain system of support for the implementation and utilization of such technologies by various enterprises. On the other hand, the digitalization of businesses is primarily the task of their owners. However, this requires resources, particularly affordable funding. In this regard, there are also several problems in our country. Unfortunately, credits for business entities are currently too expensive. Consequently, the processes of digitalization primarily occur with the help of funds from business owners. Entrepreneurs whose businesses are fully dependent on new information and communication technologies actively implement digitalization (Spivakovskyy et al., 2021). Therefore, the systemic economic problems that hinder the development of Ukraine's digital economy include a lack of accessible financial resources for small and medium-sized enterprises; the absence of systematic and consistent support for the development of domestic ICT; cyclical macroeconomic instability; low levels of household income, etc.

Institutional barriers directly arise in the sphere of state regulation of the digitalization processes in Ukrainian society and are mainly related to the ineffective functioning of government bodies, inadequate levels of interaction, and low quality of regulatory policies implemented in the country (Verbivska, Lutsiv, Dehtyarova, Melnyk & Domin, 2022). These barriers include systemic destructive processes within government institutions (corruption, lobbying, shadow economy influence), discrepancies in the implementation of adopted regulatory acts, insufficient funding for measures defined by legislative acts, divergent priorities of digitalization between Ukrainian society and economic entities, discrepancies in efforts to implement specific measures to enhance the use of digital technologies, inadequate participation in the development of digital infrastructure, mismatch between state financial capabilities and measures intended to stimulate digitalization, low effectiveness of state support and regulation of scientific development, and insufficient digital competence of government officials.

Institutional problems are complex and may require a longer-term perspective for resolution. However, addressing these issues allows for the formulation of a firm foundation for the further implementation of digital technologies across all sectors of society. Such barriers are undoubtedly associated with historical aspects of the country's development, the peculiarities of national economic development, openness, and participation in the global economy. These obstacles include low levels of trust in government institutions, insufficient digital literacy among the population, a tendency towards informal economic activities, difficulties in adapting business entities to new digital technologies, value orientations of the younger generation, a tendency towards studying and living abroad, the digital divide in the digital economy, low levels of security and trust among internet users, insufficient levels of information culture, and more.

Infrastructure barriers to the development of the digital economy are directly linked to economic problems. In this context, the systematic importance of digital infrastructure for the development of information and communication technologies in Ukrainian society is primarily considered Plakhotnik & Pavlenko (2022) including the following aspects the high cost of mobile communication, uneven access to network technologies, regional digital inequality, insufficient competition among companies in the telecommunications sector, underdeveloped satellite communication, and the absence of a stable national policy regarding the import of equipment necessary for the development of network infrastructure.

What steps should Ukraine take to ensure a seamless process of digitalizing its economy and addressing the challenges it faces in this endeavor?

Therefore, to ensure a seamless process of digitalizing the economy, the following measures are envisaged:

1. Reduce regulatory and administrative burdens for businesses and introduce new support tools for small and medium-sized enterprises by implementing a list of market access regulation instruments based on a risk-oriented approach, digitalization, and integration of tools.
2. Increase access to markets for high-value-added products, including transitioning to an innovative economy using digital technologies, ensuring full access to EU and G7 markets, including by:

- Developing innovative priorities to facilitate the transition to an innovative economy.
- Creating favorable conditions for exporting products and developing innovative digital technologies (Verbivska et al., 2022).
- Developing a support system for innovation-driven economic development through innovative priorities and tax incentives for entrepreneurs (Tokar et al., 2023).
- Providing primary and targeted (priority) financing for innovation development sectors (Sokolovska, 2020).
- Improving the intellectual property protection system.

The identified infrastructure barriers to the development of the digital economy in Ukraine highlight significant challenges that need to be addressed. The high cost of mobile communication, uneven access to network technologies, regional digital inequality, and insufficient competition among telecommunications companies are key issues that hinder the widespread adoption of digital technologies. Overall, addressing the infrastructure barriers and implementing the suggested measures can pave the way for a thriving digital economy, stimulating economic growth, and positioning Ukraine as a competitive player in the global digital landscape.

Conclusions

The findings of the conducted research reveal a step-by-step shift of the national economy towards the digital realm, while taking into account the aspects of European integration. Even in the midst of the ongoing conflict, Ukraine persists in its digital transformation efforts and the advancement of the digital economy. Efforts are being made to ensure institutional support for these processes and create conditions for innovative business activities. The participation of Ukraine in the "Digital Europe" program plays a significant role in this process, aiming to accelerate economic recovery and digital transformation in participating countries. Research on the main obstacles to the successful digitalization of the Ukrainian economy shows that significant attention needs to be paid to the economic, institutional, institutional, and infrastructure aspects of the economic sphere. In our opinion, the successful implementation of a seamless process of digitalizing the economy requires the implementation of a list of market access regulation instruments based on a risk-oriented approach, digitalization, and integration of tools, as well as transitioning to an innovative economy using digital technologies and ensuring full access to EU and G7 markets.

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DOI: https://doi.org/10.34069/AI/2023.68.08.18

How to Cite:

Dudareva, M.A., Nikitina, V.V., Aripova, D.A., & Vukolova, E.A. (2023). Using the folklore and poetry by Sergei Yesenin in Russian as a foreign language lessons: an online class. *Amazonia Investiga*, *12*(68), 195-198. https://doi.org/10.34069/AI/2023.68.08.18

Using the folklore and poetry by Sergei Yesenin in Russian as a foreign language lessons: an online class

Использование фольклора и поэзии Сергея Есенина на уроках русского языка как иностранного: онлайн-класс

Received: July 19, 2023 Accepted: August 23, 2023

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Abstract

Object of the article: Russian as a foreign language classes. Subject of the article: the method of creating an artificial language environment in classes with students from Asia and Africa who study Russian as a foreign language. Material of the article: an online experiment on the use of materials of Russian folklore and the artistic heritage of the poet of the early XX century Sergei Esenin in classes with foreign students. The purpose of the article is to identify the national axiology in Russian poetry. The purpose of the article is to show the features of the online lesson of Russian as a foreign language. Methodology: holistic hermeneutic analysis of the song on the poet's verses "Above the window the moon" with the involvement of biographical commentary and historical-literary context. The results of the study consist in the development of a methodology for analyzing the text with foreign students, aimed at a holistic perception and understanding of the poetic text.

Аннотация

Объект статьи: уроки русского языка как иностранного. Предмет статьи: способ создания искусственной языковой среды на уроках со студентами из стран Азии и Африки, изучающими русский язык как иностранный. Материал статьи: онлайн-эксперимент по использованию материалов русского фольклора и художественного наследия поэта начала XX века Сергея Есенина на уроках с иностранными студентами. Целью статьи выступает выявление национальной аксиологии в русской поэзии. Задача статьи – показать особенности онлайн-урока русского языка как иностранного. Методология работы: целостный герменевтический анализ песни на стихи поэта «Над окошко месяц» с привлечением биографического комментария и историко-литературного контекста. Результаты исследования заключаются в разработке методики по анализу текста с иностранными студентами, которая направлена на целостное восприятие и понимание поэтического текста.

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Keywords: foreign language, national worldview, Russian traditional culture, folklore, Sergei Yesenin's work, media environment.

Ключевые слова: иностранный язык, национальный образ мира, русская традиционная культура, фольклор, творчество Сергея Есенина, медиасреда.

Introduction

Every country and its people have their own national worldview, which can be described and understood through cultural a priori, codes, and archetypes. The development of the theory of national worldviews in Russian science was carried out by the philologist and culturologist G.D. Gachev, who in monographs described the national existence of Russia through a system of dendronyms, paying great attention to the semantics of birch, oak, and fir (pine) in Russian linguoculture (Gachev, 1995). Such culturological constants allow a deep immersion into the national peculiarity of the country, which is a productive factor for studying the Russian language as a non-native language. So, Martin Heidegger's idea that language, primarily the language of literature and poetry, is the home of being (Heidegger, 1991) is also relevant. In Russian as a foreign language lessons, it is necessary to refer to classic literature, the works of A.S. Pushkin, L.N. Tolstoy, F.M. Dostoevsky, S.A. Yesenin, A.A. Blok, and others (Belozubova, 2015). However, as a rule, if the names of 19th century writers are known even to foreign students, teachers actively refer to them (Petrova, 2021), while 20th century authors are poorly known or have never heard of them, while, for example, the works of Sergei Yesenin are closely related to the traditions of Russian folklore, which can be productive in Russian language lessons for foreigners. The legacy of Russian folklore is also actively used by methodologists in classes with foreign students (Petrova, 2020).

Materials and methods

The founders of the methodology of teaching RAF remind us that there is nothing more important than live communication in lessons, which would be aimed at creating a detailed monological or dialogical statement, the ability to express one's opinion and justify it, which is always determined by the metatask, namely the desire to create a strong, stable ego-identity (Astakhova, & Reshetov, 1998). However, the digital reality in which all layers of society exist today, and which affects all types of modern art and science (Dudareva, 2022), sometimes dictates its own rules.

In the context of the transitional nature of the culture of the 21st century, globalization, and the *digital turn* in the modern humanitarian space, the discipline of "Russian as a Foreign Language" is also undergoing changes that concern both philosophers and cultural scholars (Dudareva, 2022). Its methodology is changing first and foremost, with the communicative method being considered the main method today. However, with the development of the media environment, which involves both the language speaker and the recipient to varying degrees, teachers are forced to master its resources and select the best patriotic and culturally oriented material for lessons with foreign students, in order to continue to strive for the student's holistic immersion in the Russian national world. Often, it is necessary to create an *artificial linguistic environment* for this, which is especially relevant for online classes. In this context, it is axiologically significant to appeal to the heritage of Russian folklore, since in Russia literature is closely related to oral folk art. Let us turn in this context to the work of Sergei Yesenin, who loved and studied Russian folklore.

Of course, the teacher himself must choose the text for hermeneutic analysis for a foreign student who is not yet familiar with the poet's work. To achieve the goal and objectives, the methodologist must use the following general scientific methods: analysis and systematic selection, systematization, and generalization of material. The article reproduces a holistic hermeneutic analysis of the song on the poet's verses "Above the window the moon" with the involvement of biographical commentary and historical-literary context.

Results

In online teaching RAF, especially outside of the language environment, it is particularly important to immerse oneself in Russian reality, which can be achieved by using authentic culturally charged song material rich in historical realities (collection of articles, Sushko et al., 2017), while activating verbal and non-verbal means during the lesson. Of course, working with authentic material at the initial stage of learning (A1-A2) always presents a number of difficulties, but as modern experts rightly point out, "poor language proficiency, which significantly complicates work with authentic songs, does not make it less necessary and therefore should not be a reason to refuse their use in the beginner audience" (Gridneva, Vladimirova, 2020, p. 63).

Over the past ten years of its development, the concept of culturological or cultural texts has been introduced into the methodology of teaching Russian as a foreign language. Referring to these texts assumes familiarity with the historical and cultural realities of the country, its basic national constants, or, to use the language of culturologist and philologist G.D. Gachev, *cultural a priori*, given to each people (Gachev, 2008, p. 42). This must be taken into account by the teacher who is constantly looking for new methods and never stops experimenting in order to establish the process of intercultural communication. In Russian language classes, students are introduced to *another* way of seeing the world axiologically and ontologically, taking a journey to another country and its culture. A Russian language class is always a crossroads of cultures (Abazova, 2012, p. 100).

An example of one of the online experiments could be a lesson on "Speaking and Singing in Russian: The Creativity of Sergei Yesenin." The teacher's task is to interest students in the personality of the Russian poet, his poems about the homeland, mother, and Russian nature. In the poetry of this author, the theme of the homeland is of paramount importance, and the concept of "homeland" is expressed primarily through ethnoconstants, namely the archetype of the tree, the image-symbol of the Russian field. Phytonyms and dendronyms "birch", "poplar", "willow", which serve as a symbol of Russia in the poetry of the early 20th century author, are especially relevant for linguocultural analysis. Russia is a country with a special landscape, natural space, which determines the perception of the world as a whole and the perception of language in particular since language is a home for being, according to the ideas of famous philosophers and cultural scientists (this theory of the interconnection of landscape and image of life is from the European school).

At the beginning of the lesson, the teacher should introduce the students to the portrait of Sergei Yesenin, drawing attention to the Slavic appearance of the poet: curly golden hair, blue eyes, which, it should be noted, will be an anthropological feature of the lyrical hero and his poetry. When we watch a collage video of the poet's poems (the poem "The Moon Above the Window" is played; performed by Yan Frenkel, a fragment taken from the film "The Crown of the Russian Empire") and see young Yesenin holding a balalaika, we draw attention to this and ask questions to the student audience. What musical instruments are there in their country? Do students play musical instruments? "All the subtleties and all the depth of problems of interlingual and intercultural communication become particularly clear, and sometimes simply realized, when comparing foreign languages with native ones, foreign culture with one's own, familiar one" (Ter-Minasova, 2008, p. 48). At this moment of intercultural dialogue, the focus is also on patriotic education, which is impossible without knowledge of the basics of both one's own native culture and foreign cultures. Despite its short form, the poem is complex in terms of ontological and axiological perception, so it is necessary to listen to the song based on Esenin's lyrics once again. A successful choice would be a choir or folk ensemble performing the song. For Russian oral and musical culture, choral culture is important, as singing is often accompanied by dances, which have a ritual and ceremonial character (such a performance was demonstrated by the Kuban Philharmonic Choir named after G.F. Ponomarenko).

The teacher then shows a photo sequence of Russian trees - birch, poplar, and willow. The teacher emphasizes to the students that every country has its own characteristics of nature and landscape, which is expressed, among other things, in language, literature, and art. Fields, steppes, and trees are symbols of the Russian national image of the world. In this context, the teacher asks about the landscape and climate of the countries where the students in the online experiment are located. As practice shows, students can already talk about the climate and nature of their country at the final stage of A1 learning (the oral part of the preparatory faculty exam ends with a story on the topics "My Family", "My Friend", "My City", "My Country"). Analysis of this culturological text, and poetry (song) in Russia, as a literary-centric country, always translates cultural meanings, can be offered to students both at the initial stage of studying Russian as a foreign language, and at the advanced stage.

Conclusion

Oral folklore is the spiritual foundation for the Russian people. Without folklore, it is impossible to understand the aesthetic ideals of Russian literature. Although it is not the easiest section to study in Russian language classes for foreigners, exposure to folk and song material develops the inner world of modern young people, raises the moral and ethical level, and allows for a smooth and deep immersion in the national Russian world. The use of the song with the lyrics of the Russian poet Sergei Yesenin, "Moon Above the Window," allows you to get acquainted with the historical realities of Russian folk life. In this case, folklore is perceived comprehensively, philologically, and culturologically. Students learn new words: "talyanka," which means Russian accordion, "poplar," "lime," symbolizing national archetypal constants of the Russian world, and "early morning," meaning very early, semantically marked expression in Russian national culture, since it is associated with custom for a Russian person to get up early, start the working day early (here you can recall a number of proverbs on this topic). Such a lesson allows, together with students, to form personal ideas about the national culture of Russia, to gain individual knowledge in the process of text analysis, and not just information in finished form. Students not only activate their speech skills, but also expand their knowledge of Russian artistic culture. Thus, there is a process of co-creation between a teacher and a student, a student and a student, during which we strive for a detailed monologue/dialogical statement.

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DOI: https://doi.org/10.34069/AI/2023.68.08.19
How to Cite:
Horodetska, M., Zarubei, V., Dulskyi, O., Kamyshanskyi, O., & Morgun, I. (2023). Factors influencing the effectiveness of proving criminal offences during trial. *Amazonia Investiga*, *12*(68), 199-209. https://doi.org/10.34069/AI/2023.68.08.19

Factors influencing the effectiveness of proving criminal offences during trial

Фактори, що впливають на ефективність доказування кримінальних правопорушень в судовому процесі

Received: July 20, 2023 Accepted: August 28, 2023

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Abstract

Proving effectiveness is a guarantee of protection of human rights, which is especially important for countries with a transitional legal system. Proving is influenced by a number of factors, including those the negative consequences of which are threatening the achievement of the goals of justice. Possibilities of minimizing their impact determine the relevance of the issue under research. The aim of the study is to determine the factors affecting the proving effectiveness and the prospects for improving this process in the context of human rights protection. The study involved the following practical methods: doctrinal approach, comparative method, forecasting. The dependence between crimes and types of evidence of their commission was established. The types of digital evidence were summarized, among which the OSINT technique prevails. The factors are classified into general and special. It was demonstrated that objective organizational factors prevail among the factors of proving crimes related to armed conflicts. It is proposed to focus on the legal regulation of the latest technologies and improving the professional training of the subjects of proving. It is appropriate to develop international recommendations for the

Анотація

Ефективність доказування є гарантією захисту прав людини, що є особливо важливим для країн із перехідною правовою системою. На доказову діяльність впливає низка факторів, серед яких ті, чиї негативні наслідки є загрозливими для досягнення цілей правосуддя. Можливості мінімізації їх впливу обумовлюють актуальність теми дослідження. Метою дослідження є визначення факторів, що впливають на ефективність доказування, та перспектив удосконалення доказової діяльності в контексті захисту прав людини. У дослідженні були використані наступні практичні методи: формально-юридичний, порівняльний, прогнозування. В результаті дослідження встановлено залежність між злочинами та видами доказів їх вчинення. Узагальнено види цифрових доказів, серед яких переважає методика OSINT. Класифіковано фактори на загальні та спеціальні. Доведено, що серед факторів доказування злочинів, пов’язаних зі збройним конфліктом, переважають об’єктивні організаційні чинники. Запропоновано акцентувати увагу на нормативному регулюванні новітніх технологій та посилення професійної підготовки суб’єктів

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use of digital evidence, including artificial intelligence.

Keywords: criminal justice, justice, protection of human rights, proving, effectiveness of proceedings. .

доказування. Доцільною є розробка міжнародних рекомендацій щодо використання цифрових доказів, у тому числі, штучного інтелекту.

Ключові слова: кримінальна юстиція, правосуддя, захист прав людини, доказування, ефективність процесуальної діяльності.

Introduction

The appropriateness of the functioning of criminal justice is determined by ensuring the standards of the rule of law (Carrera et al., 2021). Therefore, proving in criminal proceedings requires thoroughness and completeness of the study of evidence in accordance with the law (Fedoriv, 2022), contested action and freedom in the submission of evidence by the parties to the court and in proving their persuasiveness (Van Kempen, 2014). In turn, the judge shall determine all the circumstances that must be proven, provides his/her arguments regarding the evaluation of the evidence of the parties (Hnatenko, 2022).

However, proving criminal offences during trial remains insufficiently effective. In general, this is explained by limited resources, organizational imperfections, and the complexity of criminal justice systems (Dela Rama, 2022). This determines a number of factors that negatively affect proving, in particular:

- non-compliance with international standards for the protection of human rights as a result of violations of the assessment of certain evidence (European Court of Human Rights, 2022);
- changes in the structure of crime, for example, the emergence of types of criminal offences associated with the use of the latest technologies (Office of National Statistics, 2022);
- lack of developed algorithms for working with digital evidence (Lewulis, 2022) and the use of communication and data exchange platforms that do not take into account the specifics of criminal justice (Carrera et al., 2021);
- insufficient attention to the protection of complainant's rights. Criminal trials are a communicative interaction with crime victims and the wider population (Eskauriatza, 2021). Accordingly, proving criminal offences requires "sensitivity to victims" (UNODC, 2019).

The situation with the effectiveness of proving in countries with transitional justice, which face difficulties in complying with international standards, is even more difficult (Mayans-Hermida & Hola 2020). In particular, a typical problem is the lack of real equality of the parties in collecting and obtaining evidence, the contested action of the parties in proving (Mazur, 2020).

Although human rights affect almost all aspects of criminal procedural law, regardless of the specifics of the criminal justice system (Van Kempen, 2014), the issue of the effectiveness of proving is especially acute during armed conflicts. In particular, this is related to: a) the specifics of the crime and the objective impossibility of properly collecting evidence (Schmitt, 2022); b) staying of persons who possess the evidence in the occupied territory; c) the need to use digital evidence; d) reluctance of victims to report crimes committed against them (Fedoriv, 2022); e) introduction of remote court hearings (Carrera et al., 2021), etc.

All studies on the issue are useful. However, their authors mainly focus on particular aspects. The identification and analysis of factors affecting the effectiveness of proving criminal offences during trial will contribute to the strengthening of guarantees of human rights in the field of criminal justice.

Aim

The aim of this study is to consider the factors that affect the effectiveness of proving criminal offences during trial, and outline the prospects for improving human rights protection in this area. The aim involved the fulfilment of the following research objectives:

- Determine the essence of evidence during trial and its specifics in relation to different categories of criminal offences;
- Identify factors that influence the effectiveness of proving in a criminal trial, and find out the specifics of such an influence;
- Determine promising directions for improving the effectiveness of proving

criminal offences during trial taking into account modern challenges.

Literature review

The studies on the issue under research covers both general aspects of proving and problems related to particular legal situations or those existing in certain states.

Regarding the general aspects, experts emphasize the assessment by the court based on the "beyond a reasonable doubt" standard of each piece of evidence separately and the totality of evidence from the perspective of: a) reliability of information; b) legality/illegality of the method of obtaining it (Criminal Law Center, 2023; Khanin, 2023; Nasinnyk, 2022). However, commentators on ECHR case law draw attention to problems with compliance with evidentiary standards and conformity of decisions with the requirements of the European Convention in terms of proving procedures (McBride, 2009). As a result, courts issue decisions that are later appealed to the ECHR because of the ineffective proving (for example: European Court of Human Rights (2006a); European Court of Human Rights (2006b)), etc.

Some authors believe that this criticism is exaggerated. The low effectiveness of prosecution can be due to objective factors: the adoption of new legislation, crime trends, priorities in the work of law enforcement agencies (McGrath & Healy, 2021; Zarubei et al., 2021). Besides, there are disagreements between law enforcement officers regarding the sufficiency of collected evidence (OECD, 2021). Regarding specific problems, the following is worth noting:

1. Specialists pay attention to the correlation between crimes and features of proving, in particular, regarding crimes in the field of the latest technologies (Office of National Statistics, 2022). At the same time, traditional evidence (for example, witness statements or DNA tests) cannot be used in such cases. However, for other crimes – murder, rape, burglary – this evidence is the most effective (Amankwaa & McCartney, 2021; Dela Rama, 2022).

A difficult issue is ensuring the effectiveness of proof in specific situations, in particular, in conditions of armed conflict. For example, the ECHR emphasizes the unconditional adoption of all measures to investigate violations of the right to life (European Court of Human Rights, 2011). However, Ukraine's experience shows significant procedural difficulties in ensuring the effectiveness of proving such crimes (Fedoriv, 2022).

2. The discussion on the place of victims in the discourse regarding the effectiveness of proving occupies a separate place:

– the influence of the category of victims on the effectiveness of proving, because there is a pattern between the type of crime and the category of victims (Warner et al., 2017; Office of National Statistics, 2022);
– the influence of the position of the victims on the effectiveness of proving. Although trials are a form of public communication (Jeßberger & Steinl, 2022), courts sometimes do not clarify the goal pursued by the victim (Kompanets, 2021). A consequence of this is the low activity of victims regarding requests for compensation for the harm caused (The right of victims).

3. Regarding the evidence that is mainly taken into account in trials, experts most often note: a) the problem of false testimony and methods of levelling their influence on proving (Luke et al. 2016; Dela Rama, 2022); b) problems of data collection on the Internet and their use in proving (Lewulis, 2022; Council of Europe, 2020).
4. The study of the experience of different countries (Australia, Latvia, Poland, Ukraine, etc.) is a separate direction of research. Positive aspects are noted regarding: a) the effectiveness of proving in jury trials (Warner et al., 2017); b) availability of guidelines for proving certain categories of crimes (OECD, 2021). However, negative aspects are also identified, for example, the lack of legal tools for processing open online information (Lewulis, 2022). In Ukraine, as a state with a transitional legal system, the regulation of the powers of the defence attorney to collect evidence and present it during trial remains imperfect (Mazur, 2020).

Regarding the improvement of proving procedures, attention is paid to regulating the use of the latest technologies (Turner, 2020), in particular, the introduction of artificial intelligence (D'Alessandra & Sutherland, 2021; Shi, 2022). Along with this, it is proposed to resolve: a) organizational issues, for example, in terms of the introduction of the European warrant for the demand and storage of digital data (Lewulis, 2022); b) the issue of training specialists for proving in certain categories of complex cases (OECD, 2021). It is appropriate to introduce the institute of attorney investigation for countries with a transitional legal system (Mazur, 2020).

The literature presents a number of conclusions and proposals regarding the effectiveness of proving criminal offences during trial, but they do not constitute a complete system and do not fully take into account the current context.

Methods

In order to achieve the aim and fulfil the research objectives, the sources, which deal with the legal and organizational issues of proving during trial, and the factors influencing the effectiveness of proving, were selected and generalized. For this purpose, a) conventional provisions in the field of human rights protection, ECHR case law and comments on its individual provisions; b) analytical reports on current problems of proving crimes; c) the experience of Ukraine and foreign countries regarding the proving procedures and factors influencing their effectiveness were used. This made it possible to a) generalize the understanding of the nature of proving in the legal process; b) determine the specifics of proving various categories of criminal offences; c) identify general and specific factors influencing the effectiveness of proving during trial; d) find out the prospects for proving improvement with due regard to the technological progress and the current security situation. Research design is shown on Figure 1.

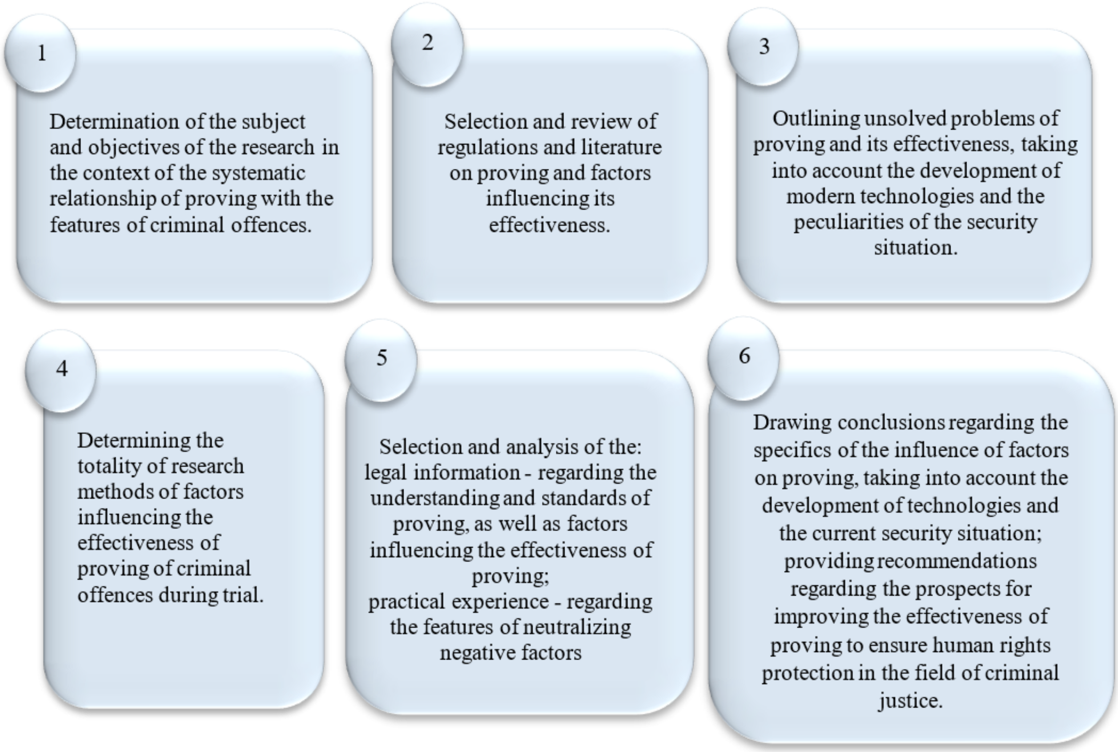

Figure 1. The research design (developed by authors)

The study involved the following methods:

– *the system approach* was used to understand the place of proving criminal offences in the system of human rights protection in the field of criminal justice;
– *the descriptive analysis* was used to study the components of proving and generalize the factors that influence the effectiveness of proving;
– *the doctrinal approach* made it possible to generalize the main provisions of international standards, the ECHR case law in the field of proving criminal offences in general and certain categories of acts in particular;
– *the comparative method* was applied to compare the experience of Ukraine and foreign countries with regard to the main factors that influence proving and the neutralization of negative factors;
– *the forecasting method* was used to determine the prospects for improving the effectiveness of proving during trial with due regard to the development of

technologies and the current security situation.

Results

The study of factors that influence proving of criminal offences during trial is part of the general discourse of human rights protection in the field of criminal justice. Proving must be based on the principles of the rule of law and the principle of legality. Each piece of evidence is evaluated in terms of relevance, admissibility, credibility, and the totality of the collected evidence must meet the requirements of sufficiency and interconnectedness. This provides an insight into the essence and structure of proving (see Figure 2).

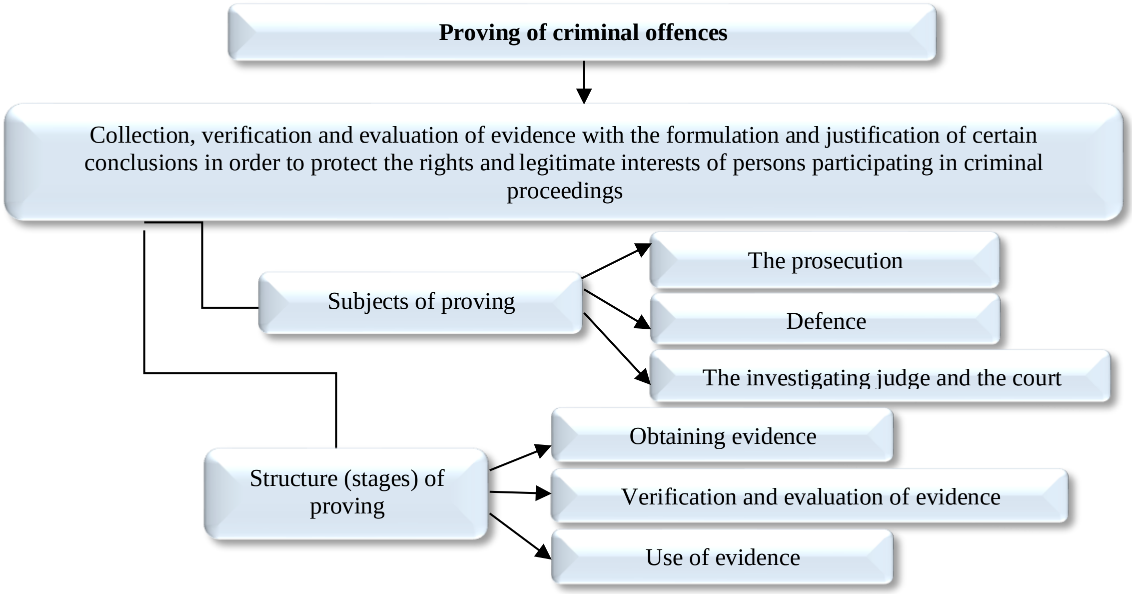

Figure 2. The nature and structure of proving criminal offences (developed by authors)

In this context, it is fundamental to emphasize that ensuring the effectiveness of proving is the task of all subjects depending on the stage. However, it is the court that ultimately examines and evaluates the evidence, using it to make a decision about the guilt/innocence of a person in a criminal offence.

Given the trends in the structure of crime, the share of criminal offences, proving which is impossible without digital evidence (cybercrimes, economic torts, etc.) is increasing. Digital evidence can be differentiated by its relevance in criminal proceedings. This is reflected in the share of its main types used by the subjects of proving (see Figure 3).

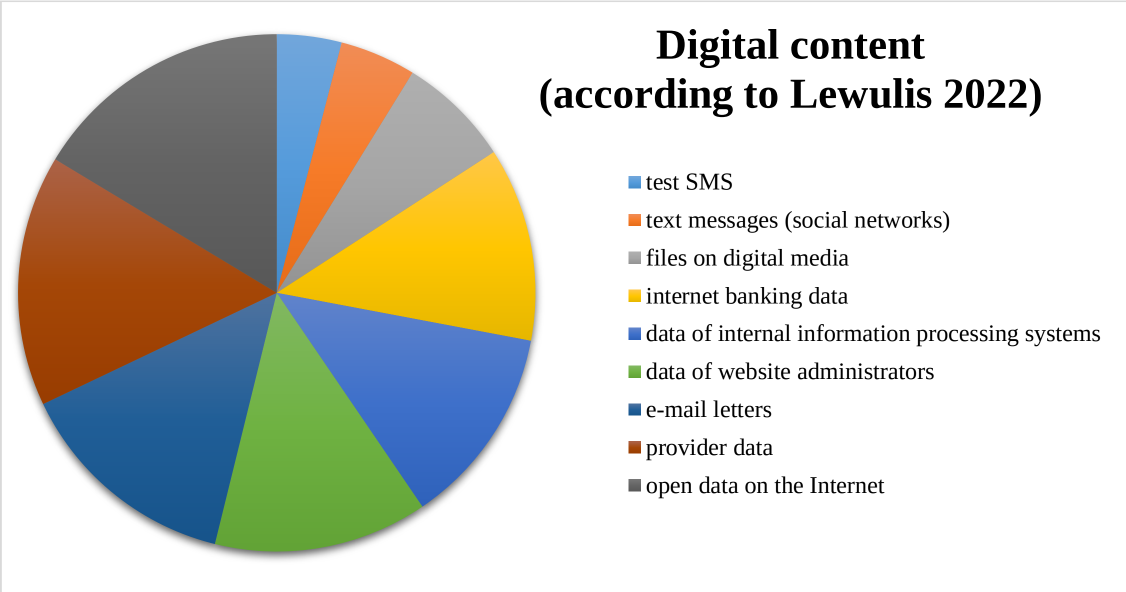

Figure 3. Types of digital content (by share of the use in criminal proceedings)

This context is important to ensure the effectiveness of proving crimes related to armed conflicts. A significant number of such crimes and their partial localization in temporarily occupied territories lead to the widespread use, first of all, of open data posted on the Internet - open-source intelligence (OSINT).

So, the nature and structure of proving, comparison of crimes and types of evidence determines the set of the main factors that influence the effectiveness of proving criminal offences during trial. These factors are supposed to mean phenomena (conditions) that can change the level of effectiveness of proving. These factors can be general or special depending on their effect in most or some criminal proceedings. The classification of these factors on different grounds is presented below (see Figure 4).

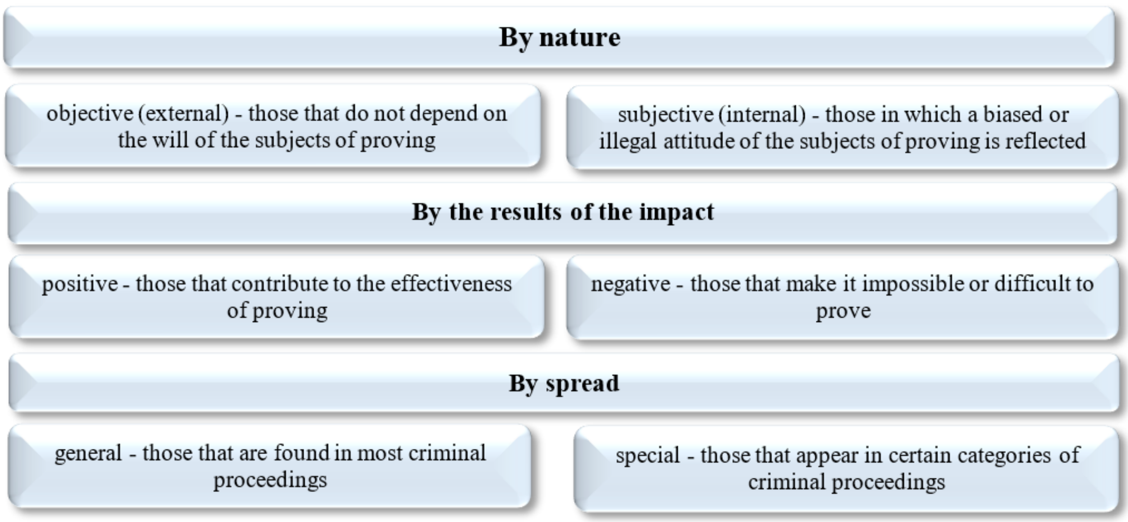

Figure 4. Classification of factors that influence the effectiveness of proving (developed by authors)

The presented division of factors gives grounds to generalize the correspondence of the most common general factors to their classification types (see Table 1).

Table 1.
Correspondence of general factors to classification types

Factors	By nature		By consequences	
	Objective	**Subjective**	**Positive**	**Negative**
dynamics of national legislation	+		+	+
incomplete compliance of national legislation with international standards	+			+
changes in the structure of crime	+			+
introduction of the latest methods of proving	+		+	
prejudiced attitude towards the victim		+		+
insufficient preparation of the subjects of proving		+		+
organization of communication with civil society institutions		+	+	

The proposed correspondence is the basis for the following conclusions:

- the dynamics of national legislation cannot be assessed unambiguously. The positive impact of legislative changes consists in improving the quality of the regulatory text and eliminating regulatory gaps and collisions. At the same time, negative consequences are usually revealed when the subjects of proving have not adapted to the new regulations;
- changes in the structure of crime are associated with an increasing share of intellectual types of criminal activity, an increasing latency level, etc.

Special factors will be illustrated by using the example of factors that influence the effectiveness of proving crimes related to armed conflicts. Under such conditions, the subjects of proving operate in extreme conditions and provide evidence for thousands of crimes. This is connected with a special set of factors, the vast majority of which significantly complicate proving (see Figure 5).

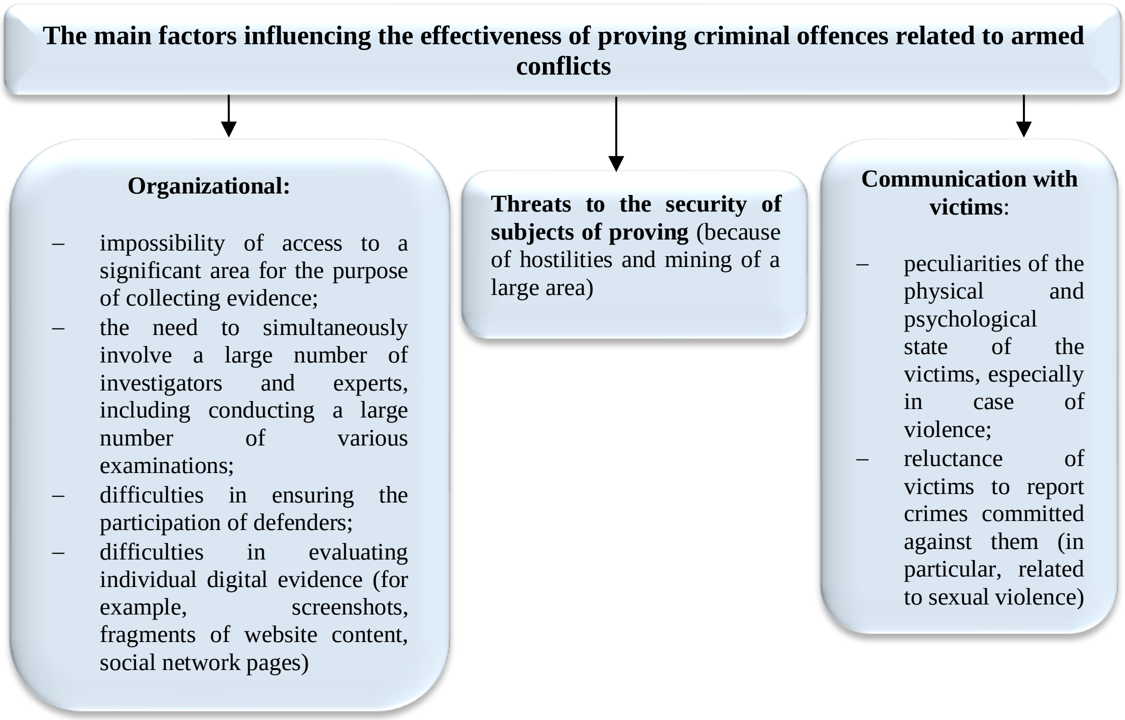

Figure 5. Factors influencing the effectiveness of proving crimes related to armed conflicts (using the example of Ukraine)

So, the vast majority of factors in proving crimes related to armed conflicts are objective organizational factors with a negative impact. The objective factors that increase the effectiveness of proving include the introduction of OSINT techniques, as well as cooperation with international organizations and foreign countries.

The identified aspects provide an insight into the main possibilities for improving the effectiveness of proving by the authorized subjects. It is considered appropriate to identify conceptual directions within which the set of measures is variable and adaptive to existing conditions (see Figure 6).

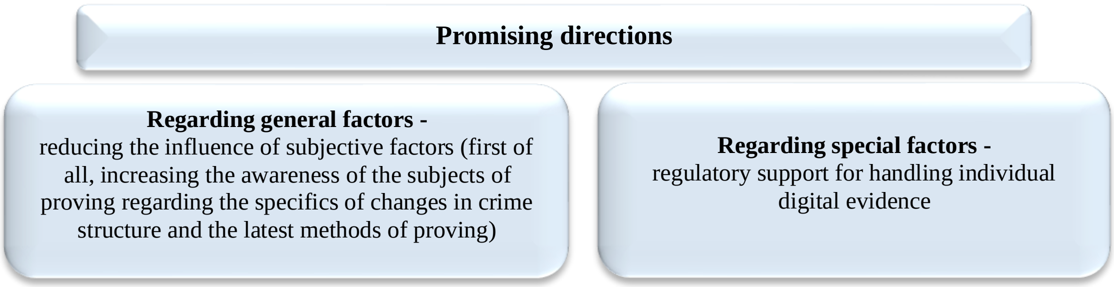

Figure 6. Directions for improving the effectiveness of proving criminal offences during trial

Regarding special factors, it is necessary to draw attention to the development of the algorithm and the normalization of its use in proving artificial intelligence. This is extremely important when proving crimes related to armed conflicts (for example, to identify those who died during hostilities, persons who committed war crimes, or persons who were subjected to forced deportation). However, we emphasize the need for a clear legal regulation of such an evidence base. It is proposed to develop international recommendations for national law enforcement and judicial bodies on this issue.

So, the following directions appear to be promising: a) development of techniques for handling digital evidence and legal regulation of the use of the latest technological developments in proving; b) improvement of the professional training of subjects of proving.

Discussion

This work showed the appropriateness of addressing the issues of the nature and structure of proving (Khanin, 2023), which determines the interest of all subjects of proving in its effectiveness. At the same time, this research showed that these studies do not fully take into account current challenges, in particular, the problems of proving crimes related to armed conflicts.

In the context of compliance with international standards, it is appropriate to subscribe to the position that national criminal justice systems are vulnerable to objective factors (McGrath & Healy, 2021; OECD, 2021). Therefore, non-compliance with the European Convention may be a temporary consequence of the process of adapting the law enforcement system to changes in legislation, crime dynamics, etc.

There is reason to shape the position on the relationship between crimes and the types of evidence used in trials (Amankwaa & McCartney, 2021; Office of National Statistics, 2022). This position is supported by Ukraine’s experience in proving crimes related to armed conflicts (Fedoriv, 2022). In this study, this approach was developed by highlighting the main factors that affect the effectiveness of proving crimes related to armed conflict. However, it is impossible to agree with considering the factors as equivalent, so their classification was proposed and the consequences of influence (not only negative, but also positive) were clarified.

Emphasis on the importance of taking into account the position of victims (Warner et al., 2017; Kompanets, 2021) is positive. It is supplemented in this study by an understanding of the specifics of communication with victims of crimes related to armed conflicts as a special factor that is determined by the scale and consequences of human rights violations during an aggressive war.

It should be agreed that an important part of the professional discourse is the operation of digital evidence and the problems of regulatory regulation of proving in this regard (Lewulis, 2022; Council of Europe, 2020). We share the point of view about the growing importance of this problem, taking into account changes in the structure of crime (Turner, 2020; Office of National Statistics, 2022). However, this study generalizes the types of digital evidence and identifies their features in relation to crimes related to armed conflicts.

The following propositions were made with regard to increasing the effectiveness of proving crimes committed under martial law:

a) paying special attention to proving the harm caused to victims of crimes related to armed conflicts (Schmitt, 2022);
b) increasing awareness of the use of journalistic investigative materials and digital technologies for evidence collection and their use in courts (D'Alessandra & Sutherland, 2021, 26).

In general, this vision can be shared, but it is fragmentary. This study proposes a classification of factors that influence proving of crimes related to armed conflicts. This gives grounds to conclude that the vast majority of such factors are objective organizational factors with a negative impact.

There is no doubt that considerations regarding the need to regulate the use of the latest technologies are productive (Turner, 2020). Along with this, it is important to train specialists to provide evidence in certain categories of complex cases (OECD, 2021). However, this study suggests to clarify the mentioned propositions in view of the need for:

a) improvement of methods of handling digital evidence, without which regulatory regulation of proving algorithms is impossible;
b) professional training of all subjects of proving, not only those specialists who investigate complex cases.

We support the debate on the introduction of artificial intelligence (D'Alessandra & Sutherland, 2021, 25; Shi, 2022). However, such a decision must depend on the crime category and requires careful methodical preparation. This study emphasizes the appropriateness of using artificial intelligence in proving crimes related to armed conflicts (for example, to identify persons who committed war crimes or forced deportees).

In general, these considerations can be the basis for the implementation of legal, organizational and procedural mechanisms to increase the effectiveness of proving criminal offences during trials.

Conclusions

The conducted research gives grounds for drawing a number of conclusions regarding the factors that influence proving criminal offences during trials.

It is shown that the essence and structure of proving condition the involvement of all subjects of proving to ensure its effectiveness. However, the court occupies a central place in the system of these subjects. Emphasis is placed on the connection between the committed criminal offences and the types of evidence used by the subjects of proving. A generalization of the types of digital evidence is presented and their features as applied to crimes related to armed conflicts are clarified. A classification of factors that influence the effectiveness of proving is proposed on different grounds (by nature, consequences, and spread). Correspondence of individual factors to specific characteristics was identified. The significance of the factors influencing the effectiveness of proving crimes related to the armed conflicts was established. It was proved that the vast majority of such factors are objective organizational factors with a negative impact.

Promising areas of improving the effectiveness of proving criminal offences were identified. Special emphasis is placed on improving the methods of handling digital evidence and the legal regulation of the use of the latest technological developments in proving, as well as on improving the professional training of the subjects of proving. It is proposed to pay special attention to the regulatory support for the use of artificial intelligence in proving crimes related to armed conflicts. It is appropriate to develop international recommendations for national law enforcement and judicial bodies regarding the use of digital evidence in general and artificial intelligence in particular.

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DOI: https://doi.org/10.34069/AI/2023.68.08.20
How to Cite:
Boklakh, D., Hrosevych, T., Tabakova, H., Ieliseienko, A., & Chystiak, D. (2023). The problem of war and peace in European literature of the 20th century. *Amazonia Investiga*, *12*(68), 210-223. https://doi.org/10.34069/AI/2023.68.08.20

The problem of war and peace in European literature of the 20th century

Проблема війни і миру у європейській літературі XX століття

Received: July 1, 2023 Accepted: August 29, 2023

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Abstract

Aim. The aim of the article is to identify and arrange the patterns of influence of the consequences of the wars of the 20th century on literature as one of the characteristic manifestations of the socio-cultural activity of the community involved in destructive military actions, and the influence of these literary works on modernity. Methods. The research employed the following methods: collection and analysis of works of war literature, cross-sectional expert rating analysis, content analysis and drawing analytical conclusions. Results. The study was focused on two lists of literary works about the First and Second World Wars. According to the rankings, Erich Maria Remarque - Der Weg zurück (about the First World War) and Anne Frank - Het Achterhuis (about the Second World War) are the leaders. Stylistic dynamics showed a change from generalized moral reflections to personal experiences of military horrors. The results confirmed the impact of military conflicts on literature and its interaction with other socio-cultural phenomena. Conclusions. The authors'

Анотація

Мета. Мета статті – визначення та систематизація патернів впливу наслідків воєн XX сторіччя на літературу, як одного з характерних проявів соціокультурної активності спільноти, втягнутої в деструктивні військові дії та вплив зазначених літературних творів на сучасність. Методи. В статті застосовані наступні методи: збір та аналіз витворів «військової» літератури, перехресний експертно-рейтинговий аналіз, контент-аналіз та формування аналітичних висновків. Результати. Досліджено дві номенклатури літературних творів про Першу та Другу світові війни. За рейтингами лідерами визначено Erich Maria Remarque - Der Weg zurück (про Першу світову війну) та Anne Frank - Het Achterhuis (про Другу світову війну). Стильова динаміка показала зміну від узагальнених моральних роздумів до особистих переживань військових жахів. Результати підтвердили вплив військових конфліктів на літературу та її взаємодію з іншими соціокультурними явищами.

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appeal in the war literature of World War II to the personal experiences of the potential reader through the mediation of autobiographical literary works contributes to a fundamental revision of the moral and ethical norms of the post-war society. The academic novelty is a comprehensive analysis of the impact of global military conflicts on European literature and their role in the modern world. The results of the study can be used in literary studies, education and cultural studies for a better understanding of the influence of military conflicts on literature and the formation of a humanistic worldview. The prospects for further research direction focus on increasing the sample of empirical data through content analysis of a larger number of master works of war literature.

Keywords: autobiography, expert reader analysis, content analysis, global conflicts, literary reaction.

Висновки. Апелювання авторів «військової» літератури Другої світової війни до особистісних переживань потенційного читача за посередництва автобіографічних літературних творів сприяє докорінному перегляду морально-етичних норм післявоєнного суспільства. Наукова новизна полягає в комплексному аналізі впливу глобальних воєнних конфліктів на європейську літературу та їх роль у сучасному світі. Результати дослідження можуть бути використані в літературознавстві, освіті та культурології для кращого розуміння впливу воєнних конфліктів на літературу та формування гуманістичного світогляду. Перспективи розвитку визначеного дослідного напрямку фокусуються на збільшенні вибірки емпіричних даних шляхом контент-аналізу більшої кількості еталонних творів «військової» літератури.

Ключові слова: автобіографія, експертно-читацький аналіз, контент-аналіз, глобальні конфлікти, літературна реакція.

Introduction

Relevance

The study of the problem of war and peace in European literature of the 20th century is extremely relevant and has great academic and social significance in terms of the following aspects:

1. Historical aspect. The 20th century was the period of the largest armed conflicts in world history —World Wars I and II, as well as the Cold War. The study of the problems of war and peace in the literature of that time helps to better understand the influence that these conflicts had on the worldview of writers and how they influenced the formation of national and world identity (Bullock et al., 2021; Camarotto, 2021; Godin, 2019).
2. Humanitarian aspect. The problem of war and peace remains relevant to date, as armed conflicts continue in various regions of the world. Literary works of the 20th century can provide deep insights into the tragedy of war and human suffering, as well as emphasize the importance of peace and coexistence for the modern world (Alexander, 2023; Dall'Igna, 2023).
3. Socio-cultural analysis. The study of literature can help to better understand the cultural, social, and political challenges of the time, as well as reveal the role of writers in shaping the worldview of their society (Lazarovych, 2023; Hart, 2023; Kalangutkar, 2022).
4. Postmodern approach. Literary works of postmodernism open up new opportunities for the analysis of war and peace as complex and multifaceted concepts that are subject to different interpretations. Studying this aspect will help to better understand current literary trends and contribute to the development of literary studies (Brett, 2016; Kiesel, 2023; Lipárová, 2022).
5. Global dimension. The problems of war and peace affect the whole world. The relevance of the research is the fact that the literary works of the 20th century can be a source for understanding the universal problems facing humanity, and will contribute to the development of cultural education and tolerance (Strachan, 2017; Kristiawan & Pandhamnurani, 2023; Mašek, 2023).
6. Significance for the present. Contemporary writers and readers can find inspiration and insight in twentieth-century literary works dealing with war and peace. This will make it possible to respond to modern challenges, offer alternative ways to peace, and promote the development of a harmonious society (Aldridge, 2019; Ladani & Naghi, 2023).

The study of the problem of war and peace in the European literature of the 20th century will help to reveal the complexity and importance of this topic for understanding the modern world, the development of literary studies and cultural education, as well as for finding ways to peace and tolerant coexistence in a world where war and conflicts remain important problems.

Unexplored Issues

There is a significant number of studies on the analysis of literary works of wartime periods, but they are eposodic, inconsistent, forming a fragmented and sometimes contradictory idea of the perception of war as a complex socio-psychological phenomenon not only at the level of communities involved in military operations, but also at the level of individuals who experienced all the hardships of the war on their own experience. Considering the modern context, namely a large-scale war in the middle of Europe (which is a consequence of Russia's unprovoked armed aggression against Ukraine), the goal of arranging sociocultural phenomena and ways to overcome psycho-emotional crises, which are embedded in meaningful literary works, is extremely practical.

Aim

The aim of the article is to identify and arrange the patterns of influence of the consequences of the wars of the 20th century on literature as one of the characteristic manifestations of the socio-cultural activity of the community involved in destructive military actions and the influence of these literary works on the present.

Objectives/Questions

Research objectives:

1. Study the literary works of European writers that covered the military actions of the largest wars of the 20th century.
2. Identify the dynamics of literary stylistics and sentiments of literary works of the wartime.
3. Determine the general vector of the military theme, which was reflected in the literary works of the wartime.
4. Identify influential literary works that cover the consequences of the military operations of World Wars I and II.
5. Establish the relevance and practical impact of these works on current socio-cultural activities in the context of the development of a large-scale war in the central part of Europe.

Literature Review

An analytical review of the results of relevant publications on the influence of the largest wars of the 20t century on literature as the main element of the socio-cultural activity of communities involved in destructive military conflicts was conducted to determine the current academic landscape in relation to the chosen vector of research.

Ribeiro and Thomaz (2023) show that historians and literary critics have long differed in their assessment of World War I poetry. The underlying reason is canonization, which limits or even ignores the diversity of poetic practices of the period. The study of a new corpus of French poets of World War II and examining poetry as a social and cultural category shows that war poets can be considered as ethnographers of the culture of that time. This makes us see poets as producers of interpretive knowledge of war, and poetry as more than just documents or closed lyrical works.

The main findings by Shoebottom (2023) concern the problematic nature of the cultural memory of the war. Remembrance of the war depends on national sentiments, which war to grace, which party, actors, events and themes to emphasize. Over time, the way past events are commemorated may change depending on public self-perception. Cultural memory of war is often based on post-war ideas and contexts of interpretation, rather than on the ideas for which the war was unleashed. War Memories: Commemoration, Recollections, and Writings on War edited by Stéphanie A.H. Bélanger and Renée Dickason explores the various approaches to commemorating war through different media: monuments, books, works of art. It illustrates the complexity of war memory and its importance for societies. The book meets expectations demonstrating a multi-genre and transnational approach.

Moreshead (2023) studies the work of Al Filreis and emphasises the importance of the 1960's for art and literature. Scientist argues that the time is notable for the combination of modernism and radicalism as a response to the consequences of World War II. Focusing on the work of Jewish authors such as Paul Celan, Jerome Rothenberg and Hannah Arendt, the researcher shows how they raised questions about the meaning of language and writing in the context of fascist authoritarianism and genocide. Using a combination of writing, art and dialogue, Filreis demonstrates how the period dealt with the trauma of war and reinterpreted pre-war modernism.

Mishra (2023) focuses on the literary analysis of two European texts: Dulce et Decorum Est by Wilfred Owen and General, Your Tank is a Powerful Machine by Bertolt Brecht. The authors use literary techniques to convey an anti-war message, emphasizing the consequences of war and the destruction it brings. The results of the study show that war and violence are futile solutions to conflicts, and that literature can promote peace and destroy the myth of war glory.

The main findings of Wróblewski (2023) relate to the analysis of a unique collection of school works written by Polish children and youth in 1945-1946. The works contain references to the wartime period and are divided into two collections relating to different regions of Poland. Young authors combine a private narrative style with elements of public expression, smoothly transitioning from personal dramatic details about the war to the style of a school work. The themes of the works were determined by the programme of writing memoirs about the wartime period. The article portrayed the war as a micro-history with many details about local wartime events such as raids, public executions, and Nazi brutality against adults and children.

Blažić (2023) worked on the play Jurček in Trije Razbojniki by Alenka Gerlovič is that this fabulous play created during the Second World War is an important writer's ethical expression regarding fascism, Nazism, and the horrors of war. With this play, Herlovich became one of the world's writers for young people who use their works to comment on the war. Jurček creates an "imaginary screen" that helps the audience to maintain a distance from the horrors of war, while being part of the anti-fascist struggle, acting as a symbolic weapon and an ethical act. The author managed to raise serious ethical questions with the help of a fairy tale and promoted influence the younger generation, perceiving their participation in the war as an active role in opposing Nazism.

Ugli (2022) explores the abstract perception of the theme of war by Western researchers. The main goal of the research is to study the role of war in the development of world literature and to analyse the approaches of Western researchers to the understanding of war in the literature of different periods. The research is based on assessments and perspectives, using scientific sources relevant to the given topic. The main areas of research include the study of the role of brave heroes in classical literature, where war is considered from a simple perspective, as well as the study of war literature of the 19^{th}-20^{th} centuries in Western literature and the analysis of the works of the "lost generation". In these studies, special attention is paid to the negative impact of war on the human mind and its future.

Campobasso (2022) reviews Andreas Dorrer's Neider überall zwingen uns zu gerechter Verteidigung, which analyses the literary response to the Verteidigungskrieg, focusing on early twentieth-century drama. Scientist reveals how patriotic theatre contributed to the propaganda of war, while reactionary theatre in the 1920's and 30's addressed the reality of the horrors of war. The study helps to better understand the role of children in war and the moral consequences of the conflict.

Dagnino (2022) examines the role of the Federation of Catholic Students of Italy (FUCI) in the formation of future Christian Democrats after the Second World War in the context of literary activity. FUCI created a new type of religiosity that provided ideals of personal development and spiritual growth. The literature of that period was marked by emotionality, heroism and passion, which influenced the formation of strong images and motives. The idea of "palingenesis" of Christianity united the cultural, ethical and political spheres of life, which contributed to the creativity of writers, promoting the ideals of Catholic Christianity. Literary works interacted with FUCI ideas and helped shape cultural and spiritual identity after the war.

The studies (Ferris, 2022; Zühlke, 2023) established literary experiments in British literature after World War II. The author examines the period from 1945 to 1980 and reveals how aesthetic achievements initiated new forms of literary expression. The study is the first to consistently examine the influence of continental and transatlantic influences on the formation of literary networks. Ferris (2022) offers a comprehensive overview of the status of abstraction in cultural, institutional, and literary contexts, and explores the relationship between spatiality and visuality in post-war literature.

Studies on the twentieth-century literature trace the role of war and peace in the formation of the cultural and ethical identity of society. Literary works became not only a means of covering the events of wartime, but also ethnographers of culture, abstract works that deepen the understanding of complex problems of the modern world. War and peace are viewed from different perspectives, reflecting memory, trauma, and ideals. The twentieth-century literature is of great importance for understanding war and peace, their impact on society and individuality. Poetry, prose and drama became not only a means of aesthetic expression, but also tools for the formation of ethical views, revealing the complexity of memory embodied in works of art. Studying the role of literary works in the context of war and peace contributes to a deeper understanding of social and cultural processes and realities of that time. It is appropriate to continue research in this area, because it reveals important aspects of history, emotions, and ethical issues that affect each generation.

Methods

Research Design

The research follows the procedure shown in Figure.

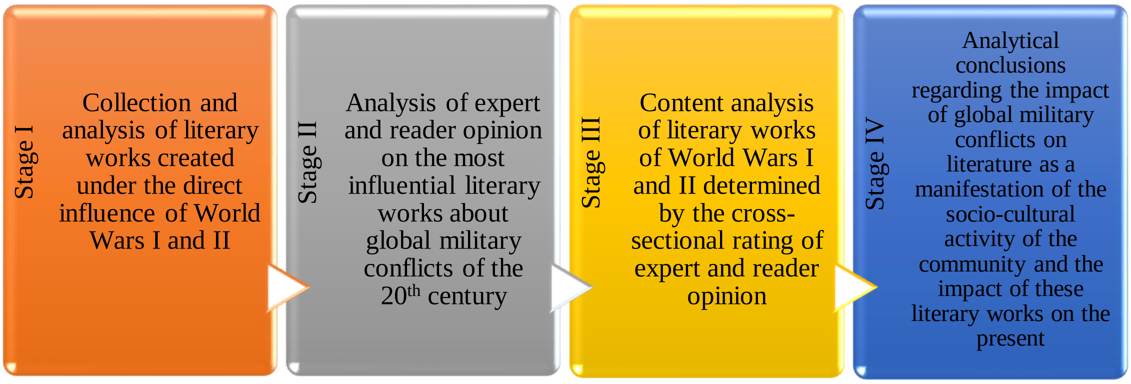

Figure 1. Research design
Source: created by the author.

Sampling

The studied material was selected by cross-sectional rating analysis of reading services (Google Play Books, Amazon Kindle Cloud Reader, OverDrive, Scribd, Kobo Reading App, Wattpad, BookBub, Smashwords, ReadAnyBook, ManyBooks) with the formation of separate chronometric sets of literary works (by rating preferences users of the listed services):

– 10 most influential works about World War I: Henri Barbusse - Le Feu; Erich Maria Remarque - Im Westen nichts Neues; Erich Maria Remarque - Der Weg zurück; Georges Duhamel - Civilization: 1914-1917; Roland Dorgeles - Les croix de bois; Robert Graves - Goodbye to All That; Jaroslav Hašek - Osudy dobrého vojáka Švejka za světové války; Stefan Zweig - Ungeduld des Herzens; Ernst Jünger - In Stahlgewittern; Ernst Jünger -Der Kampf als inneres Erlebnis;
– 10 most influential works about World War II: Elie Wiesel - La Nuit; Primo Levi - Se questo è un uomo; Anne Frank - Het Achterhuis; Viktor Frankl - Ein Psychologe erlebt das Konzentrationslager; Elizabeth Bowen - The Heat of the Day; Arthur Koestler – Sonnenfinsternis; Erich Maria Remarque - Der schwarze Obelisk; Erich Maria Remarque - Arc de Triomphe; Anna Seghers - Das siebte Kreuz; James G. Ballard - Empire of the Sun.

Methods

1. Collection and analysis of literary works created under the direct influence of World Wars I and II: determination of the spectrum of literary works of European authors that covered the events of global conflicts of the 20th century with a separate chronological distribution and creation of the list of the most influential war literature.
2. Analysis of expert and reader opinion regarding the most influential literary works on global military conflicts of the 20th century: cross-sectional ranking analysis of expert opinion and reader opinion regarding the definition of literary works that meet the "opinion leader" criterion. The following organizations of literary critics are an expert environment: Association of Literary Scholars, Critics and Writers (ALSCW, 2023); Gale Literature Criticism (Gale, 2023); The Cambridge History of Literary Criticism (Cambridge Core, 2023); International Association for Ethical Literary Criticism (IAELC) (Union of International Associations, 2023); PEN Ukraine (2023). Expert opinion was

determined by relevant reviews of 20 selected most influential literary works being the basis for building a corresponding rating. The reader rating was created according to the preferences of the users of specialized online services: Google Play Books, Amazon Kindle Cloud Reader, OverDrive, Scribd, Kobo Reading App, Wattpad, BookBub, Smashwords, ReadAnyBook, ManyBooks. The overall rating was formed based on the results of the evaluation of the rating of literary critics and the rating of users of online platforms for reading.

3. Content analysis of literary works of World Wars I and II determined by the cross-sectional rating of expert and reader opinion: the use of digital means of text statistics and analytics Voyant Tools for works — “opinion leaders” with the definition of relevant trends and correlations, which provides an idea of stylistic peculiarities of each of the analysed representatives of war literature.
4. Analytical conclusions regarding the influence of global military conflicts on literature as a manifestation of socio-cultural activity of the community and the influence of these literary works on the present: drawing relevant conclusions about war literature as a means of mental analysis of the destructive consequences of military actions.

Results

The analysis of publicly available reading and literary services gave grounds to make the lists of the most influential literary works created under the direct influence of global military conflicts of the 20th century.

Each of the identified sets of war literature is arranged according to the results of the analysis of expert opinion and reader preferences – Figure 2, Figure 3.

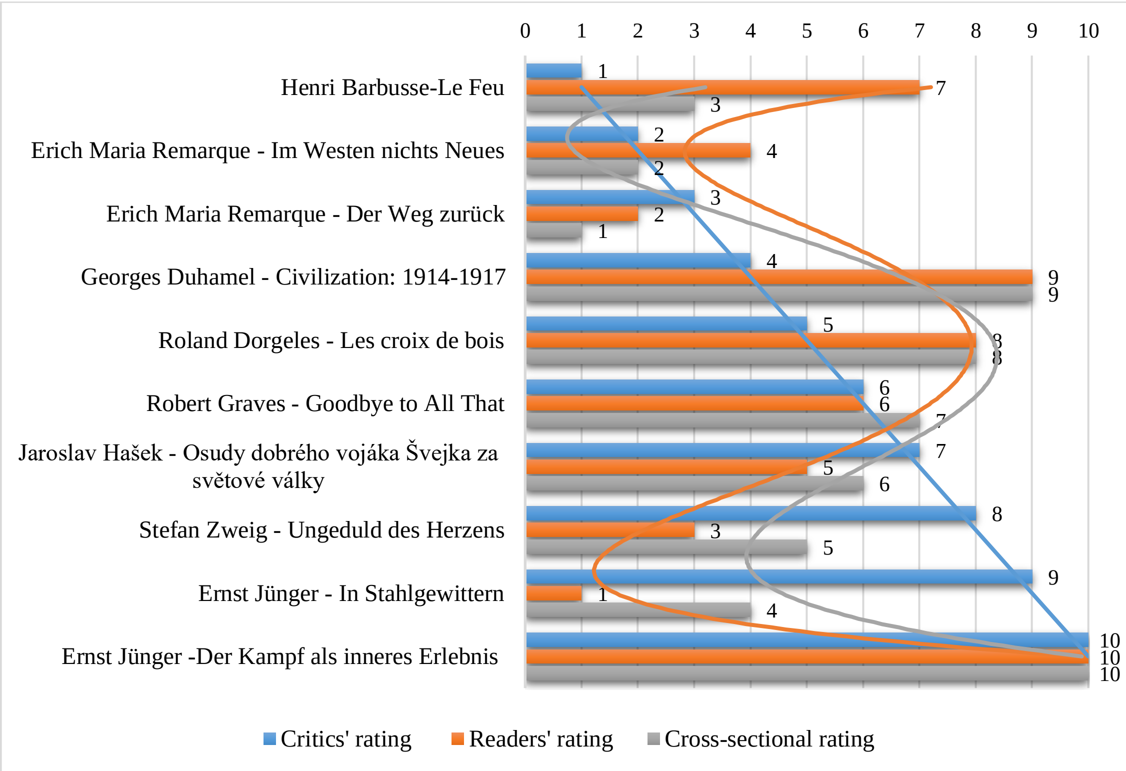

Figure 2. Analysis of the cross-sectional expert-reader rating of literary works about World War I
Source: created by the author.

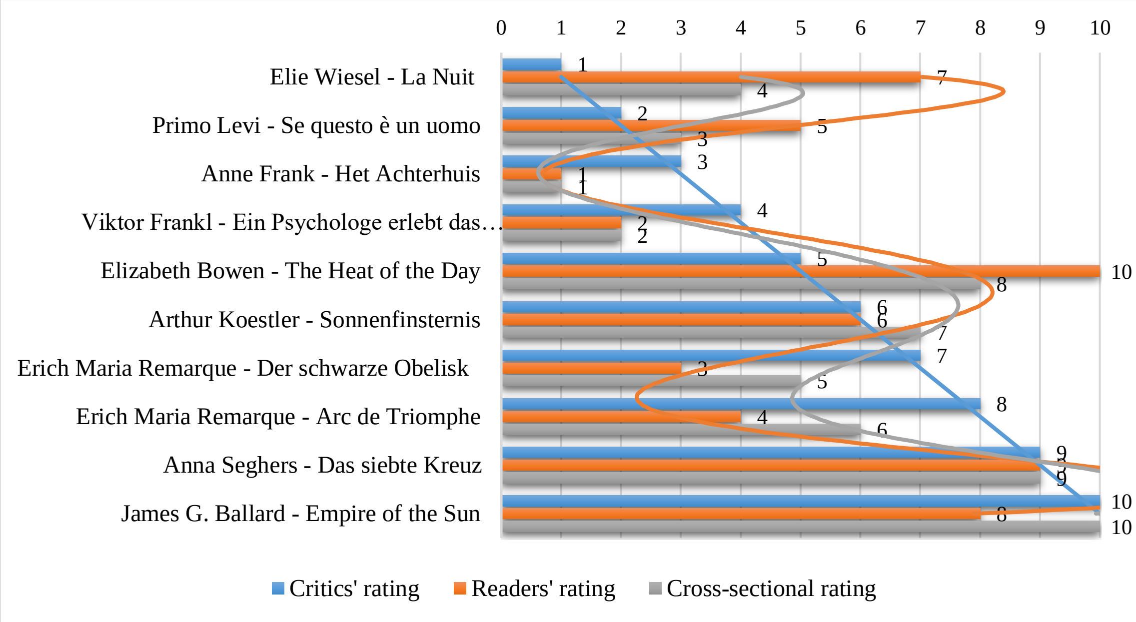

Figure 3. Analysis of the cross-sectional expert-reader rating of literary works about World War II
Source: created by the author.

The results of the analysis of the cross-sectional expert-reader rating of war literature give grounds to draw the following conclusions:

– literary works about World War I are focused on more conceptual general civilizational issues of a society faced with the destructive consequences of military actions. This is confirmed by the applied genre techniques, where fictional realism prevails, which describes the experiences of probable (fictional) heroes of this historical period, their mental state (based on the general impression of military actions) and a philosophical rethinking of war as a destructive phenomenon not only for a certain social group or community, but also for humanity in general. In contrast, the "war" literature of World War II focuses more on the personal experiences and experiences of people who went through the horrors of war with an accurate (or close to it) description of the terrible events of the wartime. These features directly affected the level of correlation between the ratings of specialized critics and the preferences of ordinary readers: fiction-realism did not find a response among a wide readership (the level of correlation between expert opinion and the preferences of the general public for the war literature of World War I — 0.0182), and autobiographical novels significantly respond and appeal to the personal experiences of each of the readers (the level of correlational convergence of expert opinion and preferences of the general public for the war literature of World War II – 0.3091);

– the predominance of German authors is characteristic for the two selected lists of influential literary works about the global conflicts of the 20th century, which is significant (taking into account the historical role of Germany in the resolution of the described wars) and is explained by the desire of the world community to understand the motives and intentions of nations seeking war. At the same time, There is a toxic and dangerous exchange of concepts takes place, in which the aggressor turns into a victim of circumstances, and not a conscious executor of militant chauvinistic ideas: a grey moral background is formed, which opposes the generally accepted moral concepts of "black" — war and "white" — peace. Therefore, the desire of the world community to increase the cultural influence of the aggressor nations seems rather strange, as opposed to a rational rethinking of the historical roles of each of the parties to global conflicts and preventing the repetition of frankly anti-civilizational events in the future;

– according to the cross-sectional expert-reader rating of the war literature of World War I, the work of Erich Maria Remarque Der Weg zurück, which showed a high convergence of the cross-sectional rating, both in the expert rating (0.5273), and in the preferences of a wide range of readers (0.7818), received the highest correlational convergence of ratings of critics and the general public. At the same time, the work Le Feu by Henri Barbusse (fictional realism) received most of the positive reviews among critics, and In Stahlgewittern by Ernst Jünger (autobiographical memoirs) among readers, which confirms the previous conclusions about personal sympathy for the authors' real experience shaped in an appropriate literary form;

– according to the cross-sectional expert-reader rating of the war literature of World War II, the work Het Achterhuis by Anne Frank received the greatest correlational convergence of the ratings of critics and the general public, which showed a high convergence of the cross-sectional rating, both in the expert rating (0.7818) and in preferences of a wide range of readers (0.8182). At the same time, a characteristic feature for literary works about World War II is a greater correlational convergence between experts' assessments, readers' preferences, and cross-sectional rating assessment. The established feature is particularly confirmed by the fact that the work Het Achterhuis by Anne Frank took a leading position not only in the cross-sectional rating, but also in terms of the preferences of a wide range of readers with a relatively high rating from critics. However, it is worth noting that even among autobiographical war works, the occupation experience of a little girl appealed more to readers' sympathy and empathy, while critics preferred a novel about a systemic phenomenon — German concentration camps.

– Authors of selected sets of leading war literary works condemn military actions, presenting philosophical concepts of peace through the prism of psychological experiences of individuals and communities that have experienced the horrors of war.

A contextual analysis for the leaders of the cross-sectional rating is performed using *Voyant Tools*:

– Erich Maria Remarque - Der Weg zurück –
– *Figure*;
– Anne Frank - Het Achterhuis –
– Figure.

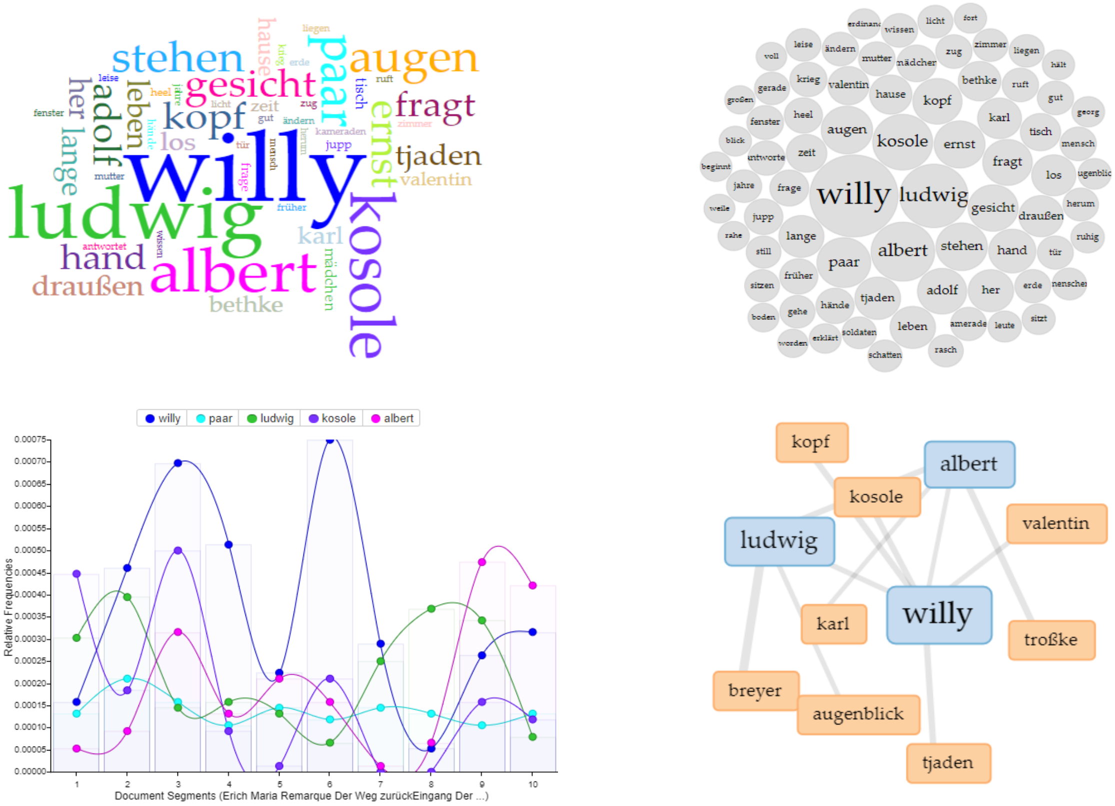

Figure 4. Content analysis of Der Weg zurück by Erich Maria Remarque
Source: created by the author in Voyant Tools.

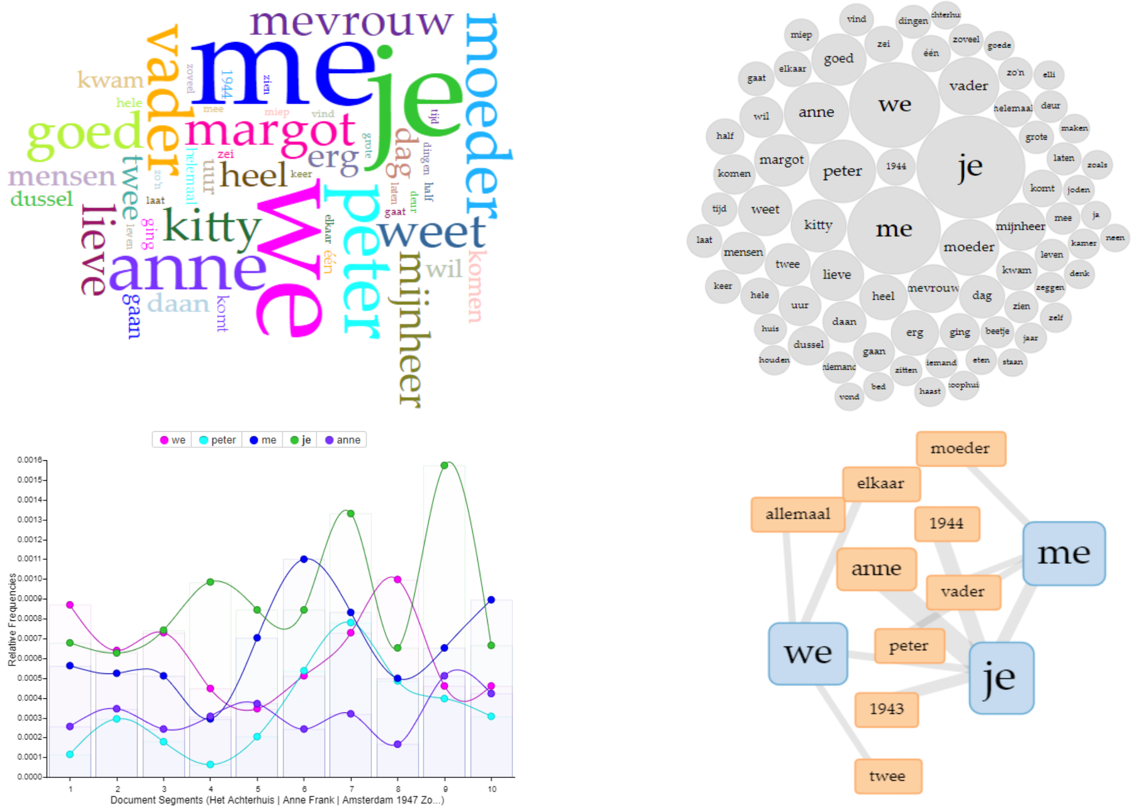

Figure 5. Content analysis of Het Achterhuis by Anne Frank.
Source: created by the author in Voyant Tools.

The content analysis of the literary work Der Weg zurück by Erich Maria Remarque in Voyant Tools (Figure 4) gave grounds to establish the following accents:

– total number of words – 76,045;
– total number of unique word forms – 10,393;
– vocabulary density: 0.137;
– readability index: 11.646;
– average number of words in a sentence: 13.2;
– the most frequently used words: Willy (283) (hero's name); Ludwig (170) (hero's name); Albert (147) (hero's name); Kosole (131) (hero's surname); paar (105) (pair).

The content analysis of the literary work Het Achterhuis by Anne Frank in Voyant Tools (Figure 5) gave grounds to establish the following accents:

– total number of words – 78,182;
– total number of unique word forms – 8 603;
– vocabulary density: 0.110
– readability index: 9.137
– average number of words in a sentence: 17,7;
– the most frequently used words: je (699) (you); me (514) (I); we (484) (we); Peter (263) (hero's name); Anne (249) (hero's name).

A comparative analysis of the results of the content analysis of the leaders of sets of literary works about the global conflicts of the 20th century indicate the following aspects:

– preliminary conclusions of the cross-expert-reader rating of war literature regarding the focus of the literary works of World War I on general social concepts (as evidenced by the set of the most used words in Der Weg zurück by Erich Maria Remarque, which mainly refer to third persons –
– *Figure*) were empirically confirmed. At the same time, the authors of literary works about World War II seek to convey personal experiences in more detail (as evidenced by the set of the most used words in Het Achterhuis by Anne Frank, which mainly refer to the first persons –
– Figure);
– the literary and technical feature of the compared works also confirms the conclusions of the cross-sectional expert-

reader rating of war literature: Erich Maria Remarque uses a wider list of words and original word forms, focusing on the literary beauty of the produced work. On the contrary, Anne Frank keeps the focus on the emotional component of the literary work, making less use of available speech and stylistic constructions, while adhering to the ordinary form of the story instead, which had an appropriate response among the general public of readers, even among modern youth (Reuter, 2023; Kröncke, 2020);
– the authors of the compared literary works use the historical context for different purposes: Erich Maria Remarque – for a systemic rethinking of the destructive consequences of war in the general paradigm of humanism, Anne Frank – for conveying personal experiences and horrors of war.

Regardless of the different approach of the authors determined by the leading positions in the cross-expert-reader rating, their works focus the reader on the problems of psychosocial experience of military actions and their consequences, which, scaling from one person to the general public, point to humanity's false perception of romanticism, honour and victory of war. The authors reveal the psychosocial aspect of war, testifying to post-traumatic stress, the moral weight of military actions, the loss of innocence, as well as the search for a way to survive in extreme conditions. The analysed literary works emphasize that the real picture of war does not coincide with romantic ideas or heroic stereotypes, but consists of a painful reality that leaves a deep mark in people's hearts. Noting the role of these works in the twentieth-century literature, it can be argued that they are evidence of the real impact of global military conflicts on the socio-cultural structures of the community. The symbolism, imagery, and style of these works help reveal the tragic nature of war and the importance of peace, with the goal of preventing similar horrors in the future.

So, the analysis of literary works about global military conflicts during the 20th century reveals the significant impact of these events on the mentality of humanity and contributes to the formation of a critical perception of the true consequences of the military situation. They create a dialogue between the past and the present, and their messages become especially relevant in a world where peace and balance are a necessary condition for a dignified life for humanity.

Discussion

We compare the obtained results with similar works on the determined experimental vector.

Despite slightly different research focuses, this work and the study of Ribeiro and Thomaz (2023) and Nicolaescu (2018) demonstrate the need to fight against stereotypical images when studying the literary interpretation of armed confrontations of global military conflicts of the 20th century. Both studies do not indicate the need for a systemic rethinking of "war" creativity in order to determine the still undefined factors and aspects of the community's sociocultural response to military destruction. However, the results of this study are more specific and give grounds to determine the difference in the authors' approach to the coverage of World Wars I and II.

The problems addressed by Shoebottom (2023) correlate with the revealed aspects of this study in terms of the selectivity of cultural memory about the war. Scientist established the influence of post-war paradigms on the interpretation of the military context of historical events, as opposed to the initial ideology under which military actions were initiated. This aspect is superficially confirmed in this study, establishing the fact that a significant amount of war literature is created by German authors.

According to the finding of Moreshead (2023) and Ojeda Revah (2022), the dynamics of changing the genre and stylistic presentation of literary works and the formation of post-war modernism are noted. The mentioned dynamics are confirmed in this study, while clearer characteristics of the transition from the general concepts and fiction-realism of the war literature of World War I to the autobiographical novels of World War II are established.

One of the main aspects of this study and the research by Mishra (2023), Petrauskas (2021) and Post (2021) is that "war" literature destroys the myths of romanticism and the success of military actions, forming experiences of the real horrors of war in the readers. Scientist, as well as this study, also declares that literary works about military conflicts make it possible to form a thesis among a wide audience of readers that military actions are a useless solution to conflicts and do not contribute to civilizational development.

Wróblewski (2023) recorded the beginning of the stylistic genre transition in war literature, which was established in this study. The publication states that literary works that reflect the personal experiences of authors have the greatest response among readers. This is empirically confirmed in this study.

The article (Blažić, 2023; Massocco, 2022) provides a substantive description of the use of fictional stylistics to convey the horrors of war. This study found that this approach is more characteristic of the war literature of World War I.

This study, like the study by Ugli (2022), records the direct impact of global military conflicts of the 20th century on literature. The conclusions regarding the importance of the literary interpretation of the historical context of terrible military actions and armed confrontations correlate.

Campobasso (2022), Nowakowska (2023) and Stingle (2023) note the importance of the literary response to the terrifying consequences of the war. This study, as the publication by scientist recorded that the literary interpretation of military actions allows to rethink their moral context and warn future generations.

This study also confirmed the thesis of Dagnino (2022) that not only war affects literature, but also war literature affects other aspects of socio-cultural activity: from religion to political attitudes. The literature on global military conflicts of the 20th century was one of the main elements of the socio-cultural sphere that shaped the moral and ethical principles of post-war communities.

The publication of Ferris (2022), as well as this study, established the fact of genre-stylistic dynamics of literary interpretation and literary response to the global military conflicts of the 20th century, which in some places moved into the plane of creative experimentation, thanks to which new approaches and methods of presenting creative material were formed. However, this study records the transition from fiction realism to autobiographical works, and the study by scientist establishes the connection between spatiality and visuality in post-war literature.

In general, this study significantly correlates with the conclusions of the reviewed relevant and current studies, but contains more substantive observations that indicate the evolution of war literature and its influence on the moral and ethical values of the post-war community.

Conclusions

Relevance

History teaches humanity many lessons about the futility and outright worthlessness of armed conflicts, but society constantly makes this terrible mistake. Even now, the unprovoked armed aggression of the Russian Federation against Ukraine is ongoing in the centre of Europe. Literature, as one of the vivid examples of socio-cultural activity of the community, calls for rethinking and moral and ethical assessment of the historical context of the consequences of global conflicts in order to prevent such destructive effects in the future. The more a wide circle of readers of war literature learns about the horrors of war, the higher the probability of preventing such frankly anti-civilizational actions that plunge humanity into dark times. It is relevant to popularize and convey the features of the best examples of war literature, which has the potential to influence society.

Findings

The research results gave grounds to make two lists of literary works covering the events of the World Wars I and II. The leading positions were established according to the results of the expert-reader rating: for World War I – Der Weg zurück by Erich Maria Remarque, for World War II – Het Achterhuis by Anne Frank. The stylistic and genre dynamics of the transition of the war literature of the first sample, characterized mostly by fiction realism, to the autobiographical literary works of the second sample was established. The results of the content analysis of the leading works of war literature empirically confirmed the change of the literary paradigm from generalized structural reflections on morality and ethics in the conditions of war (during World War I) to the literary translation of personal experiences and life experiences during the military horrors (during World War II). The authors of relevant and current publications also testify to the results of this study in terms of establishing the influence of global military conflicts of the 20th century on literature and the subsequent influence of literary reaction on other socio-cultural manifestations. An interesting fact is the established fact of sending German authors in exemplary works of war literature.

Applications

The obtained research results are of practical importance for various spheres of activity. They can be used in the field of literary studies for detailed analysis and interpretation of literary works about global military conflicts of the 20th century. Moreover, they can become the basis for the preparation of teaching material for the study of the theme of war and peace in literature in Literature and History classes. The application of the research results will help to raise awareness about the real consequences of military conflicts and will influence the formation of humanistic values in society.

Prospects for Further Research

The study of the problem of war and peace in literature can be expanded by including additional literary works from various European countries, which were also created under the influence of global military conflicts. Comparing the literary works of different authors and national schools can shed light on the diversity of approaches to depicting the theme of war and peace. Besides, further research may include examining the influence of these literary works on contemporary literature and culture, as well as their role in shaping society's worldview and moral values. Taking such aspects into account will provide a more complete picture of the impact of global military conflicts on European literature and contribute to the development of a humanistic worldview in the modern world.

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DOI: https://doi.org/10.34069/AI/2023.68.08.21
How to Cite:
Romanyuk, S., Maftyn, L., Iliichuk, L., Vasylyk, M., & Tarangul, L. (2023). The use of modern technologies to enhance the quality of teaching at higher education institutions. *Amazonia Investiga, 12*(68), 224-235. https://doi.org/10.34069/AI/2023.68.08.21

The use of modern technologies to enhance the quality of teaching at higher education institutions

Використання сучасних технологій підвищення якості освіти у вищій школі

Received: July 15, 2023 Accepted: August 25, 2023

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Abstract

Currently, state-of-the-art technologies contribute to the development of the educational process, which entails the search for new approaches to providing information. The purpose of the study is to identify the effectiveness of using modern technologies to enhance the learning performance in higher education institutions. Attaining the said goal became possible due to calculating the variation coefficient of, the obtained level of knowledge, the Student coefficient as well as the direct standardization method. It was found that the greatest advantage of using modern technologies is the possibility of combining distance and in-class learning. However, the disadvantage is the difficulty of identifying the relevant technologies according to the training program. The elaborated mechanisms for ensuring the learning process were implemented with the help of Blackboard, CourseCraft, Trello, EdApp,

Анотація

Сучасні технології сприяють розвитку навчального процесу, що пов'язано з пошуком нових підходів до подачі інформації. Мета роботи полягає у виявленні результативності від використання сучасних технологій для підвищення якості освіти у вищій школі. Досягнення мети стало можливим завдяки розрахунку коефіцієнтів варіації, отриманого рівня знань, Стьюдента та прямого методу стандартизації. Встановлено, що найбільшою перевагою від використання технологій є можливість комбінування дистанційного й аудиторного навчання. Недолік полягає у складності знаходження характерних технологій відповідно до програми навчання. Розроблені механізми для забезпечення процесу навчання були реалізовані за допомогою програм Blackboard, CourseCraft, Trello, EdApp, Scheduler Maker. Встановлено, що серед студентів, які вивчали педагогіку та

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Scheduler Maker software. It was established that among students who studied pedagogy and primary school methods (group 1), a high level of knowledge was attained with 71%. Students of group 2, who studied English, achieved a high level with 65% of students. The practical implications of the study lie in the improvement of the learning process at higher education institutions drawing on the use of modern technologies. Prospects for research may be related to comparing the effectiveness of programs used to provide learning with a traditional learning approach.

Keywords: digital technologies, comprehensive training, educational materials, level of knowledge.

методику початкової школи (група №1), високий рівень знань був досягнутий серед 71%. Студенти групи №2, які вивчали англійську мову, високого рівня досягли серед 65% студентів. Практичне значення роботи полягає у вдосконаленні процесу навчання у вищій школі в результаті застосування сучасних технологій. Перспективи дослідження можуть бути пов'язані з порівнянням ефективності використаних для забезпечення навчання програм з традиційним підходом навчання.

Ключові слова: цифрові технології, комплексна підготовка, навчальні матеріали, комплексна підготовка, рівень знань.

Introduction

The training of specialists in higher educational institutions draws on European and national standards and is aimed at identifying innovative approaches in teaching and learning. The implementation of new training programs can be attained entailing the state-of-the-art technologies (Lousã & Lousã, 2023). Modern technologies contribute not only to the educational process, but also to the development of students' creative skills, which substantiates the relevance of the chosen topic.

Enhancing the quality of education drawing on digital technologies can be realized as a result of studying and consolidating educational material, assessing the level of knowledge. Moeover, digital technologies can be used to organize the educational process, drafting the class schedule (Cho et al., 2020). Multimedia programs, software, access to electronic libraries can be presented in the educational process (offline and online). A variety of multimedia technologies contribute to the effectiveness of communicating the information, which may vary in content and form (Al-Rahmi et al., 2022a). Multimedia technologies (whiteboards, projectors, etc.) contribute to the visual perception of information, which facilitates the process of memorization. The software aims to use specialized applications that facilitate the learning of theoretical and practical material (Cheah et al., 2019). Access to electronic libraries facilitates the study of scientific information from various sources and helps solve problems based on world experience.

Ensuring a continuous learning process relying on digital technologies is aimed at a more detailed study of materials and the enhancement of cognitive literacy. Beyond all doubt, the variety of modern technologies helps to find the most effective ones for displaying the educational process and its organization for various categories of students (Lyailya et al., 2021). Consequently, the educational material can be communicated in various electronic formats, which facilitates monitoring the stydying process. This contributes considerably to developing students' intellectual potential, which is reflected in the full assimilation of the material. Digital facilitate the seamless uptake of information drawing on the principles of interactivity, adaptability, individual learning, as well as group learning (Al-Ansi, 2022). For example, the LMS Moodle program is aimed at improving professional skills as a result of working with educational materials. Also, the application allows the instuctor to provide an electronic format for displaying the material. AICC (Aviation Industry Computer-Based Training Committee) facilitates the development of training courses that are relevant to the curriculum. The WorkWize application facilitates the display of educational data, which can be presented in a non-standard form (Suelves et al., 2022). Conducting an integral learning process can be ensured with the help of online platforms (Google Meet, Microsoft Teams), which enhances communication, creating a dynamic learning environment (Dahri et al., 2021). This facilitates the seamless presentation of information, improving the processes of remembering the information. Digital technologies give impetus to flexibility of the educational process, which allows the instructor to diversify the methods of providing educational information.

In recent studies, the issue of using digital technologies to increase the comprehensive organization of the educational process is considered superficially. Emphasis is made on the benefits of identifying the digital technologies' overall effectiveness. The purpose of the study is to determine the effectiveness of using modern technologies to enhance the performance at higher education institutions.

The research objectives include as follows:

– to identify the advantages and disadvantages of using modern technologies in higher education;
– to elaborate mechanisms for improving the first-year university students' academic performance, with the special emphasing on using modern technologies;
– determine the effectiveness of the developed mechanisms for improving students' academic performance, taking into consideration the calculation of the direct standardization method;
– to determine the academic performance level on studying the courses of "Pedagogy and methods of primary education" and "English".

Literature review

Modern technologies contribute to the development of educational models, facilitating educational reforms. Digital technologies enable creating index systems for evaluating educational programs and student satisfaction. Moreover, digital technologies contribute to the development of pedagogical competences, which is manifested in enhancing the education quality and allows taking into account the students' individual capabilities (Diz-Otero et al., 2023). However, the introduction of digital technologies in the learning process has not only advantages, but also disadvantages that teachers face. When it comes to disadvantages, those may be related to the lack of teachers' expertise, which will not contribute to the use of modern technology potential. The development of teachers' digital skills can be achieved due to the proper use of interactive learning objects, contributing to the development of electronic courses. The creation of elective training courses with the help of Quality Matters allowed to obtain high indicators, thus contributing to the enhancement of professional knowledge (Alibraheim et al., 2022). In fact, modern digital technologies facilitate the expansion of specialized knowledge and the broaden possibilities of their professional application. The TECW program promotes the learning of a second language, based on pedagogical training, students streaming, development of writing skills. That said, with the help of the program it is also possible to monitor the quality of tasks, receive constant feedback, and motivate students. The program enables to analyze submitted tasks, which affects the possibility of developing students' knowledge. Some issues in using TECW are related to students' reluctance to revise the tasks, to tackle the difficulties (Zhang et al., 2022).

The COVID-19 pandemic contributed to the increased use of digital technologies in the learning process. The use of thematic analysis made it possible to establish that modern technologies significantly facilitate the development of independence and continuous support. During training, teachers with a low level of digital literacy may encounter obstacles that affect the quality of teaching. However, the adaptation of digital technologies to the curriculum contributes to the expansion of opportunities for obtaining a high knowledge level (Meirovitz et al., 2022). The use of digital technologies in the educational process should be based on improving the quality of education, ensuring accessibility standards. Modern technologies contribute to the formation of innovative thinking and the expansion of access to education. 92.1% of respondents from Swinburne University of Technology (out of 136 people) came to the conclusion about the need to use Google Classroom for professional development. Google Classroom facilitates the sharing of learning materials between students and teachers (Adi Badiozaman et al., 2022). The implementation of the interactive course "Digital technologies in teaching foreign languages: theory, methodology, application" was implemented at Vinnytsia State Pedagogical University (Ukraine). The course dealt with the he formation of mixed learning, the possibility of using flexible electronic forms. In the course of the study, the potential of technologies grounded on a combination of quantitative and qualitative methods was elaborated (Ihnatova et al., 2022)

It should be noted that modern technologies in the educational process are a motivational component that promotes professional development, faculty interaction, and the desire to succeed. Furthermore, digital technologies contribute to the learning process organization and enhance the activation of educational and cognitive activities. The results of diagnostic surveys showed a high level of students' academic performance (Fursykova et al., 2022). The development of digital technologies in the educational process should be connected with the elaborating teachers' didactic technological competences. The solution to this issue can be provided as a result of teacher training aimed at improving digital literacy. The process should be aimed at expanding the possibilities of working with various modern technological systems that contribute to learning (Záhorec et al., 2021). The involvement of modern technologies in the learning process should be based on an integrated approach and the involvement of various approaches. Training should be aimed at identifying dynamic connections, multidirectionality, which contributes to the development of thinking, contributes to the analysis of the presented information. The presented processes can be implemented as a result of applying relevant solutions to address the tasks (Howard et al., 2021).

The of literary sources revealed that most of the works highlight the digital technologies' impact on the learning process. Problems faced by teachers while using modern technologies in education were also identified. Gaps in research are related to the lack of analysis regarding various technologies for organizing the learning process within the conditions of a seperate higher educational institution.

Methods

Research procedure

According to the research procedure, 4 stages were planned. The first stage of the research consisted in identifying the advantages and disadvantages of digital technologies during education. This stage aimed at a more detailed study into the possibilities of modern technologies in students' training at higher educational institutions. The identification of the most important advantages and disadvantages became possible as a result of obtaining the data from the respondents. The submitted data became the basis for developing the mechanisms for modern technologies' application in the educational process at the high school.

The second stage of the research involved the elaboration of mechanisms that contribute to the organization of the educational process in higher education entailing the use of digital technologies. The mechanisms were aimed at ensuring the education of first-year students, since they still lack knowledge in the professional field. The development of mechanisms involved studying the specifics of more than 250 modern interactive technologies. Following the elaboration of mechanisms for improving the educational process, the period of study of first-year students lasted 3 months (November 2022 - January 2022).

The third stage of the research was conducted during the training period and consisted in determining the most favorable mechanisms of training with the use of digital technologies. The results were obtained among two groups of students, which approach facilitated the comparison of results among students from different specialties. Students of group 1 were enrolled in the course "Pedagogy and methods of primary education", students of group 2 in "English" correspondingly.

The fourth stage of the study provided for obtaining information on the level of knowledge of students of groups 1 and 2. The distribution of results involved obtaining information on the level of knowledge before the beginning of the study (2 months of training) and after training (3 months of training). The level of knowledge was distributed into high, sufficient, medium, low.

Sample formation

The research embraced 148 students from various educational institutions: Yuriy Fedkovich Chernivtsi National University, Chernivtsi branch of the State Scientific Institution "Institute of Modernization of the Content of Education", Prykarpattia National University named after V. Stefanyk. First-year students majoring in "Pedagogy and methods of primary education" (94 students), "English" (54 students) were involved in the study. The limitation of the student sample was used to test the effectiveness of incorporating digital technologies for learning. This is because first-year students do not have professional knowledge, but only develop it during the training process. During the study, students were divided into two groups according to their specialization.

Method

To obtain information about the advantages and disadvantages that may arise when using digital technologies in education, traditional methods were used. A relevant method was to use a comparison between a traditional learning system and an interactive one. In accordance with the traditional education system, it was envisaged to organize regular education without the use of modern technologies. The comparison of these education systems made it possible to form the advantages and disadvantages of including modern technologies for professional training of students. When it comes to the established data, the most characteristic advantages and disadvantages were identified according to the results of the students. The results from the students were obtained using the Thurstone scale, which enabled the calculation of the variation coefficient, which was developed by the authors:

$$k_v = \frac{s_{\text{в}}}{x} \qquad (1)$$

s – an indicator characterizing the deviation from the established norm;
x – sample value

The development of mechanisms to ensure digitalization of first-year students' education consisted in studying the advantages of digital technologies using the well-known comparison method. To provide comparative data, more than 250 available digital technologies were selected, the functionality of which contributed to the development of mechanisms for providing education in higher education. Implementation of training was ensured as a result of uninterrupted access to the Internet, as well as modern technologies Blackboard, CourseCraft, Trello, EdApp, Scheduler Maker. Additional programs were TalkEn. Cloud (learning the English language) and Mind42 (to provide training for students majoring in "Pedagogy and methods of primary education".

Obtaining data on the effectiveness of the learning mechanism according to the students' data of groups 1 and became possible as a result of using the Thurstone scale (Zhang et al., 2022). The collected data contributed to the calculations of the direct standardization method (Ihnatova et al., 2022).

$$S = \frac{n_f}{n_e} \times c_e, \qquad (2)$$

n_f – actual conditional value;
n_e – conditional expected value;
c_e – standard set value.

In fact, students' level of knowledge following 3 months of study was obtained by calculating the coefficient of the obtained knowledge level:

$$\text{К}_{\text{з}} = \frac{h_{\text{т}} + h_{\text{п}} - h_{\text{дп}}}{h_{\text{м}}} \qquad (3)$$

$h_{\text{т}}$ –grades received for theoretical material;
$h_{\text{п}}$ – grades received for practical skills;
$h_{\text{дп}}$ – indicator of mistakes made;
$h_{\text{м}}$ – maximum number of points allowed.

Data analysis

Further, to compare the obtained data on the effectiveness of the learning mechanism for students of different groups and the level of acquired knowledge, the calculation of the Student's coefficient was used. The performed calculation contributes to obtaining a statistical verification of the results, which contributes to a more thorough investigation. The comparison of data took place among students of both groups (group 1 and group 2), which made it possible to compare the obtained results (Suelves et al., 2022).

$$t = \frac{M_1 - M_2}{\sqrt{m_1^2 + m_2^2}} \qquad (4)$$

M_1, M_2 – average divergence of elements;
m_1, m_2 – mean square deviation of the elements.

Data collection

Data collection involved the use of the Thurstone scale, which contributed to obtaining data on the advantages and disadvantages of digital technologies in education. Moreover, the scale was used to identify the effectiveness of the developed mechanisms for organizing learning using digital technologies among students. The scale provided for marking 0 (no preference) and 1 (given preference), which corresponded to the preference chosen by the students. Students had to provide data within 5 hours via email. The elimination of data falsification became possible as a result of the use of pre-registration of electronic mailboxes of students who participated in the study.

Ethical criteria

Compliance with the ethical criteria during the research consisted in compliance with the provisions of the Guidelines for Research Ethics in Science and Technology (National Research Ethics Committee, 2016). In accordance with the ethical provisions used, the authors confirmed the novelty of the information and the absence of plagiarism. The work did not use published materials, the theoretical material applied in the introduction, literature review, and discussion sections was supported by relevant literature sources.

Results

The rapid transition to the use of digital technologies (fully or partially) is connected with social, economic, political aspects (COVID-19, war in Ukraine, etc.). Therefore, in the work among the respondents, it was determined which advantages and disadvantages of modern technologies are the most crucial in the learning process. These data are necessary to understand the expansion of the possibilities of use in the educational process. The calculated data were obtained using the coefficient of variation according to formula 1 (Figure 1).

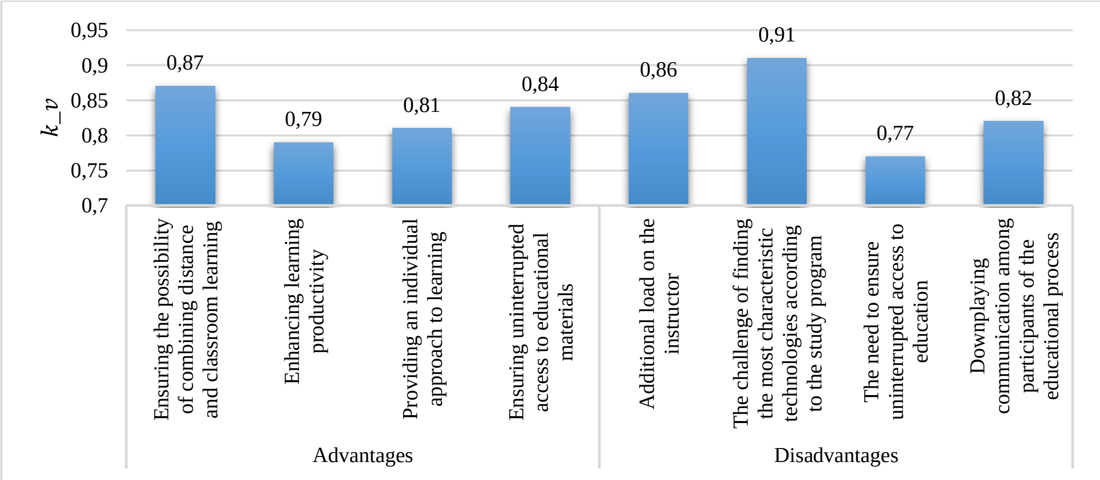

Figure 1. Advantages and disadvantages of introducing digital technologies into the educational process
Source: Developed by authors

In light of the results obtained from the respondents, the greatest advantage of using modern technologies is the possibility of combining distance and classroom learning. The process is related to the fact that during emergencies, training can be provided in an interrupted mode. Electronic systems contribute to uninterrupted learning, access to necessary materials, as they can be stored in network access. They also facilitate the organization of teamwork, providing access to digital materials that were displayed during lectures or practical work. This approach entails the actualization of the received information, which affects the quality of knowledge acquisition.

Ensuring the steady access to educational materials according to the results obtained is the second most important advantage. The results are related to the possibility of systematizing the educational materials that were used in the learning process and leaving them publicly available. The display of materials using digital technologies can be presented in the same way as it was presented during classes. This allows students to complete their homework using the material they have covered. Further, uninterrupted access consists in the possibility of obtaining access to materials from the world's libraries. Providing an individual approach to learning can be implemented as a result of selecting relavant applications that contribute to the development of individual skills. During training, digital technologies also contribute to the determination and monitoring of the learning progress of an individual student. Moreover, modern technologies contribute to the performance of individual assignments, the verification of which can be automated. Notably, an individual approach to learning contributes to increasing the level of knowledge in problematic aspects.

Although increasing the productivity of learning is not critical, it is important for the effectiveness of learning due to the formation of students' motivation. Learning productivity is associated with a non-standard approach, the possibility of easier perception of materials as a result of the exclusion of secondary information. That said, learning productivity can be increased as a result of non-standard submission of materials, use of rating approaches. The first disadvantage as a result of the use of digital technologies in education is the difficulty of finding the most characteristic technologies in accordance with the educational program. The process may be related to the limited functionality of the program, the lack of accurate sound transmission, and the complexity of implementation. This disadvantage may also be connected to problems in adjusting the existing information or the complexity of its display. Also, the quality of the presented information may not correspond to the level of students' knowledge. An additional burden on the teacher is the need to understand the use of digital technologies in the educational process. To address it, teachers should study the features of using programs, applications, which require the use of additional time. When involving various innovative technologies in the educational process, additional training of teachers and students regarding their correct use should be provided.

Furthermore, a decrease in communication between the participants of the educational process may be related to the performance of tasks directly in the application. Therefore, the use of technologies should also involve teamwork, which affects the level of socialization. Completing tasks using the application may affect the need to increase the rating of an individual student, which excludes the possibility of discussion with other students. This is due to the fact that students will be focused on achieving the highest results. The need to provide uninterrupted access to education may be related to the lack of Internet access, problems when using specialized programs. In the learning process, there may be a need for additional program customization, which requires additional knowledge. It is also necessary to provide preliminary training on the correct use of the technologies proposed for training.

The identified advantages and disadvantages of the use of digital technologies contributed to the development of mechanisms for improving the quality of education in higher educational institutions. The mechanisms were aimed at improving the quality of education of first-year students:

- to provide comprehensive training of students as a result of combining theoretical and practical classes. The presented mechanism can be achieved as a result of using the Blackboard digital application. This is due to the fact that it facilitates the development of classes based on existing material or as a result of creating your own courses for training. Digital technologies during comprehensive training can contribute to the display of theoretical information during practical classes. It can also be manifested in conducting educational webinars to consolidate the learned material;
- to ensure the development of professional and cognitive activities of students, which contributes to their active participation in the educational process. The CourseCraft computer program promotes comprehensive perception as a result of preparing the lessons. With the help of CourseCraft, it is possible to ensure the development of classes by students, which is based on flexible functionality. This approach contributes to a more detailed study of a specific topic, the perception of information and is reflected in the development of communication culture. The development of classes by students contributes to the formation of a professional opinion in accordance with the questions posed, addressing existing issues;
- to ensure the possibility of using digital technologies for the organization of the educational process. The Trello application allows organizing the learning process as a result of entering data about lectures, practical classes, specifying additional tasks. Trello also helps to organize time for preparing homework and repeating the material studied;
- to ensure the development of students' creative thinking. To that end, creative thinking can be enhanced through setting some non-standard tasks. For instance, in the development of the specifics of the presentation of information as a result of studying a topic assigned to the student; during preparation for practical classes. Using the EdApp program can promote the development of creative thinking as a result of a variety of functionality that allows you to vary the tools during learning. The process may involve using existing templates or creating your own;
- digital technologies should also be used in curriculum designs, which contributes to the automation of the process. The Scheduler Maker program allows you to create a schedule of classes for different groups of students, as well as set reminders as a result of additional changes. Also, the functionality of the program includes data synchronization, which allows you to adjust data from various digital devices (laptop, smartphone, tablet);
- to expand access to global electronic libraries as a result of the use of digital technologies. Access to the Internet facilitates the search for scientific information to expand professional knowledge. Such an approach affects the possibility of studying various approaches to

solving tasks, which will contribute to professional activity;
- when mastering the material, not only programs that promote a non-standard format of information presentation should be used, but also those that allow to acquire specialized skills. For example, to learn English, it is possible to use the TalkEn.Cloud program, which facilitates access to interactive information. The program provides for the completion of tasks, as well as the use of automated knowledge testing, which allows you to obtain information about the students' knowledge level. To ensure the study of the subject "Pedagogy", the Mind42 program can be used, which facilitates the organization of teamwork, the format for presenting information, conducting brainstorming. Also, the program can contribute to the development of approaches to training the elementary school learners.

The developed mechanisms for improving the quality of education as a result of the use of digital technologies made it possible to determine which of the mechanisms has the greatest importance for students. To that end, the results were presented for different groups of students. Group 1 was represented by students majoring in "Pedagogy and methods of primary education", group 2 by the course in English. Obtaining the data became possible using direct standardization method calculations (Table 1).

Table 1.
The effectiveness of the developed learning mechanisms for different groups of students

Teaching mechanism	Students' performance according to answers of group 1	Students' performance according to answers of group 2	Student's coefficient (table value - 2.447)
students' comprehensive training resulting from combining theoretical and practical classes	1.43	1.42	0.815
enhancing students' professional and cognitive activity	1.5	1.44	1.027
use of digital technologies to organize the educational process	1.31	1.33	0.853
enhancing students' creative thinking	1.37	1.38	0.716
development the lesson plan	1.29	1.3	0.893
expanding access to global electronic libraries	1.41	1.48	1.284
development of specialized skills	1.32	1.49	1.317

Source: Developed by authors

It was found that for students of group 1, the development of professional and cognitive activity is one of the priority directions. This is due to the fact that it promotes the search for approaches to ensure the learning of primary school students. The mechanism consists in the active participation of students in the preparation of classes, which contributes to the expansion of professional skills. Comprehensive training as a result of combining theoretical and practical classes is also important for students of group 1. The results are related to the possibility of receiving information in a more simplified form as a result of using the Blackboard application.

The development of specialized skills for students of group 2 is of the greatest importance, as it is associated with the use of special programs (TalkEn.Cloud) that contribute to the study of the English language. This approach facilitates the elimination of knowledge gaps, a more detailed study of the topic and consolidation of knowledge immediately after studying the material. Expanding access to global electronic libraries is also important for students of group 2. This is due to the fact that the indicator promotes the search for various information, which affects the improvement of the level of the English language. The study of various world sources of information is reflected in the expansion of practical approaches to the study of the English language. For students of group 1, this mechanism ranks third, because teamwork is more important.

The development of creative thinking of students of group 1 ranks fouth (students of group 2 rank fifth). Hence, it allows forming an unconventional approach to learning and in further professional activity contributes to the innovative presentation of information. However. the development of creative thinking first requires the presence of deeper knowledge, which will allow them to be transformed. The mechanisms of using digital technologies for the organization of the educational process and the development of the lesson plan are equally important for students of both groups. The presented mechanisms are more significant for teachers, which helps to organize the educational process.

The level of acquired knowledge among students of groups 1 and 2 was established by calculating the coefficient of the acquired level of knowledge (Formula 3). The results are presented in Table 2.

Table 2.
Determination of the knowledge level gained by students after completing the training

Group No.	Knowledge level							
	High		**Sufficiant**		**Average**		**Low**	
	before the study	**after using digital technologies**	**before the study**	**after using digital technologies**	**before the study**	**after using digital technologies**	**before the study**	**after using digital technologies**
Group 1	10.2	10.9	7.6	8.9	5.4	6.0	3.7	-
Group 2	10.1	11.0	7.4	8.7	5.8	6.3	3.0	-
Student's coefficient (table value – 2.447)	0.883	0.887	0.992	0.918	1.315	0.996	1.471	-

Source: Developed by authors

The resulting calculations made it possible to establish that the majority of students showed a high level of knowledge after 3 months of study as a result of using digital technologies. It was established that 71% of students of group 1 showed a high level of knowledge, which is connected with the systematic study and the use of an integrated approach. Before the beginning of the study, only 18% of students showed a high level of knowledge. A sufficient level of knowledge was obtained after training among 19% of students of group 1, a low level of knowledge is absent. Before the start of the study, 47% of the students in group 1 had an average level, and 2% had a low level.

Similar results are also obtained by students of group 2, most of whom received a high and sufficient level between 65% and 24%. There was no low level of knowledge among students. Before the beginning of the study, the level of knowledge among students of group 2 was at a sufficient level among 32%, average - 41%, low - 1% of students. The increase in results after three months of study is associated with the correct organization of the educational process, increased student motivation as a result of digitalization of the educational process.

Discussion

Addressing the shortcomings in the educational process can be achieved as a result of the use of gamification techniques. Gamification is related to the use of game technologies in education. Gamification in higher education can be implemented by accumulating points as a result of passing relevant levels in education. The process can be implemented with the help of special programs (Learning.online) that facilitate the completion of tasks according to the training program (Záhorec et al., 2022). Digital learning tools contribute to the creation of new perspectives for creating an artificial language environment and learning English. The use of digital technologies, which contribute to functional modeling, contributes to the graphic display of educational material. This approach contributes to the learning of new words, language structures, and also promotes communication between students, which is manifested in the expansion of the level of knowledge (Habelko et al., 2022). Digital technologies contribute to going beyond the existing boundaries of learning, which is based on improving coordination, stability. However, digital technologies should be directed to the development of students' cognitive processes, ensuring the connection of educational material with the capabilities of digital programs. The learning process should be based on the constant search for new approaches that contribute to the acquisition of more specialized knowledge (Adi Badiozaman et al., 2022a). In the current study, the identification of acquired cognitive skills by students is not presented, however, the effectiveness of learning mechanisms among groups of respondents is presented in the work.

In particular, students who took the course in pedagogy and methods of primary education, as well as students who study English.

The spread of COVID-19 affected the transformation of the educational process, which has contributed to the use of online technologies. The use of digital technologies should be based on their thematic direction, the ability to make changes to the presented material. Education should be aimed at the development of scientific and pedagogical activity (Chen et al., 2022). The use of Science Lab in the educational process promotes a virtual learning environment, which consists of a combination of pedagogical theory and inclusive learning strategies. When using a computer program in education, it is necessary to analyze its functionality and the possibility of using theoretical material during research. In that light, attention should also be paid to the possibility of processing student results, which contributes to the design of a unified educational system (Lyailya et al., 2022). Systematic analysis of existing publications in the field of application of modern technologies for providing training allowed to reveal their advantages. It was established that digital technologies contribute to prospective and individual learning, expand the possibilities of the educational process. With the help of digital technologies, it is also possible to develop critical thinking, which affects the learning of learning material (Cheah et al., 2023). The transformation of educational programs with the help of digital technologies contributed to the development of creative thinking among students and influenced the expansion of motivation. Positive changes are related to the application of a complex learning process, which is achieved during lectures, practical work, and seminars. For example, the Google Jamboard online service facilitates group learning, the use of educational materials in an accessible form (drawings, diagrams), and the creation of notes (Dilekçi and Karatay, 2023). Mechanisms aimed at improving the quality of the educational process as a result of the use of modern technologies were developed in the work presented. Thus, among the modern technologies used were Blackboard, CourseCraft, Trello, EdApp, Scheduler Maker.

Ensuring flexibility and individualization of education can be achieved as a result of the use of digital pedagogical technologies. An innovative learning strategy can be the use of video lessons, mobile applications, and virtual reality programs. This approach contributes to the highest quality assimilation of the studied material and promotes its further use in professional activities. Digital technologies make it possible to communicate material in a more accessible form (Dahri et al., 2022). Applications for mobile learning contribute to the enhancement of the information perception, which increases the value of learning and the motivation of students. The improvement of perception is associated with an accessible presentation of the material, which can be presented in the form of presentations, diagrams, graphs. It is also aimed at the automation of learning, which contributes to the saving of time spent on learning (Al-Rahmi et al., 2022).

The analysis of the scientific works made it possible to conclude that most of the studies are based on determining the effectiveness of the structuring the educational process, including their advantages. In the current paper, the advantages and disadvantages of using digital technologies in the educational process and their importance for the respondents were revealed. The study also developed mechanisms for improving the quality of education with the help of digital technologies (Blackboard, CourseCraft, Trello, EdApp, Scheduler Maker). Moreover, the level of students' knowledge after 3 months of study, was highlighted based on the mechanisms developed by the authors.

Conclusion

The research conducted by the authors yielded meaningful findings. The set goal was achieved, and the effectiveness of the technologies involved during training was confirmed. The findings were obtained as a result of identifying the level of students' knowledge before and after the study.

It was determined that the greatest advantages of using digital technologies in education are the possibility of combining distance and classroom learning (0.87). Ensuring uninterrupted access to educational materials is also important (0.84), as it contributes to uninterrupted learning. Notably, the biggest drawback is the difficulty of identifying the most characteristic technologies according to the program (0.91), since the indicator affects the quality of training. The additional load on the teacher (0.86) is also a disadvantage of digital technologies, as it implies the need to study the functionality of the applied programs.

Using the Blackboard program to design the educational process can affect the combination of theoretical and practical classes. The CourseCraft application can be directed to the development of professional and cognitive activities of students; Trello in its turn helps to organize the educational process. Students' creative thinking can be developed as a result of using the EdApp program to prepare practical classes. The Scheduler Maker application facilitates the development of a lesson plan, and digital technologies can facilitate access to information from the world's electronic libraries. Digital technologies contribute to the development of knowledge in specialized disciplines (namely, TalkEn.Cloud contributes to the study of the English language, Mind42 - the expansion of knowledge in pedagogical disciplines). It was established that the mechanism of developing the professional and cognitive activity is the most effective for group 1 who studied pedagogy and primary school methods (1.5). The results are related to the possibility of creating unconventional approaches for teaching elementary school learners in the future. Students of group 2, who studied English, believe that the development of specialized skills (1.49), such as the TalkEn.Cloud program, is of paramount importance.

After three months of training, it was found that the high level of knowledge of students of groups No. 1, No. 2 was achieved among a larger number of respondents. Before the start of the study, a high level was achieved among 18% of students of group #1 and 26% of students of group #2.

The practical value of the study lies in the possibility of improving the educational process of higher school students entailing the use of modern technologies. Research perspectives may be related to the elaboration of learning using digital technologies for a different group of respondents. Participants of the study can be students of 1st year, 5th year, as well as those who are enrolled in their second higher education program.

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DOI: https://doi.org/10.34069/AI/2023.68.08.22
How to Cite:
Sabat, N., Petrenko, S., Bosa, V., Lashkul, V., & Bielikova, V. (2023). The informatization role of the educational process for quality training of specialists. *Amazonia Investiga*, *12*(68), 236-247. https://doi.org/10.34069/AI/2023.68.08.22

The informatization role of the educational process for quality training of specialists

Роль інформатизації освітнього процесу для якісної підготовки фахівців

Received: June 25, 2023 Accepted: August 25, 2023

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Abstract

The article reveals the role of informatization of the educational process for high-quality training of specialists in order to achieve in the educational process a systemic vision of the future innovative activity of specialists, its perception as a single system of professional functions and tasks, giving preference to informatization. The purpose of the article is to clarify the role of informatization of the educational process for quality training of specialists to achieve a systemic vision of future innovative activity in the educational process, its perception as a single system of professional functions and tasks. , giving preference to informatization. The methodical concept of scientific training of future specialists in the conditions of informatization of the educational process for high-quality training of specialists reflects the relationship and interaction of scientific approaches to the study of a fundamental problem. Informatization of the educational process was considered in aspects:

Анотація

У статті розкрито роль інформатизації навчального процесу для якісної підготовки фахівців для досягнення в освітньому процесі системного бачення майбутньої інноваційної діяльності спеціалістів, сприйняття її як єдиної системи професійних функцій і завдань, віддаючи перевагу до інформатизації. Метою статті є з'ясувати роль інформатизації навчального процесу для якісної підготовки фахівців для досягнення системного бачення майбутньої інноваційної діяльності в освітньому процесі, сприйняття її як єдиної системи професійних функцій і завдань. , надаючи перевагу інформатизації. Методична концепція наукової підготовки майбутніх фахівців в умовах інформатизації навчального процесу для якісної підготовки фахівців відображає взаємозв'язок і взаємодію наукових підходів до дослідження фундаментальної проблеми. Інформатизація навчального процесу розглядалася в аспектах: системному, діяльнісному та інформаційному.

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system, activity and information. The positive factors of informatization of the educational process, which increase the effectiveness of the training of education seekers and factors that contribute to the prompt updating and solving of tasks, filling the content of the educational environment through the use of new technologies, have been determined.

Keywords: informatization of the educational process, quality training, education seekers, innovative activity of specialists, information and communication technologies.

Представлено програмні засоби для організації ефективного процесу інформатизації освіти для якісної підготовки фахівців. Визначено позитивні фактори інформатизації освітнього процесу, що підвищують ефективність підготовки здобувачів освіти та фактори, що сприяють оперативному оновленню та вирішенню завдань, наповненню змісту освітнього середовища шляхом застосування нових технологій.

Ключові слова: інформатизація освітнього процесу, якісна підготовка, здобувачі освіти, інноваційна діяльність фахівців, інформаційно-комунікаційні технології.

Introduction

Formation of the information society impacts all areas of human activity, including the field of education, which is based on the mass introduction of computer technology and the use of the Internet in educational institutions. The modern system of the educational process cannot remain aloof from the global process of informatization of society and education. The latest trends in society require the development of the education system on the basis of information technologies, the creation and functioning of an appropriate high-tech and high-quality information and educational environment.

Its importance has recently been growing, affecting the educational process of all subjects of the educational space and their relationships in the educational system. The task of the information and educational environment is the radical modernization of the technological environment component of the education system and implementation of the transition to an open educational system that meets the demands of today's society regarding the quality of professional training of future specialists.

The application and implementation of information and communication technologies is a necessary step for the informatization of education, which involves the implementation of scientific, managerial, educational, and educational functions inherent in the field of education (Bykov, 2008).

Society is permeated and filled with information flows that require constant high-quality and timely processing. Therefore, it cannot function without the informatization of the educational process, the use of information technologies for high-quality training of specialists, as well as without transport, energy, and chemical technologies.

Informatization of the educational process, which determines the processes of informatization in all spheres of human activity, requires competitive specialists with a sufficient level of information competence. Therefore, under such conditions, the task of educational institutions is to ensure the preparation of young people for the future and modern labor markets, to constantly keep an eye on leading enterprises and their needs, and to guarantee that graduates receive high-quality training and appropriate qualifications. It is important to increase the role of informatization of the educational process for high-quality training of specialists to achieve a systemic vision of future innovative activity in the education process, to perceive professional functions and tasks, including the information function, as components of a single system (Poiasok, 2009).

The main tasks and functions of informatization of educational institutions of professional education are interconnected and aimed at the formation of informational competence as a mandatory component of the professional training of a specialist, which is considered as one of the key qualifications of a person of the information society. Successful achievement of the goal of informatization of professional education and the introduction of ICT in professional training is possible, in our opinion, under the condition of designing, creating and maintaining an ICT-rich educational environment, which includes means and technologies for collecting, accumulating, transmitting, processing and distributing educational information, means of presentation knowledge, ensuring connections and effective functioning of organizational structures of educational institutions.

Purpose of such an environment: identification and development of abilities and potential of an individual; creation of conditions for independent acquisition of knowledge and its qualitative assimilation; ensuring the automation of assessment of learning outcomes; compensation for certain negative consequences of students' work with ICT tools.

Comprehensive informatization of professional education significantly raises the requirements for the quality of ICT education, the effectiveness of methods of managing the educational process, and the profitability of information systems. An important role in the complex process of training future specialists belongs to the latest technologies, based on the use of the best traditional and innovative forms of training organization using information and communication technologies and resources. In professional education, a reorientation of the goals of information training, a justified update of its content, a clear definition of the structure and organization of training with the help of ICT is necessary. In our opinion, there is an obvious need for theoretical and methodological justification of the informatization of the professional training system, scientific support for the introduction of information technologies in professional education, and consideration of the problem of informatization of universities in the context of pedagogical requirements.

This article delves into various facets of the educational process's informatization. It explores the potential of such informatization to provide high-quality training for specialists and to foster an innovative educational environment. The discussion includes the utilization of web-based information resources, key indicators of the educational process's informatization, and the positive impacts of this informatization on enhancing student learning outcomes. Furthermore, the article underscores the pedagogical objectives of integrating information technologies into the educational process, the conditions necessary for this integration, and the primary tasks for improving information availability within educational institutions. Emphasis is also placed on the requisite skills for employing contemporary information and communication technologies, the development of pedagogical software tools, and the areas in which informatization effectively enhances the quality of specialist training and educational technology methods.

Literature Review

The problems of informatization, the formation of an information society, ensuring information security, etc. have become the subject of research by a wide range of scientists, including whose works are of special interest N. Morse, & V. Vember (2007). They showed the importance and pedagogical value of electronic means for educational purposes and developed the main tasks of electronic resources; the terminology of electronic resources is proposed; the possibilities of teachers to work with electronic resources are shown in different countries; diagrams of the provision of teachers with software tools were made, the values of software tools for the educational process were updated and the level of mastery of the educational potential of teachers and students of education was shown; examples of the use of informational computer technologies are offered in electronic educational tools; in conventional units, the weighting coefficients for each of the characteristics of electronic means for educational purposes are presented.

Despite the existing developments regarding the features the use of ICT in the educational space, the possibilities of the information and educational environment in the organization of the educational process of a higher education institution have not yet been fully explored, such scientists as O. Kondur, & N. Fuchynska (2021) examples of the use of information technologies in all spheres of the modern world; and showed the importance of the information component, which plays a significant role in the active life of mankind and the formation of a competitive specialist; presented the information society as a stage of the development of the post-industrial society, described the features of such a society and distinguished their difference from all forms of society; the peculiarities of the informatization of the educational process for high-quality training of specialists are structured and the advantages of the information society are shown by the impact on the development of the state and the individual; the basis of the information society is emphasized, its technologies are highlighted. The authors show the role of the educational sector in changing the priorities of social development, in particular, the active use of information and communication technologies; the process of informatization of education and the components of informatization of education are disclosed. The main task of informatization of the educational process for high-quality training of specialists is singled out (training of a competitive specialist who can quickly adapt to self-realization, self-education, and changing conditions of the labor market.

Scholars have considered various aspects of the professional training of IT professionals, but certain aspects require further research. In particular, educational strategies and vectors of their implementation aimed at increasing need constant attention the effectiveness of professional training of students of the IT specialty, which is due to the rapid pace of development and improvement of informatization of all spheres of life in society.

I. Yashchuk (2021) highlighted the problem of informatization of the educational process for high-quality training of specialists, in the institution of higher education in the conditions of global changes, ways of modernizing the educational process were shown, which accelerated the process of informatization and computerization of education; the effect of the pandemic on the need to implement distance learning has been proven. It was found that high-quality professional training of a specialist is impossible without the informatization of the educational process, and the development of information literacy of the specialist, which requires the institution of higher education to constantly update information and technology for the high-quality training of specialists. The important conditions of high-quality education, the possibility of creating an informational and educational environment in a higher education institution, in which the personal and professional qualities of a specialist are formed and educational activities are organized, are described.

V. Kalusenko, & L. Kartashova (2020) considered the issues and determined the peculiarities of the training of specialists in the development of science, economy, informatization of society, and introduction of electronic educational environments into the educational process, which today is the main task of higher education institutions. They showed the possibilities of introducing the electronic educational environment into the professional training of future specialists. The main tasks were set: in the conditions of the information environment, to provide an analysis of the possibilities of training specialists, and to propose theoretical foundations for the development of certain categories of training specialists in educational institutions. Various definitions and approaches to the concept of "informational and educational environment" are given. The possibilities of the information and educational environment in the institution of higher education using the educational platform Moodle are described; the functions of the information and educational environment (educational, educational, informative, developing, reflective, socialization) are defined and their pedagogical value is shown.

N. Hunka (2016) characterized the concept of "informational and educational environment" and carried out its theoretical analysis; showed the difference between informational and educational and informational environment; highlighted the possibilities of the information and educational environment for improving the quality of education and disclosed its functions. The author identified the main components of the informational and educational environment and made a connection between the formation of the foundations of pedagogical skills and the informational and educational environment. The content of the electronic system "Socrates" is revealed and the need for the university is shown, to form and improve the professional and pedagogical skill of the teacher, the possibilities of this system for use in the educational process of the institution are summarized.

The analysis of scientific sources and educational practice proves that the issue of introducing information technologies in the process of professional training of future teachers in order to change the traditional education system to a practice-oriented one built on the implementation of modern innovative learning technologies and information and communication technologies is insufficiently developed.

We believe that this very issue is relevant today and requires efforts to use information and communication technologies during lectures, seminars and practical classes, for joint and individual projects of students, future professionals, as well as to ensure the quality of education, motivation of teachers and students . The introduction of innovative learning technologies, information and communication technologies, their integration will ensure the mastery of digital competences, familiarization with educational trends, as well as the use of interesting information tools in the educational process.

So, a competitive specialist, ready for changes, with the necessary abilities and skills of a successful person of the 21st century, who knows how to think creatively, makes the right decisions, is an indicator of professionalism and a successful career in the future.

The purpose of the article: to find out the role of informatization of the educational process for high-quality training of specialists to achieve a systemic vision of future innovative activity in the educational process, to perceive it as a single system of professional functions and tasks, giving preference to informatization.

Methodology

Following the purpose of the research, the following theoretical methods were used: analysis of current documents of higher education, monographs, textbooks, programs, study guides, dissertation studies on the problem of applying innovative information and communication technologies in the educational process, problems of informatization of the educational process for quality training of specialists, materials and articles scientific conferences, existing experience of such work in educational institutions; generalization of pedagogical best experience in the use of information technologies, important for the educational process for the quality training of specialists in higher educational institutions, personal pedagogical experience of teaching in higher education institutions; modeling of the pedagogical experiment and the educational process in the conditions of constant use of information technologies.

The implementation of the search for solving the problem of informatization of the educational process for the qualitative training of specialists covers the following interrelated concepts: methodological, theoretical, and methodical.

The methodological concept of scientific training of future specialists in the conditions of informatization of the educational process for quality training of specialists reflects the relationship and interaction of scientific approaches to the study of a fundamental problem:

- competent, focused on the formation of skills, abilities, scientific knowledge, and such professional personality traits that provide opportunities for success in social life and professional activity;
- systemic, contributes to the systemic holistic perception of the professional training of future specialists in the process of informatization of the educational process for the high-quality training of specialists in the institution of higher education, ensures the unity of structural components in this process;
- synergistic, which allows investigating the process of scientific and educational training of future specialists of an open system that develops and organizes itself in the world educational space;
- integrative, gives integrity to the process of informatization of the educational space for high-quality training of specialists and the formation of their competence through the integration of abilities and skills, scientific and psychological-pedagogical knowledge, reflecting the complexity of the studied phenomenon and the integrative nature of the educational space;
- an axiological approach that focuses forms, methods, and content on the development and formation of professional values, etc.;
- active, based on innovative methods, forms, and technologies of training optimizes the organization of the educational process;
- a technological approach based on innovative learning technologies directs future specialists to improve their professional training.

The theoretical concept for informatization of the educational process for high-quality training of specialists represents a system of concepts, ideas, basic concepts, and initial categories (sociological, philosophical, pedagogical, psychological), without which understanding the essence of the investigated problem is impossible.

The methodical concept represents the basics of informatization of the educational process for quality training of specialists, their methods of goal setting, planning, study, and organization of professional training of future specialists. The concept is implemented through the implementation of methodical support for the informatization of the educational process for high-quality training of specialists, improvement of forms, content, means, methods, and training for effective formation of professional competence of future specialists.

Results and Discussion

In the educational process, two main missions of ICT are distinguished - as an object of study and as a means of learning. The first involves the formation of students' knowledge, abilities and skills that allow them to realize the possibilities of computer technology and successfully use it to solve various tasks, and the second is aimed at increasing the efficiency of the educational process. Accordingly, the use of information and communication technologies in modern professional education is also considered in two aspects. First, it is the preparation of future specialists for the use of ICT to solve special professional tasks in accordance with the knowledge and skills acquired during the study of general professional and professionally oriented disciplines. Secondly, it is a means of intensification of the learning process in all disciplines provided for by the State Education Standards.

Informatization of the educational process is understood as a set of interconnected educational and methodological, industrial, socio-economic, organizational-legal, scientific-technical, and management processes aimed at meeting the computing, information, and telecommunication needs of the participants of the educational process, as well as managers of such of the process, which manage and ensure it, carry out its development and scientific and methodological support (Bykov, 2010).

Nowadays, with the help of computer equipment and modern information technologies, it is possible to conduct research and obtain distance education, communicate with other network users, receive administrative services, make purchases, conduct business, submit statistical, financial, and other reports and pay for any services or goods via the Internet, simultaneously organize the work of various specialists on joint projects, etc (Stratan-Artyshkova et al., 2022).

The information-educational environment for high-quality training of specialists makes it possible to realize various types of interaction and access to information resources (e-mail, chats, presentations), which significantly fills the environment with the interaction of all subjects, while the roles of subjects in the information environment are changing. The teacher acts as a coordinator and consultant of the educational process, and not only as a distributor of knowledge, while the student is a subject of the educational space aimed at acquiring professional competencies (Kuchai & Kuchai, 2019).

Let's define the purpose of training in an electronic educational environment for high-quality training of specialists – it is the development of personal abilities that currently contribute to the development of society. "The modern electronic educational environment is an integrated, open, unified environment aimed at informational electronic interaction between subjects of the educational process" (Kalusenko & Kartashova, 2020).

1. Aspects of informatization of the educational process.

Informatization of the educational process should be considered in the following aspects:

– the system, information environment serves as a system of forms of communication;
– active, at the center of communication is a person, and the main thing is his ability to receive information, turn it into his knowledge, to transfer personal knowledge;
– an informational and educational environment is created and used for information exchange and communication (Hunka, 2016).

2. The possibilities of informatization of the educational process for the high-quality training of specialists and the functioning of such an innovative educational environment.

V. Bykov (2019) shows the possibilities of informatization of the educational process for high-quality training of specialists and the functioning of such an innovative educational environment, which should ensure the educational needs of those seeking education, in particular, thanks to the creation and use of the following components in educational activities:

– electronic educational resources for educational purposes and computer-oriented systems for monitoring educational achievements that complement standard, traditional ones;
– electronic profiles of scientific-pedagogical purpose, which improve the nature of educational activities of education seekers and teachers;
– educational social networks that support an open informatization educational process for high-quality training of specialists, and cooperative learning;
– innovative pedagogical technologies based on the use of computer-oriented methodical systems of education, and ICT tools, with the aim of a new organization of education.

To organize an effective process of informatization of education for high-quality training of specialists, the following software tools are necessary: text editor Microsoft Word, operating system Windows 8 or higher, graphic editor for Windows.

To learn the basics of developing HTML documents, you should use professional hypertext editors (HotDog Professional, HotMetal Pro, WebEditor, HTMLEditor, while knowledge of HTML descriptors will contribute to a deeper assimilation of the material.

You can use any of the browser programs to study the Internet WEB service: Microsoft Edge, Google Chrome, Mozilla Firefox, etc.

3. Information resources of the WEB space.

We suggest using the information resources available in the WEB space:

- automated educational systems;
- computer simulators;
- mathematical and simulation modeling software tools;
- software tools of virtual laboratories;
- testing software tools to control the level of formation of skills, abilities, and knowledge;
- educational software tools (MS Office, etc.) of general purpose;
- reference legal information systems;
- electronic educational and methodical materials (catalogs, textbooks, workshops, methodical recommendations, etc.);
- database, data bank, local and global, distributed computing systems, electronic bulletin board, e-mail, etc.

4. Signs of informatization of the educational process.

Let's define the signs of informatization of the educational process:

- the concept of "information" acquires a new meaning in the educational space;
- comprehensive access to the Internet;
- substantial development of telecommunication and information systems in all spheres of human life;
- the use of a multi-aspect definition of scientific approaches when conducting research in various fields of science to solve the problems of theoretical justification in the field of social changes;
- changes related to the establishment, formation, and development of innovative social relations, creation of innovative social configurations, employment of the population, social groups, and social relations;
- the possibility of scientific forecasting, analysis, and planning of social development, where the highest value is information and knowledge;
- creation of network subcultures inherent in virtual relations;
- studying the knowledge of new opportunities that are significant for our society, and comparing information and knowledge with reality, researching the conditions of the truth of knowledge and the probability of an information society;
- variety of cognitive processes in various fields of science, which are determined by scientific research;
- a significant lever of authorities in the introduction and development of information and telecommunication systems (Petrukhno, 2014);
- the emergence and development of innovative social institutions inherent in the society of new information relations (Kalusenko & Kartashova, 2020).

5. The positive factors of informatization of the educational process, which increase the effectiveness of student training

Let's highlight the positive factors of the informatization of the educational process, which increase the effectiveness of the training of students:

- differentiation of education;
- increase in activity;
- individualization and training;
- intensification of the educational process;
- creation of conditions for independent work;
- increasing the motivation of education;
- creation of a comfortable educational environment;
- assistance in the formation of self-esteem among students (Kravchenko et al., 2022).

The proposed positive factors of informatization of the educational process contribute to the creation of a single informational educational environment of an educational institution and provide an opportunity for each student of education to ensure interactive interaction, to feel comfortable in such an environment, which is as close as possible to the real one (Polishchuk et al., 2022).

Informatization of the educational process meets the requirement of openness and is implemented using Web technologies. Let us name the factors that contribute to the prompt updating and solving of the tasks, to fill the content of the educational environment by the application of new technologies and the acquisition of knowledge – the centralization of software and methodical support; wide access to the presented knowledge using corporate means of communication.

Undoubtedly, the tasks and functions of informatization vary in the educational processes of educational institutions of different levels and profiles, which is associated with different learning goals, professional training tasks, unequal preparedness of teaching staffs for the introduction of ICT, and different financial opportunities.

Practically solving the task of informatization, planning innovative processes in professional education, it is advisable to focus on the concept of the zone of immediate development, which is widely used in the design of the pedagogical process. Then the pedagogical teams will consider and implement those changes for which they are ready. For this, it is necessary to see a complex of practically significant tasks of informatization of the institution and to correlate them with its capabilities and on this basis to highlight practical guidelines, near and distant goals that determine the content of the necessary innovations. When the efforts of teachers are directed at once to a wide range of complex problems of informatization of education, it distracts them from solving the key tasks facing the educational institution.

6. Pedagogical goals Use of information technologies for informatization of the educational process.

The use of information technologies for informatization of the educational process provides an opportunity to realize pedagogical goals:

- preparation for life and continuous development of personality in the information society;
- development of communication skills;
- development of thinking;
- ability to process information;
- formation of information culture;
- aesthetic education;
- development of research and experimentation skills;
- formation of the ability to accept optimal solutions.

7. Conditions of informatization of the educational process.

The necessary condition for informatization of the educational process is:

- development of the global Internet network, network technologies, and local intranet networks, which open up accessible and wide opportunities for the use, transfer, and storage of large amounts of information;
- constant use of means of communication: regional, global, local networks, e-mail to teach opening the possibility to carry out: operational, interactive communication; prompt transmission of information at a distance of any type and volume; organization of joint telecommunication projects; free access to various sources of information; discussion of problems and communication; participation in Webinars, teleconferences, forums, chats, blogs, etc.

The continuous development of information provision in the educational space of the educational institution based on the Web platform was accompanied by the appearance of various resources that support the activity of people and their various educational needs, users are treated with respect, and they are presented as co-authors or authors of network content.

The rapid development of informatization of the educational process contributes to the activation of aspects of communication in the educational activity of those seeking education. Currently, the network has several innovative technologies that contribute to the discussion of various problems, the implementation of communication between students in the educational process, the creation of creative and intellectual values, and the implementation of the exchange of information and experience (Hurevych et al., 2012).

The transfer of information through a computer network and the introduction of innovative technologies for informatization of the educational process changes the way of interaction between the learner and the teacher, optimizes verbal communication, and increases its level (Plakhotnik et al., 2023). With this approach, education is implemented in the form of a clear program, has an individual character, uses modern technologies, promotes the modular development of educational classes, and necessarily pedagogically supports the students of education. Such support is provided by teachers and is as individual as possible for each student. Based on the involvement of various educational disciplines, as a result, the interdisciplinary nature of education increases, and the integration of the educational process into a single disciplinary complex is strengthened. Taking into account the fact that in connection with the development of technology and science, there is a continuous information update in the educational field, this leads to the rapid "aging" of the content of the educational material in professional disciplines in the preparation of specialists, and at the same time, the ability of education seekers to master the skills of using remote databases with relevant educational, scientific and cognitive information, different ways of searching for knowledge in the education process, where students of education master the skills of applying innovative modern information technologies in research, educational, scientific activities as much as possible (Plakhotnik et al., 2022).

8. The main tasks of the development of information provision of the educational space of the educational institution.

The development of information provision in the educational space of the educational institution contributes to the solution of the main tasks at the same time:

- to organize the educational activities of education seekers using elements of electronic learning,
- to form skills and abilities in the process of education to apply communication and information technologies and to use them in their professional activities in the future and to use informational, educational, educational, reflective, developing, and socializing functions, because the informational and educational environment of an educational institution is also a component of traditional educational systems and an independent system that develops professional competence, promotes the active creative activity of education seekers, provides the opportunity to use information technologies in a new innovative educational space (Yashchuk, 2021).

9. Specific skills. use of modern information and communication technologies in the educational process.

For the effective development of informatization of the educational process, information provision of the educational space of the educational institution, and the use of modern information and communication technologies in the educational process, the teacher must possess the following specific skills:

- apply innovative modern information and communication technologies in the training of competitive specialists;
- analyze, and adjust the educational process;
- choose the most rational means and methods of educational activity;
- effectively take into account the individual characteristics of the students of education, their abilities and inclinations;
- to combine traditional methodical educational systems with new information and communication technologies;
- manage the educational process and the educational and cognitive activities of the students;
- monitor the quality of educational activities.

Informatization of the educational process, with the aim of quality training of specialists, requires appropriate funding, which means state support for solving the tasks of informatization of education, in particular, increasing the number of methods and means of processing educational material, forming and ensuring high technological support of educational institutions, developing alternative options for presenting information, provision of software-methodical and educational equipment of the educational institution with educational-oriented software and modern technical means. Informatization of the educational process, with the aim of high-quality training of specialists, and introduction of new information technologies, is only the beginning of restructuring in the system of society. A modern student of education needs to instill aspirations and learn, and skillfully use the latest technologies and knowledge, to develop dynamically by the needs and requirements of the time, which concerns both teachers and students of education. Therefore, education should acquire an anticipatory character, based on new information technologies (Dotsenko, 2016).

10. Use and development of pedagogical software computer tools

The use and development of pedagogical software computer tools will be effective if there is a focus on:

- effective use of a combination of non-computer and computer methods not only in specially organized experimental conditions but in the real educational process;
- a systematic approach in determining the organization and structure of the use of software pedagogical tools, to guarantee a gradual transition to a high level of mastery of information pedagogical technologies as

the empirical material necessary for a specialist increases;
- the solution of today's problems by a teacher who has an initial level of information culture and constant improvement in the process of developing his needs of this level of information culture;
- modern didactic ideas that have a specific purpose of an educational institution, that will develop at the methodical level their effective use not only in experimental, specially organized conditions but in the real educational process;
- multi-level classification of educational process informatization software and their harmonious use for high-quality training of specialists.

11. Areas of effectiveness of informatization of the educational process, with the aim of quality training of specialists, informatization of educational technologies.

We believe that the effectiveness of informatization of the educational process, with the aim of quality training of specialists, informatization of education technologies will be achieved under the following conditions:

- firstly, the educational technologies themselves will be applied from the goal to the learning outcomes, as a systematic method of designing, implementing, making corrections, and contributing to the reproduction of the educational process;
- secondly, the informatization of education technologies should be aimed not only at the introduction of new innovative computer education tools for all educational components;
- thirdly, the informatization of educational technologies will be focused primarily on the development of the individual, and not only on the specifics and needs of the content of the educational discipline.

We see the way to solve the mentioned problem in the use of such basic approaches, which would ensure the implementation of the principle of integrity of the pedagogical innovative designed system, which embodies in its essence the unity of the main elements (content, forms of educational organization, educational goal, didactic process). Integrity allows you to see the object: as a structure with spatially interdependent elements and a collection of its elements; ensures conscious perception of professional information by the student of education; creates conditions for the humanization of the educational process and promotes the interaction of the teacher and the learner, as a result of which there is a change in the style of communication and leads to cooperation; increases mental activity; promotes at all levels the transformation of managerial activity on a reflexive basis from subject-object to subject-subject relations (Bykov et al., 2008).
For high-quality training of specialists, the effectiveness of informatization of the educational process cannot be without the introduction of active forms of learning by the teacher into the practice of education. The main condition for the effective application of such an organization of informatization of the educational process is modular learning, which is based on the integration of the principles of self-organization, modularity, and contextuality. Therefore, the educational process requires such modernization that it is adequate to the requirements of today. Modernization is possible with the wide implementation of computer tools and methods of processing, receiving, and transmitting information in the practice of educational institutions. Such an approach guarantees qualitative changes in the teacher's activity and those seeking education. With particular urgency, in connection with this, the urgent question of creating a new innovative generation of informational and methodological support of the educational process based on computer multimedia technologies (Isak, 2016).

Thus, informatization is not just a tendency, a trend, not an end in itself, but a means of more effectively achieving the goals facing the pedagogical system. The main tasks and functions of informatization of educational institutions of professional education are interconnected and aimed at the formation of informational competence as a mandatory component of the professional training of a specialist, which is considered as one of the key qualifications of a person of the information society.

Successful achievement of the goal of informatization of professional education and the introduction of ICT in professional training is possible, in our opinion, under the condition of designing, creating and maintaining an ICT-rich educational environment, which includes means and technologies for collecting, accumulating, transmitting, processing and distributing educational information, means of presentation knowledge, ensuring connections and effective functioning of organizational structures of educational institutions. Purpose of such an environment: identification and development of abilities and potential of an individual; creation of conditions for independent acquisition of knowledge and its qualitative assimilation; ensuring the automation of assessment of learning outcomes; compensating for certain negative consequences of pupils and students' work with ICT tools.

Conclusions

In this article, we elucidate the pivotal role of the educational process's informatization in ensuring the high-quality training of specialists. This is aimed at fostering a holistic understanding of future innovative activities within the education system, envisioning it as an integrated network of professional functions and tasks with a particular emphasis on informatization. We investigate various aspects, including the potential benefits of integrating informatization into the educational process and its contribution to an innovative learning environment. We also delve into the rich information resources available in the web space, the indicators of successful informatization in education, and its positive implications for enhancing student performance. Our discussion encompasses the pedagogical objectives of employing information technologies, the conditions required for effective informatization, and the primary objectives for bolstering information accessibility in educational institutions. Further, we highlight the essential skills needed to harness modern information and communication technologies, the evolution of pedagogical software tools, and the domains where informatization markedly improves the caliber of specialist training and the methodologies of educational technologies.

Information and educational environment for high-quality training of specialists:

– prepares students for high-quality work in the informational educational space and a fulfilling life in the modern information society;
– provides simultaneous access of a large number of education seekers to high-quality learning resources; accessibility, innovativeness, and flexibility of the educational process;
– contributes to the effectiveness of professional training and improvement of the quality of the educational process;
– forms the ability to master methods of cognitive activity and independent accumulation of knowledge and activates forms of individual educational space;
– implements an individual educational trajectory as the basis of competitive professional activity;
– provides an opportunity to provide high-quality training for the future specialist for the active use of communication and information technologies in his future activity;
– accelerates the transfer of knowledge and the accumulation of social and technological experience of the individual.

The role of informatization in the educational process for high-quality training of specialists has been clarified to achieve in the educational process a systemic vision of the future innovative activity of specialists, to perceive it as a single system of professional functions and tasks, giving preference to informatization.

The article proposes a definition of informatization of the educational process and defines the purpose of training in an electronic educational environment for quality training of specialists. Informatization of the educational process was considered in the following aspects: system, activity, and information.

Software tools for organizing an effective process of informatization of education for high-quality training of specialists are presented. The positive factors of informatization of the educational process are highlighted. The specific skills that a teacher must possess for the effective development of informatization of the educational process are listed.

Further research will substantiate the conditions under which the effectiveness of informatization of the educational process will be achieved for the quality training of specialists.

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DOI: https://doi.org/10.34069/AI/2023.68.08.23
How to Cite:
Kuznetsova, O., Chubuk, R., Maiboroda, O., Khoroshev, O., & Maksimov, D.S. (2023). Psychological features of training future social workers. *Amazonia Investiga*, *12*(68), 248-257. https://doi.org/10.34069/AI/2023.68.08.23

Psychological features of training future social workers

Психологічні особливості підготовки майбутніх соціальних працівників

Received: June 25, 2023 Accepted: August 25, 2023

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Abstract

Social work belongs to professions that have emerged and established themselves to meet urgent societal needs. The purpose of specialists in this field is not only to create necessary conditions for the social protection of people, groups, and communities but also to foster their ability to build their lives and mobilize internal resources to overcome life crises. The article aims to characterize the practical significance and types of social work while exploring the essence of psychological aspects in the professional activity of social workers. The main directions of the article are to investigate the interrelation between social work and psychology and to clarify the psychological features of education for future social workers. Several research methods were employed, including general scientific methods such as synthesis, analysis, deduction, and induction, which helped determine the research goal and conduct the analytical processing of scientific sources. It enabled the structuring of available domestic and foreign literature on psychological

Анотація

Соціальна робота належить до професій, які виникли та утвердилися для задоволення нагальних потреб суспільства. Метою фахівців у цій галузі є не лише створення необхідних умов для соціального захисту людей, груп і спільнот, а й сприяння їх здатності будувати своє життя та мобілізувати внутрішні ресурси для подолання життєвих криз. Метою статті є охарактеризувати практичне значення та види соціальної роботи при дослідженні сутності психологічних аспектів у професійній діяльності соціальних працівників. Основними напрямами статті є дослідження взаємозв'язку соціальної роботи та психології та з'ясування психологічних особливостей навчання майбутніх соціальних працівників. Методологія. Теоретичне підґрунтя статті опирається на наукові матеріали та вітчизняну та зарубіжну психологічну та соціально-педагогічну літературу. Було застосовано декілька методів дослідження, у тому числі загальнонаукові методи синтезу, аналізу, дедукції та індукції, що дозволило визначити мету дослідження та провести аналітичну обробку наукових джерел. Крім того, застосовувалися специфічні методи

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and social work matters and the historiographic and retrospective methods. The research findings reveal vital theoretical aspects of psychological preparation for future social workers during their educational process. The study of scientific-practical materials allowed identifying essential trends in training for social work professionals.

Keywords: social worker, psychological support of the population, social work, social assistance, personality formation of social workers, use of psychological methods in social work.

дослідження, в тому числі структурний метод. Це дало змогу структурувати наявну вітчизняну та зарубіжну літературу з питань психологічної та соціальної роботи та застосувати історіографічний та ретроспективний методи. Результати дослідження розкривають актуальні теоретичні аспекти психологічної підготовки майбутніх соціальних працівників у процесі навчання. Вивчення науково-практичних матеріалів дозволило виявити суттєві напрями підготовки фахівців із соціальної роботи, враховуючи потреби у набутті ними досвіду надання психологічної підтримки.

Ключові слова: соціальний працівник, психологічний супровід населення, соціальна робота, соціальна допомога, формування особистості соціальних працівників, використання психологічних методів у соціальній роботі.

Introduction

Social work should be focused on assisting in solving social issues for people, groups, and communities, developing techniques for overcoming difficulties, and fostering self-help skills. The fundamental principles for social work are social justice and respect for human rights. In many developed countries, this field of activity is one of the most widespread professions.

Modern psychology seeks to assess its own capabilities and development prospects in social work, which requires practical application and intervention in a crisis or complex life situations. It searches for answers to questions about what psychology 'can' or 'should' do to successfully address the acute tasks of providing assistance to various population groups. It requires new approaches that need to be developed and constantly improved in applied psychology.

According to the opinions of many researchers, to this day, there remain open issues concerning the definition of the essence and understanding of the psychological aspects of social assistance. The same is true for their theoretical and methodological significance in building a model for the practical implementation of this type of activity.

The theoretical part of this study substantiates the concept and components of social work as a professional activity where the psychological abilities of a social worker are an integral part of the general professional competence.

The practical part of the research includes an assessment of disciplines related to acquiring psychological competence by future social workers and trends in strengthening the psychological preparation of specialists in this field.

Based on the research findings, conclusions have been drawn regarding the issues addressed. Specifically, it has been established that the state pursues a range of multifaceted activities to support and enhance responsibility for the quality of professional activities of such specialists. It includes developing a competitive system of educational institutions engaged in the upbringing, training, and qualification improvement of psychological-pedagogical and scientific-pedagogical specialists.

Literature review

Social work is a particular form of professional activity of authorized bodies that provide state and private assistance to persons to ensure the material, social and cultural level of their lives and provide individual service to a person, family, or group. Social action is based on the practical realization of humanitarian and democratic ideals and offers psychological support for recipients of social services (Balakhtar, 2019), (Zaveryko et al., 2022).

A distinguishing feature of social work in most countries is its close connection with social protection. For example, according to the definitions provided by most researchers, social work encompasses a range of assistance types:

– social and domestic;
– medical-social;

– socio-legal;
– socio-pedagogical.

These types of aid are always objective and directed at meeting specific needs (Xie et al., 2022), (Saar-Heima, 2023), (Sur, Ashcroft & Adamson, 2023).

The International Association of Social Workers and the International Association of Schools of Social Work have adopted an international definition of social work, which, according to its authors, can be applied in any region or country. The definition formulates as follows: "The profession of social work promotes societal change, resolves problems in human relationships, and enhances the well-being of persons, families, and communities. It involves the pursuit of social justice and the well-being of people" (Reith-Hall & Montgomery, 2023), (Pascoe, Waterhouse-Bradley & McGinn, 2023).

Social work occurs in various forms where numerous complex interactions exist between people and their environment. The task of social work is to enable people to maximize their potential, enrich their lives, and prevent the development of dysfunctions. Professional social work is aimed at problem-solving and effecting change (Ravalier et al., 2023), (Balakhtar, 2018a).

As social work belongs to the group of "person-to-person" professions, it requires specific personal qualities from those who choose this profession (kindness, politeness, tolerance, discipline, empowerment, etc.), as well as the ability to communicate with people. This specialty offers opportunities for self-realization to those who empathize and understand the problems of others and strive to help people lead a dignified life, regardless of physical, functional, or psychological crises. Social work distinguishes itself from other "person-to-person" professions (such as doctors, educators, psychologists, lawyers, etc.) due to its complexity and psychological demands (Balakhtar, 2018b), (Ding et al., 2023).

Social work practice involves collaborative efforts of social workers and social institutions aimed at researching the needs of various target groups and communities to promote the optimal social adaptation of people, families, and groups of the population through care, social and psychological counseling, representation, and advocacy for their interests, management, planning, and provision of necessary services, consulting, prevention, therapy, fostering their independence, and problem-solving. For this purpose, social workers must possess appropriate methods and work skills based on various knowledge and theories (Lustick et al., 2020), (Fedorenko, Havrysh & Velychko, 2022).

Scientific psychology possesses an extensive, diverse, and unique set of facts that is not fully accessible in applied psychology. This material is also collected and interpreted in specialized fields of psychological science:

– geriatric psychology;
– educational psychology;
– industrial psychology, social psychology;
– zoopsychology, and others (Fedorenko et al., 2019).

Historically, psychological knowledge plays a significant role in the social sphere. Scientific-psychological conclusions are now utilized wherever people communicate, interact, and build relationships (Havrysh, Velychko & Fedorenko, 2021).

Undoubtedly, psycho-adaptive learning is the most challenging as it is responsible for shaping the following comprehensive systems:

– socio-psychological skills (cognitive, perceptual, motivational, etc.);
– socio-psychological traits (social activity, responsibility, etc.);
– practical abilities (communication, interaction, etc.) (Kropelnytska, Myhovych & Kulesha-Lyubinets, 2019).

One of the most pressing issues in training social workers is the problem of selecting personnel and assessing the professionalism of specialists. In addressing this problem, it is crucial to consider the personal peculiarities of future social workers and adhere to a complex of ethical norms necessary for providing professional assistance in each specific situation. Since acquiring various knowledge and skills is an essential prerequisite for the practical work of a social worker in solving client problems, preparing social workers should be designed so that future specialists acquire general knowledge and skills at the university level. It can then be refined through continuous learning and practical work (Ahmed, Hamzah & Abdullah, 2020).

In their professional activity, social workers can perform various social roles: advocate for clients' interests, educator, mediator, organizer, healthcare worker, consultant-administrator, expert in economics, social policy, protection, etc. Consultation plays a vital role in social work. Thus, the issue of assessing the level of professionalism of specialists in this field is one of the most relevant. On the way to addressing this issue, it is necessary to adhere to ethical rules of social workers' activity and build the training of future professionals following these norms to ensure their assimilation and mandatory application in professional practice. Equally important is to identify personal qualities that a social worker should possess to be effective in counseling and rehabilitation work, and to utilize acquired knowledge in professional consultation and develop these qualities in students as future social workers (Kropelnytska, Myhovych & Kulesha-Lyubinets, 2019).

An increasing number of experts involved in the theory and practice of counseling and social work are concluding that the quality of the interpersonal relationship between the client and the social worker is more important than the philosophy, methods, or techniques the latter adheres to. Therefore, the fact that a social worker must possess not only specific knowledge and skills but also relevant qualities for this work becomes more significant. They should adhere to a set of ethical norms and rules based on universal values and personal work experience, contribute to the normal functioning of persons and groups in need of social assistance, and ensure and protect such people (Bierman & Sanders, 2021).

It is worth noting that there are currently no practical studies of educational programs that would determine the directions of future social workers' study of methods of social work with different categories of clients, as well as the degree and vectors of state programs and special measures aimed at improving the quality of psychological education of social workers.

Taking into account the above, as part of this study, an evaluation of educational programs was carried out to find out the vectors of psychological training of students-future specialists in social work, as well as an assessment of the acquisition by this category of students of skills in mastering methodological tools for working with certain categories of clients.

Methods and Materials

This study aims to determine the criteria that regulate the quality of psychological training of a social worker for professional activity, as well as the areas of psychological knowledge study by future social workers. The practical part of the study highlights the key aspects of state support and the improvement of the quality of psychological training of specialists in this field.

A practical study of current trends in the psychological training of future social workers was carried out using the evaluation method. Based on this method, the study of the psychological assistance specifics in social work was conducted with further generalizations and conclusions, descriptive and analytical methods. These methods contributed to the analysis of socio-economic reforms and their impact on forming the social sphere. The method of extrapolation allowed to spread the conclusions obtained as a result of the research.

The data analysis was carried out by processing the theoretical material, as well as by calculating the hours of the special course in the field of "psychological training" for social workers according to the content modules and types of classes of higher education institutions of Ukraine and the data processed by scientists.

Results

For the practical study of the key psychological aspects of training future social workers, it is worth analyzing the areas of teaching psychological knowledge to future social workers (Table 1).

Evaluating the thematic directions of higher education curricula and conducting professional training for specialists in the field enables the identification of two main learning vectors for such professionals. The first direction comprises a set of disciplines covering the fundamentals of general and social psychology, aimed at students acquiring new knowledge, skills, and necessary abilities. The second direction consists of a range of subjects providing future social workers with specialized psychological knowledge and an understanding of the psychological foundations of social work.

Table 1.
The system of disciplines for the acquisition of psychological competence by future social workers.

Education area	Academic disciplines aim
A set of disciplines covering the basics of general and social psychology	Mastering by students the prerequisites for acquiring new psychological knowledge and skills to form the necessary competences
A set of highly specialized disciplines of social and psychological direction	Providing the future social worker with psychologically specialized knowledge and ensuring the mastery of the psychological basics of social work

Source: compiled by the authors based on (Korneshhuk, Kolodijchuk, & Bodelan, 2018).

Mastering these subjects allows students to experience how the knowledge acquired in the first level can be practically applied to comprehend better the issues of professional interaction most commonly encountered by social workers' clients.

Thus, studying the psychological characteristics of different developmental stages and considering them in social work with respective age groups contributes to integrating knowledge gained in the field of developmental psychology into the professional awareness of future specialists.

Particular attention should be paid to students' knowledge of various forms of psychopathogenesis and social work methods with different client categories (Figure 1).

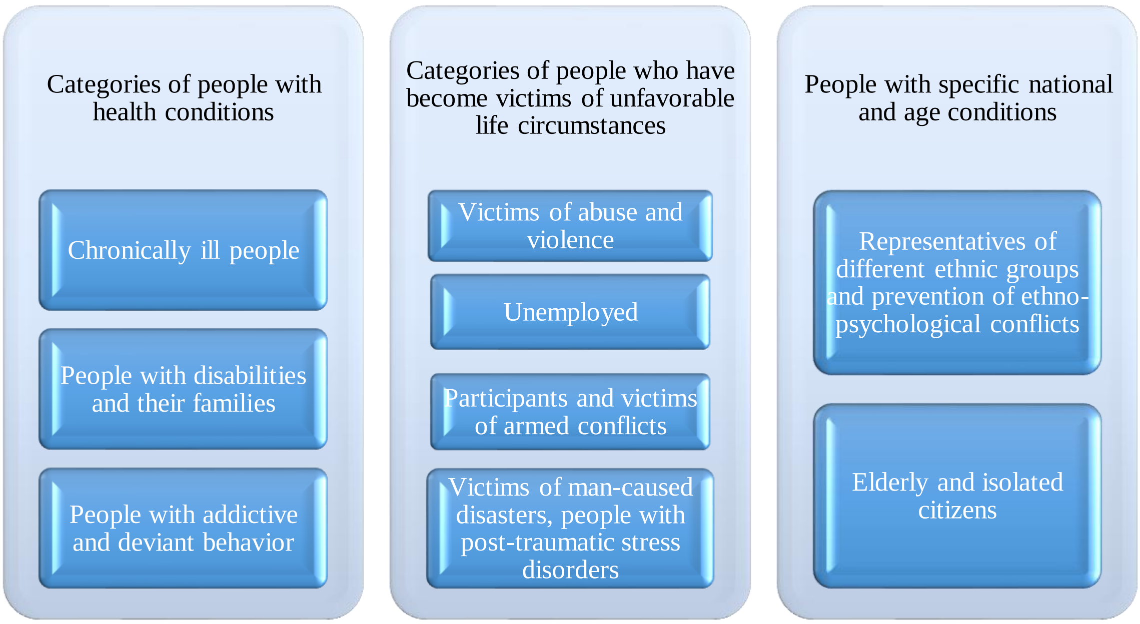

Figure 1. Students learning of mental deontogenesis forms and methods of social work with different categories of clients.
Source: compiled by the authors based on (Zaveryko et al., 2022; Fedorenko et al., 2019).

Studying the psychological aspects of social work with different population groups is determined by the necessity for future social workers to familiarize themselves with the psychological specifics of various population groups requiring social assistance and the methods specific to providing such help. These groups primarily include the following:

- Chronically ill people;
- Disabled persons and their families;
- Elderly and isolated citizens;
- Victims of abuse and violence;
- Unemployed people;
- Participants and victims of armed conflicts;
- People affected by technogenic disasters;
- People experiencing post-traumatic stress disorders, and others.

 ISSN 2322- 6307

Psychological characteristics of problematic families and population groups identified as "at-risk" (people with addictive and deviant behavior, people who will return from detention centers, etc.) are considered separately, as are the specifics of social work with them. Moreover, understanding the basics of ethnopsychology, the psychological specifics of social work with different ethnicities, and the prevention of ethnopsychological conflicts is also necessary.

Currently, strengthening the psychological skills spectrum for professionals obtaining higher education as social workers and enhancing the qualifications of current specialists in this field is an essential prerequisite for the modernization of the education system. The state provides the following measures to support and increase responsibility for the quality of professional activity of such specialists (Figure 2):

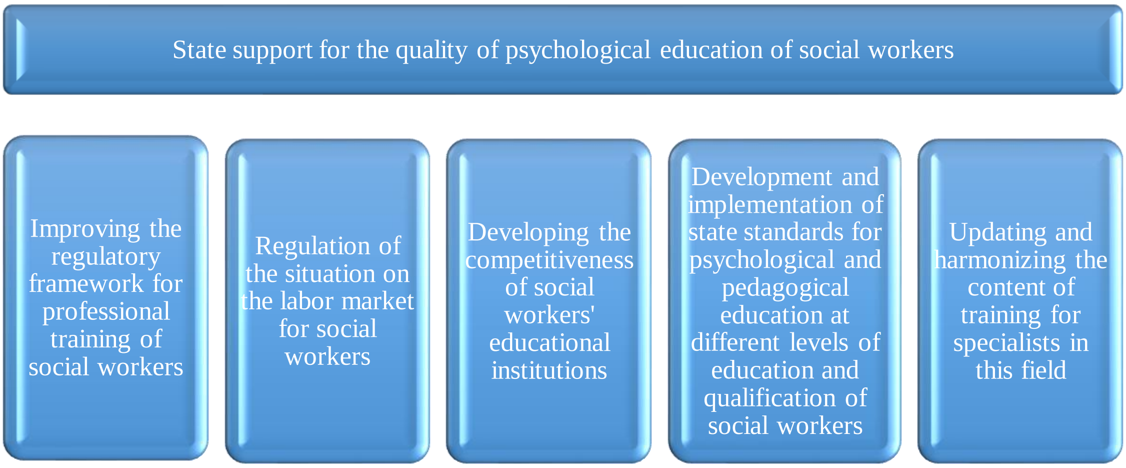

Figure 2. Current trends in state support for the quality of psychological education of social workers. Source: compiled by the authors based on (Zaveryko et al., 2022).

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- development and improvement of the regulatory framework for the professional activity of psychological, social, and scientific-social workers;
- forecasting and meeting the needs of society and the labor market for these specialists;
- development of a competitive system of educational institutions that provide education, training, and professional development of psychological, pedagogical, and scientific and pedagogical specialists;
- development and implementation of state standards of psychological and pedagogical education of different levels of education and qualification, as well as state standards of postgraduate education;
- mastery of modern information technologies by psychological and pedagogical specialists;
- regular updating and harmonization of the content of education, advanced training, and preparation of psychological and pedagogical workers;
- introduction of a system of targeted state support for the psychological training of social workers and their professional development;
- improvement of the motivation system for professional development and professional advancement of social workers, opportunities to learn foreign languages, etc.

The state creates conditions for raising specialists' prestige and social status in this field and forms a system of professional selection of young people to higher education institutions.

However, the problem of professional training for highly qualified modern specialists has long gone beyond the scope of their educational institution or even the higher psychological-pedagogical education system. It is necessary not only to qualitatively update the content of future social workers' professional training but also to shape their personal qualities. It is vital for re-education, socialization, and adaptation, which such professionals will carry out in the future.

Studying the processes of personality formation in social workers, most foreign and domestic scholars believe that regardless of where and in what direction social work is carried out, the social worker must be able to clearly identify the essence of clients' socio-psychological problems, develop an appropriate action plan, ensure the practical implementation of the plan, and correctly evaluate the results of their work. This means that the significant importance of preparing social workers as professional representatives of the "human-to-human" group lies in forming the practical component of their professional competence.

Indeed, the specificity of preparing social work specialists requires the formation of strong practical skills and an understanding among students that the activity of a social worker does not consist of working with documentation, normative instructions, and regulations but of directing this profession toward working with people. Therefore, the professional training of social workers is based not only on executive-instrumental education, which includes the formation of knowledge, skills, and abilities in educational institutions, but also on psychological readiness - the assimilation of the future role of a social worker in the labor system.

The following assessment of the dynamics of the number of special course hours in the "Psychological Training" area by content modules and types of classes is provided to assess the intensity of strengthening social workers' psychological and social training. They were introduced as part of the state-supported in-service training to improve the psychological competence of social workers in Ukraine (Table 2).

Table 2.
The hours of a special course in "Psychological Training" for social workers by content modules and types of classes.

Content modules	Number of hours							
	Lecture classes		Practical classes		Independent work		Amount	
	2018	2021	2018	2021	2018	2021	2018	2021
1. Theoretical and methodological basis of psychological social work	14	18	10	11	36	42	60	71
2. Theoretical and practical basis of psychological social work	26	30	20	25	74	81	120	136
Total	40	48	30	36	110	123	180	207

Source: compiled by the authors based on (Korneshhuk, Kolodijchuk, & Bodelan, 2018).

As Table 2 shows, there is an increase in the attention of state institutions to this type of social workers' competencies (Korneshhuk, Kolodijchuk & Bodelan, 2018).

Discussion

The life of a modern person is constantly accompanied by various stressful situations, most of which, fortunately, a person can cope with more or less effectively on their own. However, there is a whole spectrum of stressful events (physical, sexual, psychological violence, technological and ecological disasters, involvement in military conflicts, loss of loved ones, family and school stress, etc.) that lead to post-traumatic stress conditions and reactions of different origins, with consequences that a person, considering certain personal characteristics, cannot cope with independently. Therefore, the development, creation, and implementation of social workers' knowledge in the psychophysiology of stress, its causes and consequences, personal and group rehabilitation methods, self-help, and correction of post-traumatic stress disorders are highly relevant and vital. The preventive care of "at-risk" groups for post-traumatic stress disorders of various origins is equally important (Bierman & Sanders, 2021).

Modern science has developed an understanding of social work as a professional activity in which the psychological abilities of the social worker are an integral part of general professional competence. These abilities are determined by the desire to help persons or groups ensure their existence and social interaction, support people's self-esteem, and develop personal and social responsibility. Psychological competence, in turn, requires the ability to study a person's psychological and personal characteristics, understand the conditions of their life and communication, and take them into account in everyday practical actions. It also involves using relevant knowledge and abilities for diagnostics, psychological correction, and comprehensive assistance to various disadvantaged populations.

A social worker's psychological competence is only possible with a firm reflexive position regarding personal abilities, enabling the determination of the limits of knowledge and skills in specific situations. Therefore, an essential and integral part of the social worker's psychological competence is an adequate self-diagnosis, namely:

- self-awareness as a person,
- awareness of one's abilities, and possibilities of interaction and
- assistance in different social work situations (Forman, 2019; Ruch, Turney & Ward, 2018).

The intensive use of psychological methods in social work is because social work clients are people in complex life situations. The development of methods and implementation of psychological support is traditionally within the scope of practical psychology. A social worker must be able to provide an individual psychological approach to each client and understand the psychological peculiarities of different social categories (Blewitt et al., 2021; Forrester et al., 2020).

Psychological assistance is understood as a specific form of service to solve personal, family, or professional psychological difficulties. This type of assistance can be both informal and professional. Social workers work with families and children who have found themselves in difficult life situations, people with disabilities, and older people. The study of cognitive, emotional, volitional, and communicative spheres helps them in diagnostic, correctional, and preventive work with these population groups, providing psychological assistance (Lynch, Newlands & Forrester, 2019; Ruch, Turney & Ward, 2018).

The psychological and pedagogical training of future specialists in the context of democratization and humanization of education, with a focus on the implementation of "subject-subject" relationships in the psycho-educational process, should contribute to the following:

- personal development of future professionals,
- satisfaction of their professional educational interests and needs,
- formation of social and professional mobility,
- the ability for professional and personal communication,
- conflict prevention,
- a creative resolution of professional tasks,
- to promote the development of collective solutions to professional tasks. (Huang et al., 2021; Jennings et al., 2019).

Conclusion

Therefore, the professional training of future social workers in higher education institutions aims to form their professional knowledge, skills, and personal and professional qualities necessary for the successful performance of various types of social work when interacting with different consumers. The result of such training, in a broad sense, can be the professional competence and professional preparedness of a social work specialist. The issue of optimizing the training of social work specialists to increase the efficiency and effectiveness of their psychological activities is a very urgent, complex, and multifaceted task. It requires an integrated scientific approach involving specialists from many fields of science and education.

The study of the psychological and pedagogical cycle disciplines by future social workers should ensure the formation of a conscious attitude to the psychological aspect of education and understanding it as a necessary component of professional training. That means a willingness to cooperate in the choice of their additional content and implementation forms.

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DOI: https://doi.org/10.34069/AI/2023.68.08.24
How to Cite:
Giga, S., & Oparyk, L. (2023). Aspects of style attribution arrangement of cover version of pop-vocal composition. *Amazonia Investiga*, *12*(68), 258-268. https://doi.org/10.34069/AI/2023.68.08.24

Aspects of style attribution arrangement of cover version of pop-vocal composition

Аспекти стильової атрибуції аранжування кавер-версії естрадно-вокальної композиції

Received: June 25, 2023 Accepted: August 25, 2023

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Abstract

The purpose of the research is to theoretically develop methods of characterisation and attribution of the style of arranging a pop-vocal composition. The algorithm of analytical actions in the process of auditory examination of the specifics of the musical language of the arrangement aimed at identifying the genesis of the style profile of a pop-vocal composition is determined. In this regard, the parameters of tempo rhythm and phonism are defined as the basic criteria for recognising the stylistic dominant of the instrumental component of a song genre composition. The research methodology is based on a comprehensive study of the creative specifics of pop-song arrangements using a systematic typological approaches, inductive and structural-functional methods of analysing musical compositions, and also includes a descriptive auditory method and a method of comparative stylistic characterisation of arrangements, carried out on the principle of contrasting comparisons or comparisons based on the similarity of creative methods of instrumentation, form formation, tempo rhythmic, melodic and thematic and harmonic organisation of the musical material of instrumental accompaniments, is a method of identifying the stylistic dominant (genesis) of a song genre work with a particular direction of popular, jazz, folk or academic music. The research resulted in the theoretical development of a methodology for style attribution of arrangements of cover versions of works of popular song genres.

Keywords: arrangement, pop-vocal composition, song genre, cover version, style, style attribution, sound image.

Анотація

Метою дослідження є теоретична розробка методів характеристики та атрибуції стилю аранжування естрадно-вокальної композиції. Визначено алгоритм аналітичних дій в процесі слухової експертизи специфіки музичної мови аранжування, спрямованих на виявлення генезису стильового профілю естрадно-вокальної композиції. У зв'язку з цим виокремлено параметри темпоритму і фонізму як базові критерії розпізнавання стильової домінанти інструментальної складової твору пісенного жанру. Методологія дослідження ґрунтується на комплексному вивчені творчої специфіки аранжування естрадно-пісенного жанру з використанням системного і типологічного підходів, індуктивного та структурно-функціонального методів аналізу музичних композицій, а також включає в себе описувальний слуховий метод та метод порівняльної стильової характеристики аранжувань, здійснюваної за принципом контрастних зіставлень або зіставлень за подібністю творчих методів інструментування, формоутворення, темпоритмічної, мелодико-тематичної та ладотональної організації музичного матеріалу інструментальних супроводів, метод ідентифікації стильової домінанти (генези) твору пісенного жанру з тим чи іншим напрямком популярної, джазової, народної або академічної музики. Результатом дослідження стала теоретична розробка методики стильової атрибуції аранжувань кавер-версій творів популярних пісенних жанрів.

Ключові слова: аранжування, естрадно-вокальна композиція, пісенний жанр, кавер-версія, стиль, стильова атрибуція, звуковий образ.

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Introduction

Modern pop-vocal culture is a creative sphere of the search for progressive forms of aesthetic communication with the public by constantly updating musical and expressive means of artistic influence on listeners. In the production of a new musical product, which is ultimately the result of the collective work of a composer, performer, sound engineer, recording engineer, and many other specialists, one of the leading roles belongs to the arranger as the creator of the original musical and instrumental design of a pop-vocal composition at various stages of its preparation.

The art of arranging pop-vocal compositions involves a wide range of professional and technical functions of the musician, which includes experience working with acoustic and electronic instruments, as well as a variety of modern equipment using computer technologies and advanced software to perform creative tasks, such as structuring, orchestration, harmonisation, timbre design, tempo-rhythmic and spatial-dynamic organisation of musical material and its stylisation considering the features of the composer's style, individual performing style of the singer, and current musical trends of his time. The main purpose of the arranger is to give the pop-vocal work the most favourable and best form of display, sometimes qualitatively surpassing its compositional version. This, in turn, explains the considerable increase in the professional status of the arranger's speciality in the qualified environment of the modern music community.

The creative potential of the arrangement is especially clearly manifested in modern reinterpretations (cover versions) of well-known songs, as well as when creating a detailed instrumental accompaniment of vocal parts, which carries the features of synthesising various styles, trends, and genres of both popular and academic music. The range of stylistic transformations of the original author's text largely determines the criteria for evaluating the degree of the artistic and creative component in the work of the arranger in the process of creating a new musical product, which, as a result of processing, can be a fundamentally different musical sample from the original, which has the significance and value of an independent artistic phenomenon for a modern audience. Therefore, mainly in the style evaluation plane, arguments are searched for resolving controversial issues and legal conflicts over copyright and related rights to an arranged musical composition.

Such an argument requires a proper scientific basis, which provides for the terminological concretisation of the concept of "arrangement" with appropriate stylistic attribution of the structural components of this type of musical creativity and, in general, the development of the theory of pop-vocal arrangement as an independent type of modern musical and professional activity. This determines the relevance of the development of a number of system approaches to solving such a problem in this paper since the specific features of the creative process of arrangement and samples of pop-vocal genre in particular does not have sufficient theoretical substantiation nowadays and is considered in modern scientific literature mainly in practical and educational aspects.

Literature review

The range of scientific publications of methodical content demonstrates a wide range of applications of arrangement skills in various areas of modern musical creativity. In in the scientific publication "Arrangements for an instrumental group of folk collectives", D.V. Kuchenov highlights the main algorithm when working on creating an electronic version of the score of a composition based on a folklore primary source (Kuchenov, 2019). Relying on a comprehensive method of research, the author of the article substantiates the criteria for correlating the concepts of "instrumentation", "orchestrumentation" and "arrangement", recognising the latter as the highest level of rethinking and processing of the original source. Arranging, according to D. Kuchenev, is a complex task that involves the construction of a composition in the chosen style based on a folklore source, and therefore requires a combination of thorough theoretical and practical knowledge to expand the range of creative searches in this area of musical activity. Although the criterion of style is mentioned as an important creative task of a musician, theoretical and practical issues of arrangement stylisation are not considered in the article. The scientific publication by I.A. Gaidenko "Experience of orchestration in the Steinberg Dorico software package" systematised the latest methods of creating and improving orchestral texture using computer tools and considered the practice of instrumentation of the clavier for voice and piano in the Steinberg Dorico software package (Gaidenko, 2018). The author considers computer technologies as the basis for a new type of creative thinking, since a modern composer uses appropriate hardware and software at all stages of creative activity, including the generation of musical ideas, recording of material, its development and graphic or sound realisation. An additional factor that affects the final result is a computer model of performance interpretation, thanks to which an arranged piece can be performed in a variety of styles. In general, however, style issues are not specifically addressed in the article, being more of a general advisory nature. The scientific publication "Creating music in Cakewalk SONAR Platinum" by V.Y. Kozlin & V.I. Grishchenko is devoted to the coverage of new tools and methods of using computer technology in modern music practice (Kozlin & Grishchenko, 2018). The methodology of the research is aimed at optimising the practical methods of work of modern composers, arrangers, sound engineers and novice musicians when creating music with the help of one of the modern music editors. The article contains methodologically valuable recommendations and a detailed description of the algorithms of working with the computer programme, but does not go beyond the solution of purely technological problems that do not cover the style problems of creating a musical product.

Methodology

This research delves into the expansion of the scientific and methodological foundation concerning the technological prowess in the endeavors of contemporary arrangers, composers, and sound engineers. There's a notable gap in the current Ukrainian musicological discourse on pop arrangements. Central to our research are the tenets of B.M. Luttrell's dissertation, "A cultural semantics of string arrangements for recorded Popular music: A model for analysis and practice" (Luttrell, 2017). Luttrell formulated methodological, theoretical, and empirical strategies to introduce the Inter-Dimensional Aural Analysis (IDAA). This model facilitates the study of popular song arrangements, enabling the identification of sonic, cultural, and intertextual patterns as style indicators. By emphasizing the intricate features of intertextual patterns, which act as standard sound structures in string arrangements spanning various historical epochs, Luttrell succeeded in categorizing extensive pop arrangement types. These were then classified into specific genres and styles of RPM (recorded popular music) after a thorough auditory analysis of composition elements, performance, production, and semantic aspects of sound. Luttrell's research outcomes have practical applications; he produced his arrangements to showcase the significance of genre and style analysis in RPM (Briony Margaret Luttrell is a woman), emphasizing its relevance to contemporary arrangement procedures. Consequently, a prime objective of the musical arrangement style methodology is to describe the linguistic constructs of music and compare the observed phenomena, a process vital for pinpointing style nuances.

However, Luttrell's IDAA approach, while insightful for popular music recording samples, doesn't fully encompass the intricacies of pop and vocal compositions. Its primary focus on string instruments limits a holistic appreciation of a composition's sound image. Such challenges are addressed in this study. The aim is to craft theoretical methods to define and ascribe the arrangement style of pop-vocal pieces. Achieving this requires a systematic approach to deeply understand pop-song arrangements. We'll employ inductive and structural-functional methods for musical composition analysis, merge descriptive auditory techniques with auditory examination, and use comparative stylistic characterization. The latter will be based on contrasting comparisons or evaluating similarities in creative methods—spanning instrumentation, formation, tempo-rhythmic, melodic-thematic, and ladotonal structuring of instrumental backings. A technique to determine a song genre's stylistic dominant, aligning with genres like pop, jazz, folk, or classical music, is also integrated. To discern the standout elements representing a pop-vocal piece's style, a comprehensive view, considering the musical and artistic entirety, is essential—one exemplary model being the composition's sound image.

Results

Analysis of the stylistic parameters of the instrumental components of an arranged work in the pop-vocal genre involves clarifying the concept of "arrangement" as a specific form of modification of the original musical sample presented in the form of the author's text. The material result of the arranger's creative activity is a special type of musical composition, recorded in the form of a musical text (score) or sound recording. The existing scientific definitions of the concept of "arrangement", which vary slightly in musical encyclopedias and modern explanatory dictionaries, establish the etymology of the word "arrangement (from German arrangieren, French arranger, literally – to organize, arrange)" (Keldysh, 1973) and outline the content field of this concept, covering various types of creative activity of the musician, namely:

1. Transforming a piece of music to be performed by a different set of instruments (voices).
2. Processing a melody for performing on a musical instrument or for a voice with accompaniment.
3. Lightweight presentation of a piece of music to be performed on the same instrument.
4. In pop music – harmonisation and instrumentation of a new or well-known melody.
5. In jazz, it is a way of consolidating the overall idea of ensemble and orchestral interpretation and the main carrier of stylistic qualities (Busel, 2005).

An article by I. Yampolsky in the Musical encyclopedia contains a more detailed description of the jazz arrangement as "various kinds of changes (harmonic, textured) made during the performance and related to the improvisational style of playing. They are especially widely used in bi-bop and so-called Modern Jazz, in small compositions" (Keldysh, 1973). The position on the improvisational style of jazz music-making is also relevant for pop and vocal creativity, in which, unlike academic art, the priority is not the accuracy of the author's text reproduction but direct communication with the public through a song, which makes its adjustments to the interaction of vocal and instrumental improvisation and a fixed arranged composition in a live performance.

Comparing artistic editing, arrangement, processing, and fantasy on a theme as hierarchical levels of the general principle of a technical approach to modifying a musical text in the field of academic art, S. Shyp, guided by the criteria of the degree of originality of the artistic work and the nature of the author's (or different authors') participation in its creation, recognises arrangement as a more creative and significant way of transforming musical material, as it involves changes in the timbre and register palette of sound, texture, and, in certain cases, rhythm and melody of the original text (Shyp, 1998). At the same time, the prevailing opinion of many academic musicians is that arrangement in pop culture is a purely technical act. The categorical nature of this statement raises doubts when correlating the structural components of an arrangement of a pop-vocal composition with the attributive parameters of a musical style.

From an extremely wide range of modern musicological interpretations of style as a multi-level and multi-faceted phenomenon, the authors choose two approaches to determining the style of arrangement in the field of pop-vocal creativity – a) from the standpoint of the involvement of style factors in the creative thinking of a musician and b) from the standpoint of evaluating the musical and style phenomenon.

Stylistic attribution of a musical phenomenon involves, first of all, the identification of such properties or qualities of musical matter – voiced, recorded in notes or sound recordings, or reproduced in the imagination, which provides the effect of stylistic certainty of the phenomenon being evaluated. An essential, central criterion for style quality E. Nazaykinsky considers a genetic link to a source that generates a unique style of work or its performance: "Style is the quality that allows hearing, guessing, determining who creates or reproduces it in music, that is, the quality is excellent, which allows judging the genesis" (Nazaykinsky, 2003). In addition to the musical requirement, that is, one that is captured directly by ear, the expression of the style and the indication of its genesis must be determined the totality of "all the properties of perceived music, without exception, united in an integral system around a complex of distinctive characteristics" (Nazaykinsky, 2003).

The latter requirement is no longer derived from the genetic but from the logical essence of the musical style, that is, from the systematic organisation of internally connected and interacting elements of the musical language. In this guise, "musical style is a psychologically determined specificity of musical thinking, which is expressed by the appropriate systematic organisation of musical speech resources in the process of creating, interpreting, and performing a musical work" (Moskalenko, 1998). This understanding of the musical style gives grounds to relate various components of the creative activity of an arrangement to this category that combines compositional and performing functions in the process of reinterpretation, that is, interpretation of the original musical material.

Based on this, it can also be stated that the art of arrangement in the music of a non-academic (as well as academic) tradition represents a special type of interpretive style (a term by B. Medushevsky), in which one can feel the orientation to a different style or its overcoming by innovative reinterpretation and artistic modification of the product of primary artistic creativity.

Features of the process of arranging a given musical material, which unfolds at the intersection of genetic and logical style factors, determines the nature of the direction of arranger's creative attitude to the implementation of certain aspects of the musical style – composer, performer, listener, as well as a certain or synthesised style of popular, folk, or academic music. The priority of audience orientations in the field of pop-vocal creativity, aimed at interactive communication with the public and therefore largely dependent on their tastes and requirements of the fleeting musical fashion of their time, affects the specific features of the genre, in which the factor of novelty of artistic utterance becomes decisive. Therewith, the creation of an arrangement with pronounced features of stylistic novelty is likened to the process of literary translation, which, unlike simple translation (from an instrument to another instrument), becomes a kind of phenomenon of author's creativity and involves quite considerable changes in the original musical material.

The concept of "artistic translation in music" was introduced into the musicological circulation of A. M. Zharkov and is interpreted by him as "a new version of the work, in which this work becomes a certain intonation-semantic model, and its components, losing their primary value, are re-intoned to varying degrees and in a new incarnation receive a new integrity, which is created by the choice, selection of material, methods and techniques of re-intonation, new development, artistic goals and objectives of the creator of the new version" (Zharkov, 1994). Therefore, the principles of figurative novelty, artistic integrity, and selectivity of musical and expressive means, which are mandatory attributes of an individual style in music are signs of the author's type of arrangement, which goes beyond purely technical functions, becoming an original style concept with characteristic elements of composer's creativity.

Focusing on the high level of creative tasks that the arranger faces when creating instrumental accompaniment for a pop-vocal composition requires him to master the basics of compositional technique. First of all, he needs a good knowledge of the design features of all musical instruments that are part of an ensemble or orchestra, their technical and expressive capabilities, and the specific colour of the sound of each of them. When preparing a song for a particular artist or ensemble (group), "an arrangement must take into account the song itself (melody, rhythm, harmony), the abilities of the singer or group (style, voice quality, range, etc.), and also the way in which the music is to be heard (unamplified, amplified, recorded, on a television broadcast, etc.)" (Ammer, 2004). Based on this, the arranger determines the instrumental composition and chooses the texture of the presentation of musical accompaniment, which should correspond to the style, genre features, nature, and content of the literary text of the song and contribute to the disclosure of its figurative idea. Important points in the preparation of instrumental accompaniment of a vocal part are the choice of a key that would in terms of tessitura contribute to the real capabilities of singers, and the creation of so-called free zones and the most favourable conditions for the sound of the voice by diluting the instrumental texture, phrasing and articulation, as well as predicting the optimal dynamic ratio between the accompaniment and the vocal part throughout their overall sound.

At the level of forming the instrumental component of a song composition, stylistic means of compositional technique in the work of an arranger can cover a wide range of creative tasks: in the design or creation of instrumental introduction, interludes (connection) between vocal performances, episodes based on instrumental processing of vocal material, completion of instrumental constructions, etc. One of the techniques used in arrangements of vocal and instrumental compositions is "creating a second-plan form, when while maintaining the verse form, it is possible to design it at a higher level in a three-part, rondo, variational, etc. <...> Stylistic transformations of the song are also possible, when only key aspects of the work remain, while harmony can break the pre-established logic of development, bringing the work closer to the Jazz sound" (Kuchenov, 2019).

Harmonisation of instrumental texture remains for the arranger one of the freest areas of creative search and stylistic experimentation with ladogarmonic functions of consonance, modulation logic, alternating keys, and sudden changes in harmonic movement, which act as triggers for the deployment of variational constructions or improvisational inserts. Therewith, the global trend in the development of popular music indicates a gradual loss of artistically valuable diversity and emotional meaning of melody and harmony, which are inferior in the hierarchy of modern musical and expressive means to the priorities of metro- and tempo-rhythm with their motor, body symbols. This leads to the fact that "the activity of the melody and harmony instruments—including the vocals—became progressively more focused on rhythm and meter, the guitar took on more of the timekeeping role and timbral characteristics of a percussion instrument, and the bass and drums became much more prominent in the arrangements" (Hughes, 2003).

Tempo-rhythm as a representative criterion for the basic differentiation of dance and lyric-song genres of popular music carries information about the genesis of a particular style or its branches, which are the basis of a particular vocal and instrumental composition. To a greater extent than the vocal part, the tempo- and metrorhythmic features of the instrumental accompaniment allow establishing the belonging of a song that sounds to a certain style group or area of popular music, which from the standpoint of musicological analysis presents certain difficulties due to the extreme blurring of stylistic boundaries in this area of creativity, prone to constant updating of the musical language and its adaptation to the fashion trends of its time by mixing elements of different styles of popular music, as well as their synthesis with elements of jazz, music of national folklore, and a huge number of dance and song genres of European and world origin. In addition, the features of the metrorhythmic organisation of musical and expressive means of the instrumental component of works of pop-vocal genre also allow identifying the level of artistic claims of the evaluated composition, for example, through the analysis of the interaction of the bass line and counterpoint voices, meter and rhythm, the flexibility and movement of which characterise, in particular, the degree of emancipation of musical expression from the mechanistic setting of metric formulas.

Rhythmic freedom, far from capricious arbitrariness and chaos, as the prerogative of the first performing layer of a song composition, can manifest itself exclusively in the conditions of a sound space structured through an arrangement, within which such performing means of expression as the nature of vocal and instrumental sound extraction, timbre, agogics, articulation, phrasing, dynamics, etc are realised. These performing tools, especially in song and lyrical genres, take over the functions of stylistic individualisation of musical expression to a greater extent than tempo, which remains a primary factor for stylistic recognition in the field of popular dance music. To determine which of these means are the most vivid representatives of the style of pop-vocal composition, it is necessary to consider them in the context of its musical and artistic whole, one of the models of which is the sound image of the composition.

Modelling of the sound image in the process of creating an arrangement of a vocal and instrumental work occurs at all levels of the structural and semantic organisation of a musical composition (according to E. Nazaykinsky) – phonetic (texture), intonation (syntax), and compositional (plot). The implementation of the sound idea by the arranger is specified in the original techniques of organising the instrumental and sound space – texture, through the disclosure of new timbre qualities of phonism, which, according to M. Mikhailov, is one of the main attributes of the musical style. "Phonism, as a stylistic feature, is characterised by a complex integrating character: its features are largely determined by the performing means used in a particular era... <...> In this case, this refers to a certain sound quality (a certain general colour of sound) of music formed by the interaction of a number of elements. Not just timbre, register and dynamic properties. A well-known role is played by the lado-harmonic structure, as well as the features of shaping, which determine what can be called the dynamic curve of the process of unfolding musical material" (Mikhailov, 1990).

At the syntactic level of building the sound image of the instrumental component of pop-vocal composition, the timbre role of various instruments (acoustic and electronic) comes to the fore as a stylistic color of sound, as well as as a factor of formation, which is manifested in the coordination of changes in timbres and sections of the composition, the ratio of dynamic tension of musical development with timbre, ladogarmonic and metrhythmic elements of musical speech. The compositional level of the arrangement of a vocal-instrumental work demonstrates not only the design features of its form, melodic-thematic and event plans for its construction but also the drama and logic of the development of the sound image, which can become an expression of musician's conceptual thinking because "semantic re-accentuation in the conceptual space of the musical work and awareness of the principles of sound-like thinking limitations of the past determine the transformation of the sound ideal, which is reflected in the artistic concept of sound" (Riabukha, 2015).

From this standpoint, the phenomenon of the sound image has become the subject of theoretical research in the scientific field of modern sound engineering, where it is proposed to distinguish between two fundamental types of sound image that currently exist in the field of sound recording. Based on the study of such parameters of the sound image as spatial impression, acoustic, dynamic, and musical balances, characteristics of the sound source or sources (timbre), transparency of sound, etc., the author of the study identifies traditional (classical) and non-traditional (dramatic) types of sound image of a musical phonogram, reflecting different principles of creative thinking of the sound engineer. Comparing the traditional and non-traditional principles of building a sound image in the process of working as a sound engineer, V.A. Shlykov points at the creative limitations of the first principle due to its strict binding to the genre and specific conditions of music performance. However, in the definition of an untraditional (dramatic) type of sound image, the researcher laid down a system of criteria for "such a sound image, all (or some) parameters of which serve to disclose the drama of the work (author's idea) and subject only the dramatic logic of this work" (Shlykov, 2010).

The idea of typological differentiation of the sound image of musical phonograms seems favourable in the sense of its projection on the specific features of the creative activity of the arranger and the inclusion of a typological approach in the methodological apparatus of stylistic attribution of samples of arrangements of pop-vocal compositions. Based on the fact that the concepts of traditional and non-traditional types of the sound image seem to be too general characteristics of musical phenomena in the field of popular genres, and therefore not effective enough to perform the tasks of practical analysis of these phenomena, the authors propose to distinguish between constant and aconstant types of the sound image by analogy with the specific features of visual perception in the art of painting, where the psychological concept of aconstant perception characterises a change in artistic vision depending on changes in the lighting conditions of the image object.

Accordingly, constant is a type of arrangement sound image, the construction of which is based on the principle of repetition of elements of a musical language and the cyclical development of a sound idea, and aconstant is a type of arrangement sound image, the construction of which is based on the principle of transformation of elements of a musical language and the end-to-end dramatic development of a sound idea in the transmission of the meaningful content of a work of a song genre.

Differentiation of types of the sound image of an arrangement of a pop-vocal composition can be considered as one of the components of style analysis method, which, according to the definition of E. Nazaykinsky, "includes a description of the language (artistic means of music) and the artistic method, as well as a comparison of the studied phenomena with others, without which it is impossible to identify style specifics" (Nazaykinsky, 2003). Raising the issue of the methodology of stylistic attribution of musical works, E. Nazaykinsky emphasises the need to comply with research priorities during this procedure, aimed at identifying active stylistic means that are unique properties of music since "rare artistic means have a stronger and brighter effect on the listener" (Nazaykinsky, 2003). This does not negate the feasibility of simply describing, listing, and statistically reviewing the means of musical language as a preliminary stage in the study of style. However, the study of the phenomena of musical style requires a comprehensive approach, so it should be remembered that "comparing the concepts of style and language, it can be said that style is the identification of music in relation to the style background, to the style environment, and language is a system of internal means that make up the whole" (Nazaykinsky, 2003).

Guided by this, the authors will try to carry out the procedure of stylistic attribution of arrangements of pop-vocal compositions based on a comparative auditory analysis of sound recordings of two versions of the same song – the original and its cover version. The original is an author's performance of the song "I will go to distant mountains" based on the words and music of the outstanding Ukrainian composer, multi-instrumentalist, songwriter, author of many hits that are considered classics of Ukrainian pop music, Volodymyr Ivasyuk. Among the numerous reinterpretations of this song, the authors choose for comparison one of its most interesting cover versions performed by the well-known talented American singer of Ukrainian origin Kvitka Cisyk.

The song "I will go to distant mountains" was created by V. Ivasyuk in 1968 and at the same time was performed by him in one of the popular TV shows. The sound recording of those years records the author's performance of the song (vocals) accompanied by an instrumental ensemble consisting of two electric guitars, a bass guitar, a drum kit, and an electric piano. The poetic lyrics of the song convey the sincere monologue of the lyrical character, addressed to the elements of wind and the forces of nature, which are designed to connect him with his beloved. The refrain of the song is the character's appeal to his beloved, her beautiful image, integral to the beauty of the nature of the Carpathian Mountains.

The composition of a song is a type of verse-chorus form, consisting of an introduction, two stanzas with choruses, an instrumental interlude between them, and a coda. The letter scheme of the composition looks like this: i_1–A–B–A_1–i_2–B-C..., where i_1 and i_2 – instrumental themes of introduction and interlude, A and B – themes of verse and chorus, C – theme codas. Thematic changes in A_1 only apply to the word text and do not apply to the musical material of the vocal part and accompaniment.

A short instrumental introduction (eight bars) based on the repetition of the standard rhythmic formula of Big Beat with an emphasis on the bass line in unison holding two guitars and drums in tempo ♩=150, which clearly determines whether the song's music belongs to the dance genre. On the last four bars, the electric piano part is connected, creating a parallel quint along with the bass line. The moves of empty quints in a combination of bass and high register, timbrally close to the sound of a pipe, give the theme of the introduction a touch of folk archaic.

The verse form is a square period of two sentences (8+8) of repeated structure with an exposition type of presentation of the topic, represented in the vocal part by an ascending melody that modulates into a dominant key (a-moll – E-dur) and contains alternating jumps on a quart and a sexta up with a descending smooth filling of intervals and chanting of tertz and quintal tones. The chorus also consists of two sentences (8+8) of repeated and unique structure with the middle type of presentation and sequential development of motifs in the second sentence, which modulates the dominant key in the same way as in the verse. Thus, the thematic development of the characteristic motifs of the verse and chorus is based on the principles of repetition and comparison.

Instrumental accompaniment is mainly assigned an accompanying role, which at the same time provides a form-developing function of the metric framework, the nodal points of which connect the contours of a rhythmic pattern close to the samba rhythm in the bass guitar part. Before the second chorus, the lead guitar performs a 16-stroke improvisational interlude (8+8), thematically unrelated to the musical material of the previous parts of the composition and based on the motivational development and tonal comparison of short episodes that convey the general nature of the movement characteristic of folk dance music. Melodic neutral interlude sets off the last bright performance of the chorus, which, in turn, is the transition to the culminating part of the entire composition – coda. The beginning of the climax is marked by the appearance of a new theme in parallel major (a-moll – C-dur) with a quart-up movement characteristic of the solemn music of the anthem and breadth of melodic breathing. Held twice in the vocal part, the final theme gradually dissolves into silence.

The composition creates a holistic sense of the end-to-end development of musical thought, which is achieved through the tonal opening of parts of the song form, where each period plays the role of a prediction that requires its functional solution in the subsequent musical construction. Therewith, the instrumental arrangement with its functions of ladotonal organisation of musical material fills the song composition with internal dynamics, accumulating the rhythm along with the energy of harmonious movement and overcoming the constancy of the sound image of the accompaniment, set by the limited resources of the instrumental composition and the stylistic framework of Big Beat. In addition, the static of the metric scheme is opposed by the dynamics of the lively movement of the melody, saturated with the energy of musical intonations of hutsul folklore.

Thus, the style profile of the author's version of the song "I will go to distant mountains" and, accordingly, its original arrangement determines the organic combination of musical vocabulary and rhythm of Big Beat with a bright melody and musical thematicism of local and national origin. The song of the dance genre in the interpretation of Kvitka Cisyk is radically transformed, turning into an epic vocal poem, included in the second Ukrainian album of the singer «Two Colors» (1989). The arrangement for the orchestral accompaniment of songs from this album was created by the famous New York-based composer and arranger Jack Courtner, who also conducted the orchestra while recording music in the studio. About forty well-known studio musicians from the United States were involved in the recording, which primarily affected the degree of creative freedom of the arranger in both technical and figurative dimensions. Despite this, Jack Courtner, according to the singer, was extremely responsible for each work, tried to be imbued with its poetic content, "so as not to change the authentic original, not to Americanise but to preserve the unique Ukrainian melos" (Hornostay, 1992). The orchestra's instruments include classical and acoustic guitars, acoustic bass guitar, piano, harp, celeste, drums, percussion, keyboards, as well as groups of stringed instruments – violin (thirteen musicians), viola (four musicians), cello (three musicians).

In addition to the texture of the instrumental accompaniment of the vocal part, the creators of the cover version reinterpret the sequence of parts of the original composition of the song, which in the new arrangement takes the following form: i_1–A–B–A_1–B_1–C–A_2–A_3–A_4..., where i_1 - instrumental introduction based on the C-Dur theme of the code in the author's version of the song, A and B – the themes of the verse and chorus, which in all repeated performances appear each time with variable changes in the orchestral presentation, C and A_4 are vocalisations performed with orchestral accompaniment, based on the themes of the code and verse, which in the last performances of A_3–A_4... performs the function of a reprise.

The first bars of the introduction, unfolded in tempo ♩=82, indicate the transfer of the original musical material with its attraction to the dance genre to the opposite genre space of song lyrics, while almost completely preserving the melodic and rhythmic patterns of the vocal part of the work. The lyrical-epic character of the entire composition is set by the major theme of the introduction in the form of a square period of two sentences (8+8) with an exposition type of presentation of thematic material, representing two phases of development of one topic on the principle of contrasting its first and second shows. The initial implementation of the theme by unison groups of violins and cellos is a duet of two voices imitating the techniques of heterophony characteristic of Ukrainian folk music-making. The thoughtful and narrative nature of the first presentation of the theme is changed when it is repeated in a new majestic image in the tutti sound of the orchestra, which enters on the wave of glissando in the piano and harp parts. In the dramatic, narrative-event unfolding of the theme of the introduction, rhapsodic features of the folk epic appear, which discloses the originality of the embodiment of folklore principle in the musical language of the arrangement.

Discussion

The method of dynamic development of the sound image of the vocal part accompaniment by comparing orchestral textures of different densities is used by Jack Courtner in different parts of the composition. However, this method does not turn into a stamp due to the inventive filling of the orchestral part with various musical events. Thus, the instrumental representative of the initial implementation of the theme in the first verse is the piano, the lone accompaniment of which emphasises the chamber genre of the soloist's lyrical statement, her performing position aimed at trusting communication with the audience. The smooth introduction of orchestral sound in the last bars of both sentences enhances the expressiveness of the final chants of the quintal tone in the melody. These chants bring new colours to the harmonious fabric of the song due to the use of an increased fourth degree (in contrast to the author's version of the melody with a natural sound order), which is one of the main features of the hutsul system, also known in the English-speaking environment as "Ukrainian minor". This seemingly insignificant detail is actually one of the important points of "style generalisation" (a term by E. Nazaykinsky) musical and linguistic means of the composition, the super-idea of which goes beyond the musical imagery of purely love lyrics and becomes an expression of the general concept of the album "two colours", which the singer herself in the comments to it defined with these words: "this collection of songs is the desire of my Ukrainian heart to weave joyful threads into the life-torn canvas, on which the destiny of our people is embroidered" (Kvitka Cisyk, 1989).

Choruses in the performing interpretation of Kvitka Cisyk become the centre of a particularly heartfelt, confessional intonation, the meaningful shades of which are supplemented by means of orchestral accompaniment. It is the orchestral part that gives the listener an idea of the subtext of the vocal utterance, which is rather addressed to own inner world in the pristine silence of the surrounding nature. These associations evoke a variety of onomatopoeic effects in the orchestra's part, which are achieved, in particular, in the first chorus, by the iridescence of warm harp sounds against the background of pianissimo flageolets of violins, conveying the mysterious rustles of the forest. In the second chorus, the rising waves of pizzicato strings that freeze in silence are picked up by the retaliatory replicas of the harp solo. This generally creates a sense of transparent, free-breathing sound space, which gradually expands after the spectacular glissando harp before the start of the second sentence and is dynamically saturated with active violin figurations until the climax of the entire composition.

The climax, unlike the original song, takes place in the conventional "golden ratio point" of the composition and covers sixteen bars of interlude (8+8) in the form of vocalisation with expanded orchestral accompaniment. The C-dur theme of the original code appears here in a new shining image in the sound of the triumphant tutti orchestra, which enters the wave of the general orchestral crescendo and glissando in the harp part. The next orchestral wave in the second sentence raises the sound image of the theme of the coda to a new level of emotional expression, which gives the sound of the melody a super-individual character of the anthem to the majestic nature of the Carpathians. Thus, the orchestral part has an important function of the meaningful subtext of the entire composition, in which the intimate confession of the lyrical hero of the song takes on a new meaning in the perspective of his pantheistic sense of native nature.

The reprise returns the original narrative character to the musical presentation. The emotional apogees experienced in the interlude echo in the orchestral version of the reprise with more lively improvisational replicas of the piano compared to the beginning of the composition (section A_3), as well as an actively developed solo of cellos, which, in a duet with a vocal part, complete the musical idea that the distant echo of a beautiful girl's voice dissolves for the last time in silence (section A_4...).

Thus, the arrangement of the song "I will go to distant mountains", created by Jack Cortner, contains all the signs of the end-to-end dramatic development of the sound image of pop-vocal composition, which is achieved by applying classical techniques of form development and techniques of compositional writing, comparing orchestral textures of different densities, using the sound and colouristic capabilities of symphonic musical instruments, a considerable expansion in comparison with the original song of the sphere of harmony and its form developing potential, as well as in general a powerful expansion of the spatial localisation of the sound image to open new meaningful facets of the content of song's literary text.

The combination of high professionalism and aesthetics of academic composer's and performing creativity with the parameters of a popular song genre gives grounds to consider this composition in general and its arrangement in particular as an early example of the classical crossover style that has developed today. Thus, the style profile of the cover version of the song "I will go to distant mountains" arranged by Jack Courtner determines the artistic synthesis of the musical vocabulary of classical crossover with elements of Ukrainian folk-song culture.

The outcome of a deep artistic reinterpretation by the creators of the cover version of the author's text of the song, transformed by means of solo vocals and subordinate means of arrangement in style, form, musical language, and meaning of the literary text, was the appearance of an original musical phenomenon of the pop-vocal genre with pronounced stylistic features of an individualised concept, unique from the standpoint of aesthetic and axiological criteria of musical art.

The result of the study is the theoretical development of a methodology for stylistic attribution of arrangement of a cover version of a song genre composition, which meets the goal. Comprehensive methods of stylistic analysis of the arrangement of a cover version of a pop-vocal composition allow us to comprehend the logic of the arranger's creative process, and thus open the way to learning the secrets of the skill of a bright artistic individuality.

Conclusion

The procedure of style attribution of an arrangement of a pop-vocal composition involves identifying such qualities of musical matter – voiced, recorded in notes or sound recordings, which provide the effect of stylistic certainty of the phenomenon being evaluated. The most suitable stylistic features of the instrumental component of a vocal work are texture, tempo, melodic-thematic, and ladoharmonic organisation of musical material, which are directly related to the characteristic aspects of the sound.

A consistent description of the listed musical and expressive means determines the algorithm of analytical actions in the process of auditory expertise of the specific features of the musical language of the arrangement and the features of the composition formation, based on which its integral sound image is built. Therewith, the procedure for differentiating the constant and aconstant types of the arrangement sound image as operational criteria for the stylistic identification of repeated-cyclical and end-to-end dramatic principles of sound idea development is considered as one of the components of the methodology for stylistic analysis of a song genre work.

The inclusion of a typological approach in the methodological apparatus of stylistic attribution of arrangements of pop-vocal compositions, the musical language of which is, as a rule, a carrier of genre synthesis of various musical trends, is aimed at identifying active expressive means of music that help to determine the genesis of the stylistic development of the studied musical phenomenon by comparison. In the sphere of mass genres, such means are, first of all, the characteristic parameters of tempo-rhythm and phonism, which allow identifying the stylistic dominant of a song genre work with a particular area of popular, jazz, folk, or academic music.

When comparing the style characteristics of the original song and its cover version, which is carried out on the principle of contrasting comparisons or comparisons on the similarity of creative methods of instrumentation, formation, tempo-rhythmic, melodic-thematic, and ladotonal organisation of musical material of pop-vocal composition, it is necessary to consider the criteria of musical novelty and aesthetic value of the results of stylistic rethinking by the arranger of the author's text of the song, which in the new version can appear as a unique individualised concept that has actual artistic importance for the modern audience.

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DOI: https://doi.org/10.34069/AI/2023.68.08.25
How to Cite:
Dinevich, I., Ivanova, A., & Kulikova, E. (2023). Specifics of teaching Russian language phraseology to foreign students (based on the phraseological units with verbs of motion). *Amazonia Investiga*, *12*(68), 269-280. https://doi.org/10.34069/AI/2023.68.08.25

Specifics of teaching Russian language phraseology to foreign students (based on the phraseological units with verbs of motion)

Специфика обучения иностранных студентов фразеологии русского языка (на примере фразеологизмов с глаголами движения)

Received: July 10, 2023 Accepted: August 25, 2023

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Abstract

This article is dedicated to the consideration of relevant methodological techniques of offline and online teaching of phraseological units with verbs of motion to foreign students taking into account the peculiarities of various teaching stages. The research novelty consists in the presentation of the polyvector module for working with phraseological units with verbs of motion to form language, sociocultural, sociolinguistic and cross-cultural competencies of a foreign speaker. When writing the article, the authors used the following methods: analytical method, component analysis, methods of interpretation and modeling. The analysis of the polyvector teaching module demonstrated that the acquiring process of Russian phraseological units by foreign speakers will be integral and effective, if lexical and grammatical material is selected in accordance with the criteria and objectives of each teaching level. The methodological techniques of the polyvector module take into account the features and objectives of teaching at each level; the system of the module tasks, implemented in the online format (mass open online course – MOOC) and offline, is aimed at developing foreign speakers' skills and abilities to understand and use

Абстрактный

Данная статья посвящена рассмотрению актуальных методических приемов очного и дистанционного обучения иностранных учащихся фразеологизмам с глаголами движения с учетом особенностей различных этапов обучения. Новизна исследования состоит в представлении поливекторного модуля работы с фразеологизмами с глаголами движения для формирования языковой, социокультурной, социолингвистической и страноведческой компетенций у инофона. При написании статьи были использованы следующие методы: аналитический метод, метод сплошной выборки, компонентный анализ, методы интерпретации и моделирования. Анализ поливекторного модуля обучения показал, что процесс усвоения инофонами русских фразеологизмов будет целостным и эффективным при условии отбора лексико-грамматического материала в соответствии с критериями и задачами каждого уровня обучения. Методические приемы поливекторного модуля учитывают особенности и цели обучения каждого из уровней; система заданий модуля, реализуемая в формате онлайн (массовый открытый онлайн-курс) и офлайн, направлена на формирование

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phraseological units with verbs of motion in speech in different communicative situations.

Keywords: Russian as a foreign language, communicative competence, phraseological units with verbs of motion, polyvector module, mass open online course.

навыков и умений понимания и использования в речи инофонов фразеологизмов с глаголами движения в разных коммуникативных ситуациях.

Ключевые слова: русский язык как иностранный, коммуникативная компетенция, фразеологизмы с глаголами движения, поливекторный модуль, массовый открытый онлайн-курс.

Introduction

Teaching of any foreign language, and Russian as foreign (RAF) in particular, has the main objective – to form such level of communicative competence of foreign speakers, which will allow them to solve limited or unlimited number of communicative tasks, in other words, to participate in real communication. The important components of such communicative competence are sociocultural, sociolinguistic and cross-cultural competencies, which provide the adequacy of speech communication. The development and improvement of communicative competence is performed based on the large array of texts with different stylistic, grammatical and lexical directions.

Phraseological units, as a part of linguistic system of a language, have their own specific position. The understanding of phraseological units and their active and correct use in speech are an integral part of linguistic consciousness of a native speaker, they reflect the peculiarities of daily life, human environment, ethnos historic development. The mastering of phraseological units by foreign speakers gives them the opportunity to form sociocultural, sociolinguistic and cross-cultural competencies, allows understanding the culture of Russian native speakers and conducting the adequate speech communication.

The aim of this research is to consider the relevant methodological techniques of offline and online teaching the Russian language phraseology to foreign speakers (on the example of phraseological units with verbs of motion), to describe the polyvector module of work with Russian phraseology intended for forming sociocultural, sociolinguistic and cross-cultural competencies of foreign speakers.

The research novelty is to propose the new polyvector module of work with phraseological units with verbs of motion, which assumes the selection and introduction of lexical and grammatical material into RAF teaching practice in accordance with the criteria and objectives of each teaching level and conditions of foreign speakers' teaching (offline / online form in the format of mass open online course (MOOC)).

Literature review

At present, the researches in phraseology theory are actively introduced into practice of teaching foreign languages since the rendering of phraseological units gives a lot for understanding national culture and national mentality. The increased interest to phraseology as an object of language education is reflected not only in native but also foreign linguistics. For example, in Czech Republic phraseology is actively introduced into the teaching process from elementary to advanced levels. Czech researcher Čechová discovered the role of phraseology in the process of teaching native and foreign languages as a way to cultivate love to them (Čechová, 2012, 113). The scientific work of S. Li is dedicated to the investigation of the role of phraseology in forming the sense in discourse (Li, 2015). The comparative analysis of the main types of phraseological units in Russian and English languages was conducted by K.V. Zemlyakova (Zemlyakova, 2010, 2).

There are different approaches to teaching phraseology of the Russian language to foreign students in modern Russian studies. Due to the orientation of pedagogical process to the result, a special attention is paid to the formation of a young specialist's competence in modern practice of teaching the Russian language as foreign. The important role in understanding phraseology for forming communicative and sociocultural competence of foreign students is mentioned by many linguists. For example, E.M. Vereshchagin and V.G. Kostomarov linked the studying of Russian idiomatics by foreign speakers with the perception peculiarities of language world pictures, interconnection between a language and culture (Vereshchagin, & Kostomarov, 1990).

A special role of communicative phraseology in forming sociocultural competence is pointed out in a number of Russian and foreign publications (Fedulenkova, & Tyazhelova, 2017; Degtyarev, & Larionova, 2014; Sarsenbaeva, Utebaev, 2020). "Communicative competence is considered important for understanding the communication ethics and also for improving the skills of cultural awareness, as well as for developing critical thinking" (Sarsenbaeva, Utebaev, 2020: 47). The new approach for selecting communicative phraseological units was proposed by T.N. Fedulenkova (Fedulenkova, 2003). The role of phraseological units in forming cultural and intercultural competences of foreign students was pointed out in the article by O.V. Starostina and her coauthors (Starostina et al., 2018).

Different forms of teaching phraseology of the modern Russian language can be found in many scientific works. Thus, V.M. Mokienko in the article "Phraseology of the learner and phraseology of the educator (Problems of the methodology of mastering phraseological units)" described a number of methods for teaching phraseology for different groups of students based on the conducted research (Mokienko, 2017). O.V. Murashova and N.V. Shtykova, based on the analysis of scientific-methodological sources and own experience, proposed the criteria for selecting phraseological units (PU) in the course structure and didactic techniques for working with them (Murashova, Shtykova, 2019). The systematization and generalization of methodological techniques for working with PU at the lessons of the Russian language as foreign in the specialized higher educational institution were demonstrated in the article by E.K. Kuznetsova (Kuznetsova, 2021), and I. Skripnikova in her research paid special attention to the main difficulties in studying Russian verbs of motion in their figurative meaning (Skripnikova, 2012).

The semantic classification of verbs by the way of performing the motion and semantic features of verbs of motion were described in the researches of V.N. Solovar (Solovar, 2016) and M. Gepner (Gepner, 2016).

A number of researches of native and foreign specialists are dedicated to ethno-oriented approach in teaching foreign students verbs of motion. For example, L.S. Korchik considered the peculiarities of teaching Chinese students verbs of motion in the Russian language (Korchik, 2012). K. Emrak studied the difficulties in teaching Turkish students verbs of motion (Emrak, 2021). A. Larson analyzed prefixless verbs of motion of the Russian language with direct and figurative meanings in the aspect of teaching Norwegian students (Larson, 2014).

The teaching aids in the Russian language as foreign aimed at widening linguoculturological knowledge of foreign students were prepared based on different researches in the field of phraseology and phraseology of verbs of motion (Yarantsev, 1985; Basco, 2011; Chepkova, 2003) and some others.

The issues of methodology of teaching foreign students Russian verbs of motion (as grammatical category) are demonstrated in teaching aids by L.S. Muravyova (Muravyova, 2006), L.P. Yudina (Yudina, 2010), G.L. Skvortsova (Skvortsova, 2019), N.V. Pomortseva, I.A. Dinevich (Pomortseva, & Dinevich, 2019).

Materials and methods

The research material comprises phraseological units with verbs of motion, which brightly demonstrate the national and cultural peculiarities of Russian native speakers and also folk and literary traditions of Russian people. The material choice for this research is also conditioned by the fact that Russian verbs of motion are very difficult for foreign students due to their polysemy, active word-building and ability to be used both directly and figuratively, and, therefore, they require a special methodological approach.

The analysis of scientific-methodological sources on the research topic allows describing traditional and newest methodological techniques for teaching phraseological units to foreign students. Applying the method of continuous sampling of phraseological units, from the array of phraseological dictionary we selected the phraseological units with verbs of motion, the semantics of which was identified with the help of the component analysis. The use of the interpretation methods allowed explaining the actual meaning and etymology of Russian phraseological units with verbs of motion and also to compare their rendering in Russian and English. Based on the model developed for teaching phraseological units with verbs of motion we created MOOC "Verbs of motion in the Russian language" with the help of the modeling method.

Results

The process of teaching Russian phraseology requires purposeful and systematic methodological work and is based on didactic principles formed and accepted in the methodology of teaching the Russian language as foreign. The use of these methodological principles in offline and online teaching results in purposeful mastering of language knowledge and development of skills and abilities in active speech practice of foreign students.

A teacher of RAF completes several tasks based on the language level of foreign students:

1) at which moment of teaching it is possible to start learning phraseologisms with verbs of motion;
2) should phraseologisms containing in their composition obsolete grammatical structures or words unknown for foreign students be the object of learning;
3) what methodological techniques are more effective to be used when working with Russian phraseology.

The solution of these questions is closely connected with the proficiency level of RAF. At the elementary and basic levels of proficiency the process of introducing PU with verbs of motion is complicated by general difficulties in understanding the grammatical topic “Verbs of motion” itself since the Russian system of verbs of motion has a number of peculiarities, which do not have analogs in the native language, therefore, the learning of phraseological units should be started only after the system of verbs of motion has been mastered in general.

In our pedagogical practice we use the polyvector module of work with Russian phraseology envisaging the selection of lexical and grammatical material in accordance with the objectives and tasks of each level of teaching foreign students and also comprising the systematic work in producing the speech situations of using phraseological units with verbs of motion to form communicative and sociocultural competeneces of foreign speakers.

The difficulty of studying Russian verbs of movement for foreign students is that there are verbs in the language showing how movement is carried out. It can be realized with the help of human legs, with the help of wheels on the ground, movement on the water or in the air, movement in one direction or movement in different directions. Difficulties in choosing the correct verb on the background of the absence of such moments in the native language provokes mistakes.

At the initial stage of learning (level A2-B1) the introduction of phraseological units with verbs of motion is limited and fragmentary. First, it is necessary to choose and introduce the limited set of verbs of motion with figurate meaning and phraseological units of semantic monosemy (*it is snowing, the time has come, time flies, to wear glasses*) into the speech practice since they are frequently used both in written texts and speech situations. Working with this material with foreign students of levels A2 and B1, it is important to demonstrate that the paired relationship of verbs by the feature of unidirectionality / multidirectionality (*life goes on by foot, rain goes on by foot, the lesson goes by foot*) [1] is lost in phraseological units. To systematize the use of verbs of motion in figurative meaning and improve the memorizing, it is necessary to group these units by the situations of their use or by the groups of verbs of motion (in the form of grammatical comment) (Table 1).

[1] A literal translation of Russian constructions into English is given to demonstrate the peculiarities of the use of phraseological units.

Table 1.
Speech situations of using verbs of motion in figurative meaning

Speech situation	Grammatical comment
Time *Time* ***goes on (by foot)****. A year* ***passed (by foot)****.* *The holidays* ***flue away****. The holidays* ***went (by foot) in a flash.*** *We* ***have lead*** *a good time.* *Weather* ***The snow goes (****on foot) in winter in Russia.* *The* ***rain was going (****on foot) the whole day yesterday.* *Human clothes* *I do not* ***carry*** *a hat.* *Information* *The students* ***went/passed*** *a new topic at the lesson.* ***Lead*** *an example, please!*	*Verbs of motion of the group "go" (walking in one direction)* *The clock* ***is going*** *(on foot). A new performance* ***is going on*** *(by foot) in the theater.* *The war* ***was going*** *(on foot). How the time* ***flies****!* *Nina Petrovna* ***leads*** *the geography lesson.* *Verbs of motion with prefixes (imperfective aspect, perfective aspect)* *Holidays* ***pass*** *fast.* *The interesting holiday* ***passed****. A year* ***passed****.*

The understanding and mastering of this material is checked with the help of exercises on filling, test tasks, analysis of speech situations and composition of own situations by analogy. The frequency of using phraseological units in conversational practice of native speakers dictates the necessity to introduce the elements of work with some PU at learning levels A2 and B1 already when the formation of communicative and sociocultural competences of foreign speakers starts. In our opinion, the single introduction of PU helps foreign students to replenish their vocabulary with new lexical units that will contribute to enriching the linguoculturological level of the students and increasing their study motivation.

At this stage of teaching it is possible to introduce phraseological units of the following lexical and semantic groups into the working materials:

a) physical and psychological states of a person: *to exit from person's control*[1] (*to be in hot blood), the head is going round and round, it does not go out of my head, to come to oneself, nothing comes into my mind;*
b) behavior of a person: *to bring to light, to make someone go round one's finger (to twist someone round one's finger), to lead someone into trouble (to get someone into trouble), to go around something in silence (to make no mention of someone);*
c) event, fact: *to enter in the annals of history (to go down in the annals of history), to enter in the everyday life (to become part of everyday life), to put oneself in one's place, to come to the conclusion, to lead to deadline (to extend the deadline).*

At the advanced stage of learning (level B2) the methodological work with phraseological units is targeted at the following moments of functioning of verbs of motion in fixed phraseological combinations: the language material where the meaning is relatively far from the direct one and fixed word-combinations and phraseological units are considered since at the advanced level of learning foreign students have already formed the skills of mastery of the grammatical system of verbs of motion and have sufficient vocabulary to understand large texts with lexical richness.

At the advanced level of learning the range of methodological techniques becomes wider and semantic-cognitive approach to forming the skills of semantic composition of utterances and their verbalization comes to the fore (Rumyantseva et al., 2016). One of the important methodological techniques applied at this stage is ***the familiarization of students with language components of phraseologisms***. The archaic elements (lexical items, grammatical forms) are very often included into the composition of phraseological units with verbs of motion. For example, obsolete lexical units comprise the following Russian phraseological units: *to make one's contribution (to contribute one's lepton)* (*lepton* was a small ancient Greek coin), *bring somebody to a boil (bring somebody to white*

[1] A literal translation of Russian constructions into English is given to demonstrate the peculiarities of the use of phraseological units.

heat) (*white heat* is heating up to very high temperatures), *to run at the top of one's speed*, *to back-pedal*.

When studying grammatical peculiarities of phraseological units with verbs of motion the problem of limited grammatical combinability of many phraseological units is also considered. For example, in some phraseological units verbs of motion are used only in the form of perfective aspect (*to reach the limit, to get out of hand, etc.*) or only in the form of imperfective aspect (*to go with the flow, to lead down the garden path, to go in circles, etc.*) or in the forms of both aspects (*to come out / to come out clean, to get / to get bent out of shape, to slip / to slip one's mind, etc.)*. Such differentiation and commenting of the use of types of verbs of motion in PU will allow foreign students to avoid traditional mistakes when using such complicated grammatical category of the Russian language as the verb aspect.

The next important methodological technique in the process of studying lexical and grammatical peculiarities of the Russian idiomatics is ***the familiarization with PU etymology***. This technique is aimed at teaching foreign students to work with culturological and etymological comments to Russian phraseological units with verbs of motion. For example, introducing the phraseological unit *to twist someone round one's finger*, which is currently used in the meaning 'to cunningly cheat someone' should be explained to foreign speakers that its origin is connected with people who, due to the swiftness of their hands, cheated people as if showing them the miracles of their amazing tricks for the sake of the fraud or ordinary astonishment of the audience. At present, the use of such phraseological unit concerns the cheating with the help of intricacies of thought, i.e. ordinary cheating without the manipulation of fingers.

The phraseological unit *the black cat ran (bad blood brewed)* is available in the vocabulary of all Slavic languages. It is based on the superstition known from ancient times: a person will get into trouble or even misfortune, if a black cat crosses the street in front of him or her. It is historically connected with the fact that people believed in the possibility of reincarnation of the evil spirits in different animals, including a black cat. At present, this phraseological unit is used in colloquial speech and means 'quarrel, tiff, harmed relationship'.

Proper names having certain associative message and requiring comments are used in phraseological units, for example, *the tongue will lead you to Kiev (better to ask the way than go astray), nobody goes to Tula with own samovar (one should not bring coals to Newcastle), etc.* Foreign students not knowing Russian cultural background translate phraseological expressions literally. This results in incorrect understanding of meanings and historically inherent national and cultural specifics in them. "Authentic use of these phraseological units requires not only language but also linguocultural knowledge" (Guo, 2018, 214).

The analysis of etymology of phraseological units is inextricably linked with the consideration of their ***national specifics***. This methodological technique allows discovering unique features and distinct identity of Russian people. The comparison of linguistic picture of native and foreign languages definitely helps students to understand the meaning of phraseological units and learn how to use them correctly in speech practice in the Russian language and find the correct equivalent in the native language.

Russian phraseological units with verbs of motion and their English equivalents were analyzed as an example since many foreign students use English. The comparative analysis of meanings of a number of Russian and English phraseological units demonstrated that some Russian phraseological units have complete equivalents in English. For example, the phraseological unit "To go through fire and water" is equivalent in the Russian and English languages.

However, the majority of PU are only partially equivalent or nonequivalent expressions in a native language that is connected with the specifics of different linguistic worldviews. As V.N. Telia pointed out, phraseological units are "the mirror, in which the linguocultural similarity identifies its self-consciousness, phraseological units themselves dictate native speakers, in a way, a special view of the world, the situation" (Telia, 1996, 95). The comparative analysis of phraseological units of the Russian and English languages confirms this statement (Table 2).

Table 2.
The meaning of phraseologisms in the Russian and English languages [1]

Russian language	***English language***	***Meaning***
to go out of one person's own control	*to fly off the handle*	*to lose countenance falling in the state of anger*
one's soul went down to one's heels	*one's heart sank into one's boots*	*a person feels horror, fear*
to swim like an axe	*to swim like a stone*	*to drown, not to stay afloat, to sink*

The comparative analysis of the selected phraseological units shows that literal translation of Russian and English phraseological units is completely different and a foreign student should memorize these phraseological units.

The important stage of methodological work is ***the analysis of stylistic nuance of Russian phraseological units***. The teacher of RAF should draw attention of foreign students to the fact that in the Russian language neutral, interstylistic phraseological units are not frequent (*to go with the flow, to keep up with the times, etc.*), but the phraseological units with limited stylistic nuance (conversational style or bookish type of speech) are actively used. For example, Russian phraseological units *one's heart sank into one's boots, to lead down the garden path, to be in utter chaos, to talk buncombe* have vividly expressed colloquial, expressive nuance and their use is only possible in informal communication with friends and family members.

The following bookish phraseological units: *to make one's contribution, to fly fast, to pass away, to bring to light* are also limited stylistically and can be mostly found in publicistic and belles-lettres styles.

In order to correctly use such phraseological units in speech practice foreign students need to correctly understand not only their semantics and etymology but also stylistic specifics and functional role in different texts of the Russian language. It is also important that when studying PU foreign speakers learn a certain lexical layer and grammatical categories together with it.

The effective methodological technique is ***the use of phraseological dictionaries*** to identify the phraseological expression by its lexical meaning and stylistic belongingness. Foreign students often experience difficulties in understanding the semantics of Russian phraseological units having figurative, idiomatic meaning. The common mistake of students – to find the meaning of each component of the phraseological units in a spelling dictionary – results in inadequate understanding of the fixed expression. In this regard, the most important task of the RAF teacher is to explain that the complex of components gives the understanding of the phraseological unit meaning, therefore, for exact rendering of the fixed expression it is necessary to teach foreign speakers to use phraseological dictionaries. For example, the phraseological unit *to get out of the rain* means 'to escape unpunished'; *to stop at nothing* – 'readiness to go towards the aim regardless of any obstacles (even of colleagues or friends)'*; carry water in a sieve* – 'to lose time, dawdle'; *to bring to light* – 'to disclose, condemn somebody'.

Let us give the examples of the tasks aimed at developing communicative skills and abilities of foreign students and widening their vocabulary.

Fulfill the task: find the meaning of each fixed expression (if you have difficulties, consult the phraseological dictionary).

1. To twist someone round one's finger (obvesti vokrug paltsa)	a) not to tell about something deliberately
2. To get someone into trouble (podvesti kogo-libo)	b) to make conclusions
3. To go around a mountain (goru oboiti)	c) to appoint another time
4. To sum up (podvesti itog)	d) to cheat cunningly
5. To come to the conclusion (priyti k vyvodu)	e) to put someone in an unpleasant position
6. To make no mention (oboiti molchaniem)	f) to settle upon a thought after thinking for a long time
7. To come to oneself (priyti v sebya)	g) to fulfill something out of the ordinary
8. To extend the deadline (perenesti srok)	h) to calm down

[1] A literal translation of Russian constructions into English is given to demonstrate the peculiarities of the use of phraseological units.

The fulfillment of different creative tasks will help foreign students to competently use the phraseological units of the Russian language in speech situations, to widen the conception about the communication norms and extend the knowledge about cultural traditions of Russian people.

In accordance with the polyvector module of teaching the system for studying phraseological units with verbs of motion in the Russian language is developed depending on the teaching stage and level of language command. Thus, at the initial stage of teaching we introduce the system of verbs of motion forming such grammatical category as “the movement of a person or thing in space”.

When studying the topic “Verbs of motion in the Russian language”, it makes sense to introduce the new material step-by-step orienting not only towards the qualitative mastering of lexical and grammatical features of verbs of motion by students but also towards the understanding of peculiarities of their use in figurative meaning and in phraseological units, thus forming the communicative skills of foreign students.

At levels A2–B1 it is reasonable to use the following types of tasks:

1. *Find the verbs of motion used figuratively in the given sentences:*

Your clock is not going, it stopped two hours ago.

The snow with the rain is going now (It is snowing and raining now).

Are they going to the south by car?

The time runs fast.

The students are going to the university and carrying textbooks and copybooks.

2. *Give examples of speech situations, in which verbs of motion (to go, to run, etc.) can be used figuratively.*

Moving to a higher level of language command it is possible to suggest the tasks aimed at understanding microtexts and preparing situations with the use of phraseological units with verbs of motion. Such tasks help to develop communicative skills and abilities of foreign students, to widen their vocabulary and form sociocultural competence of foreign speakers. For example:

1. *Describe the situation when the following phraseological units can be used:*

To go into retirement (to retire from army), to stand hunger, cold, heat, climate, to wash dirty linen in public, to bring something to light, to slip one’s mind, to bring to an end, to bring to tears, to run into a brick wall.

2. *Speak about the history of the occurrence of phraseological units, use the phraseological dictionary of the Russian language:*

To put someone in a tight spot, to come after the feast, to leave the righteous path, to twist someone round one’s finger, to follow in the steps, to reach the limit.

3. *Answer the question: how these equivalents evaluate a person’s behavior, find the equivalents in the native language:*

To put on airs, a big wig, one’s heart sank into one’s boots, head is going round and round, to have narrow escape, to withdraw into one’s shell, to retire from the stage, to put oneself in someone’s place, to become personal, to jump through the hoops, to play the mischief.

At the next stage of work with PU with verbs of motion within the polyvector module a special attention of the students should be focused on the tasks for revealing and structuring the thematic and pragmatic fields formed by the phraseological units studied, for example:

1. *Select synonyms (words and word-combinations) to the following phraseological units:* to fly off the handle, to slip one’s mind, to reach the limit, to come to oneself.
2. *Select antonyms (words and word-combinations) to these phraseological units*: to go in circles, to run at breakneck speed, to lead down the garden path.
3. *Make sentences with the phraseological units of thematic series “Head”:* to stop at nothing, the head is going round and round, it does not go out of someone’s head, nothing enters someone’s head.

All indicated tasks are suggested for offline learning since they are aimed at the development of speech skills of productive types of speech activity in team work: teacher – student, student – student.

The change in the teaching vector in modern conditions (transition to online teaching) required the development of special teaching materials taking into account features of work in Internet. Mass open online courses (MOOC) became such materials. The courses are an alternative interactive source of knowledge for foreign students.

At the moment, there two actively used MOOC models: traditional xMOOC and connectivistic cMOOC (Andreev, 2014; Downes, 2013; Parr, 2008). Traditional xMOOCs are focused on the attitude to the student as the object of educational activity (Chichilanova et al., 2015; Siemens, 2012; World Open Educational Resources (OER) Congress, 2012). In such xMOOCs the study material (push content) is developed and presented by the authors and the education process is managed by the tutors. Connectivistic online courses (cMOOC) are focused on users' self-study, at the same time, the course content is developed by the participants of the educational course (pull content). The course authors only manage the educational process (Sambell, 2010; Yuan, Powell, 2013; Mozhaeva, 2015).

MOOC "Verbs of motion in the Russian language", which is a part of polyvector module refers to traditional MOOC (Dinevich, 2019). It is intended for online teaching of foreign nationals with basic and/or first certification levels of the Russian language knowledge (Kunovsky et al., 2021, 224).

The opportunities of electronic educational environment allows including complex and multiaspect explanation of education and use of verbs of motion into MOOC, use PU with verbs of motion not only as an illustrative material but also as the material for developing types of speech activity. The use of verbs of motion in phraseological units of the Russian language helps foreign students to enrich their vocabulary. Such approach in the organization of MOOC content allows developing both language and sociocultural competencies of foreign students.

The format of MOOC gives the opportunity to users to select the convenient mode of lessons, control their educational activity, consult with the course author. The methodological advantage of the online course is obviously the fact that the material of the informative part corresponds to the materials presented in the offline format and described in this research.

Discussion

The topic "Phraseological units with verbs of motion" is one of the most complicated not only in the learning but also in teaching the Russian as a foreign language, therefore, in the modern methodology of RAF there are different approaches to the form and methods of presenting this lexical and grammatical material, which, in our opinion are rather disputable. In particular, we do not agree with the position of a number of researchers in whose works the orientation towards the comparison of motion category in the Russian language with the similar category in the native language of students is traced (Emrak, 2020) since the practice of work with foreign students in higher educational institutions of the Russian Federation is implemented in polylingual groups, and study aids and MOOC, as a part of educational space of Internet, are addressed to people of any nationality. We believe that ethno-oriented approach is only justified in mononational groups under the condition that the teacher knows the intermediary language at a very high level when the understanding is checked through the translation. In polylingual groups, on the contrary, the understanding is checked through the interpretation, composition of microtexts and situations.

Some foreign researchers point out the difficulties connected with the translation of phraseological units with verbs of motion into the native language of students (Adelnia, & Dastjerdi, 2011; Cappelle, 2012). However, we think that simple translation of phraseological units into the native language does not provide the complete understanding of the meaning of a Russian phraseological unit since it can contain language units, which require explanation, commenting and illustration with the text. The availability of such language units is closely connected with culturological and linguoculturological aspects of studying a language. We find the confirmation of our thought in many works, in particular, in the work of T.P. Chepkova "It is only possible to assert that a foreign student has mastered the communicative competence if when talking to the native speaker of the studied language he or she successfully solves the problems of mutual understanding in compliance with the norms of communication and cultural traditions of this country using all the richness and diversity of language means, including phraseological ones" (Chepkova, 2010, 211).

A number of researchers point out that educational trajectories are changing under the action of new technologies (MOOC, online courses), however, the practice of teaching a foreign language in the language environment must take into consideration the peculiarities of the language development and factors, which influence this development (Marijuan, & Sanz, 2018).

Conclusion

The analysis of the work of using the polyvector module allowed us making the following conclusions about the possibility of improving the process of learning phraseological units with verbs of motion by foreign students:

1) the process of mastering Russian phraseological units by foreign students will be integral and efficient, if the lexical and grammatical material is selected in accordance with the criteria and objectives of each level of teaching foreign students;
2) the studying of phraseological units with verbs of motion should start at the initial stage of teaching, introducing new phraseological units in the course of mastering lexical and grammatical material by the students;
3) at the advanced stage of teaching phraseology the leading methodological techniques are as follows: the use of phraseological dictionaries, familiarization of the students with etymology and language envelope of a phraseological expression, analysis of the national specifics of the fixed expressions;
4) the skills and abilities to understand and unmistakably use phraseological units with verbs of motion in speech are formed based on correctly selected system of exercises aimed at understanding the integral meaning of PU and its adequate use in speech situations;
5) the resources of mass open online courses, which give the opportunity to learn and work through the theoretical material, are one of the best conditions of the effective work with Russian phraseology with foreign students.

Thus, the developed system of tasks for mastering phraseological units with verbs of motion described in this research can be used in offline and online learning (in MOOC format) at different stages of teaching RAF since it comprises the complex and multiaspect approach to forming the communicative competence and inclusion of foreign students into the real language environment. The mastering of PU at different teaching stages allows foreign speakers to avoid mistakes in speech and communicative failures, it forms the system conception of the Russian language and Russian culture.

Contribution

This research has both theoretical and practical application. The practical aspect of presenting phraseological units with verbs of motion allows, on the one hand, to remove the difficulties of their perception by the persons studying the Russian language as foreign due to which the teachers can arrange the successful strategies in mastering this language phenomenon by the students. On the other hand, the article supplements the conception of linguists about the structure and meaning of phraseological units with verbs of motion. The research contains the information, which can be used with the audience studying the Russian language as foreign or Russian as the native language since it comprises the information about the origin, structure, lexical and semantic peculiarities and culturological connotations of phraseological units.

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DOI: https://doi.org/10.34069/AI/2023.68.08.26
How to Cite:
Sulym, V., Melnykov, A., Popov, M., Vechirko, O., & Malets, D. (2023). Improving education through implementation of information technologies into the educational process. *Amazonia Investiga*, *12*(68), 281-293. https://doi.org/10.34069/AI/2023.68.08.26

Improving education through implementation of information technologies into the educational process

Удосконалення освіти шляхом упровадження в навчальний процес інформаційних технологій

Received: June 16, 2023 Accepted: August 12, 2023

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Abstract

The ways of improving the educational space through the introduction of information technologies into the educational process are clarified and the decisive factors of the qualitative application of information technologies in the educational process are singled out. The main professional tasks of using information technologies in the educational process are listed, and the positive factors of information technologies that contribute to increasing the effectiveness of student education are highlighted. The main ways of qualitative informatization of education are shown. The didactic possibilities of ways to improve education through the introduction of information technologies into the educational process are highlighted. Groups of conditions for the effective use of information technologies for the improvement of the educational space are

Анотація

З'ясовано шляхи удосконалення освітнього простору за допомогою упровадження в освітній процес інформаційних технологій та виокремлено вирішальні фактори якісного застосування в навчальному процесі інформаційних технологій. Перераховано головні професійні задачі застосування в освітньому процесі інформаційних технологій та виділено позитивні чинники інформаційних технологій, які сприяють підвищенню ефективності освіти студентів. Показано головні шляхи якісної інформатизації освіти. Виокремлено дидактичні можливості шляхів удосконалення освіти за допомогою упровадження в навчальний процес інформаційних технологій. Визначено групи умов ефективного використання інформаційних технологій для удосконалення освітнього простору. Підкреслено переваги

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defined. The advantages of using information technologies to improve the educational space, which are manifested in the content, organizational, and functional aspects of the learning process, are emphasized. Features of virtual reality and augmented reality are shown. The necessity of distance education and multimedia technologies in the process of professional training of competitive specialists in institutions of higher education is proven and the principles that are effective when using multimedia in educational classes are described.

Keywords: educational process, information technologies, remote technologies, multimedia technologies, virtual and augmented reality.

використання інформаційних технологій для удосконалення освітнього простору, що виявляються в змістових, організаційних, функціональних аспектах процесу навчання. Показано особливості віртуальної реальності та доповненої реальності. Доведено необхідність дистанційної освіти та мультимедійних технологій у процесі фахової підготовки конкурентоздатніх фахівців у закладах вищої освіти та описано принципи, які є дієвими при використанні на навчальних заняттях мультимедіа.

Ключові слова: освітній процес, інформаційні технології, дистанційні технології, мультимедійні технології, віртуальна та доповнена реальність.

Introduction

Global trends in the development of both education and the management of educational institutions are aimed at the transition to digital transformation. This means that all educational, scientific, management and other processes of the institution of higher education should be completely transferred to the digital environment. Without digital transformation, a higher education institution cannot effectively organize a high-quality educational process and remote work of its departments with documents, cannot function normally in competitive conditions, which negatively affects students, teachers, and employees.

Traditional approaches to automating the activities of a higher education institution have lost their effectiveness and can no longer meet modern requirements. New approaches, new concepts of digital transformation of higher education institutions are needed. Approaches that will allow to combine all the processes of creation and use of software and information tools for the construction of digital universities. Therefore, an urgent scientific task arises, which consists in the development of methods and models of digitization of institutions of higher education based on the unification of all functions, procedures and information bases into a single concentric information technology for the digital transformation of educational activities of the institution of higher education.

The 21st century is a century that is completely dependent on the information society and its main feature is the processing of information into one of the most important production resources. Taking this into account, professional readiness for the use of information technologies, information culture, and professional training of future specialists not only require special attention but also act as a guarantee of the introduction of information and communication technologies into all spheres of society (Hurevych et al., 2012).

In the modern information society, it is necessary to be able to use information, think critically, and acquire knowledge by mastering information technologies, because the volume of knowledge doubles every two to three years. The informatization of education is the basis of the global process of informatization of society and it should precede the informatization of all areas of society's activity because general cultural, psychological, social, and professional foundations for the informatization of society are being formed. The active role of information technologies is manifested in the educational field and is because computer-oriented teaching aids allow the implementation of pedagogical modern innovative teaching technologies, and provide new education opportunities compared to traditional teaching and methodical (Vember, 2007). Therefore, the problem of improving education through the introduction of information technologies into the educational process is relevant and effective today.

In the conditions of a modern high-tech information society, the formation of information competence is the process of acquiring a set of spiritual values in the field of information relations created by mankind in the course of historical development. Nowadays, it is necessary to prepare a person for quick perception and processing of large amounts of information, mastering modern means, methods and technology of working with information resources in the process of forming the teacher's professional competence in educational space.

Modern education in institutions of higher education is increasing technological, which involves not only the computerization of the learning process, but also the introduction of new forms of pedagogical management of this process, in connection with which additional theoretical and applied pedagogical research is updated: a special place among them is occupied by works related to the preparation of students for pedagogical activity in the conditions of new social challenges with the use of information and communication technologies.

The following aspects are considered in the article: the main professional tasks of the experience of using information technologies in the educational process; positive factors of information technology, which contribute to increasing the effectiveness of student learning; the main ways of qualitative informatization of education; didactic possibilities of ways to improve education by introducing information technologies into the educational process; principles of organization of innovative educational process of integrated use of information technologies; groups of conditions for the effective use of information technologies to improve the educational space; principles of using multimedia and information technologies in educational classes; the main methods of e-learning organization of educational activities in the educational space.

Literature Review

The introduction of information technologies into the educational process in today's conditions is the main, relevant, and essential direction of the organization of professional training of competitive specialists. Therefore, we analyzed the works that reveal different approaches to the introduction of information technologies into the educational process in the training of specialists. I. Nechvohlod, & V. Shamonia (2020) proved the need for innovative inclusion of advanced information technologies in the types and forms of educational activity of future specialists. They proved the unprofitability of using traditional non-electronic learning technologies. The requirements for the use of advanced information technologies were clarified, in connection with the need to implement distance learning (a new and unexpected form of learning) in the global educational space, where independent work, the use of media, video, and digital materials by a teacher from each subject When organizing search and cognitive educational activities of future specialists, an analysis of the possibilities of integration of information and traditional technologies was carried out and it was found that it is not information technologies themselves that are important, but their skillful application in the educational process of the educational field, which serves to achieve educational goals. Ways to ensure the best educational result with an appropriate combination of innovative and traditional means of organizing autonomous training of education seekers have been proven.
O. Semenikhina, A. Yurchenko, A. Sbruyeva, A. Kuzminskyi, O. Kuchai, & O. Bida (2020) in the field of information and communication technologies showed effective quantitative characteristics of open educational resources and proved their necessity; found out the purpose of open educational resources, which is the identification of the main ways of improving the competitive professional training of higher education seekers. Considering the possibility and expediency of introducing information technologies into the educational process of higher education institutions, in particular, analyzed the development of the author's courses in the form of an information and educational environment, showed their advantages based on the Moodle distance learning platform.

I. Masheiko, G. Peleshenko, & A. Masheiko (2017) analyzed the materials of scientific sources on the optimization of the educational process during the involvement of the distance learning system, showed the most effective ways to improve the results of passing the "STEP" licensing test exams and increase the quality of success of education seekers; based on the Moodle distance learning platform, they developed innovative courses in professional disciplines and analyzed the success of education seekers according to the presented author's methodology, proved the need for the operation of the Moodle distance learning system, which allows the development of training programs with independent tasks developed by the teacher through actions and allows significantly saving the time of teachers, to organize extracurricular independent work of students and monitor it effectively, to increase the motivation of students to study materials.

O. Kuchai (2014) revealed the main ways of solving the problem of improving the methodical and theoretical training of higher education applicants using information technologies. Electronic courses have been created in professional disciplines, which are a base of scientific competitive knowledge, to which students of education will have the opportunity to refer at any time to consolidate or repeat new material, or previous courses to facilitate the assimilation of current material. Features of application and features of use in the training of information technology specialists are shown.

Yu. Radchenko (2012) revealed the essence, content, and features of information technologies; the socio-pedagogical foundations of the use of information technologies are substantiated in the educational process of pedagogical colleges, the peculiarities of the use of information technologies in college conditions are revealed in the professional training of future specialists; generalization of features, theoretical analysis and experimentally proved the most effective ways of using modern information technologies in the professional training of future specialists; Questionnaires are proposed for students and teachers to identify the level of information competence in them and the state of readiness for professional activity with the use of information technologies.

H. Murasova (2012) revealed the ways of using information technologies, determined in the context of the study the main forms of professional training for those seeking education, and presented distance education, which is necessary for the information society. Showed the importance of the phenomenon of professional skill development of a differentiated, continuous, multi-level process of using information technologies.

V. Vember (2007) considered the role of informatization of education and showed its significance for the professional training of specialists, analyzed the state of electronic means of educational purposes, experimentally analyzed the provision of higher education institutions with pedagogical software tools, outlined the problems that arise in educational practice when introducing information technologies into the educational process. Ways that overcome the urgent problems of information technology implementation in different countries of the world are shown.

Purpose of the article. Find out ways to improve the educational space by introducing information technologies into the educational process.

Methodology

To achieve the goal of the research, a complex of theoretical and complementary research methods was used, namely: synthesis and analysis – to isolate the essence of the phenomenon under study, to identify factors influencing the development of education through the introduction of information technologies into the educational process; system-historical method – to systematize the research of scientists, clarifying their scientific views on improving education through the introduction of information technologies into the educational process; the method of terminological analysis – to substantiate the conceptual apparatus of our research; modeling – to develop and substantiating ways to improve education by introducing information technologies into the educational process; generalization – for formulating conclusions, systematizing and determining directions for further research;

The basis of our research is the provisions of the anticipatory approach of pedeutology, philosophy, psychology, sociology, and pedagogy regarding the improvement of the educational field through the introduction of information technologies into the educational process, their features, and development prospects for the educational field.

The leading idea of the study is based on the idea of the phenomenon of information technologies as a specially organized process in the education system of a multi-level, continuous, differentiated process, in the conditions under which training of a professional specialist is carried out. The research is based on the understanding of the development of professional skills in the implementation of information technologies as a guide for the professional and personal growth of a modern specialist, which ensures the acquisition of practical experience, the professional development of practical skills, and the ability to self-improve.

The analysis of scientific works dedicated to the disclosure of ways to improve education through the use of information technologies in the educational process, and the development of the professional skills of specialists in the education system, thanks to such innovations, made it possible to substantiate the main concepts that provide the leading idea of the research. Let's reveal these concepts.

The methodological concept provides substantiation of the conceptual foundations of the development of education improvement through the introduction of information technologies and professional skills of specialists into the educational process, reveals the interdependence, the relationship of specific scientific approaches and general scientific approaches to the solution and study of the researched problem:

- the andragogic approach helps to take into account personal needs in conscious practice-oriented activities based on professional practical experience;
- the interdisciplinary approach promotes the realization of connections between professional disciplines for holistic and comprehensive application of knowledge in practice, synthesis, and analysis;
- the competence approach provides ways to improve education through the introduction of information technologies into the educational process and promotes the development of the professional competence of specialists, helping realize the ability to carry out innovative professional activities;
- the systemic approach helps to create conditions for the consideration of improving education through the introduction of information technologies into the educational process as a whole system of interconnected educational, scientific, and accessible components, allowing exploring connections, relations, and not only the object itself.

The theoretical concept allows you to substantiate the conceptual and terminological apparatus, which is related to the study of the main definitions of the study; and makes it possible to determine the categorical status of information technologies and their characteristic features.

The methodological concept gives priority to the improvement of education through the introduction of information technologies into the educational process, the development of the professional skills of specialists, and the development of appropriate support for such an innovative process.

Results and Discussion

The goal of the information society is the full development of the individual, the creation of conditions for the mental and spiritual enrichment of a person, and the increase of human national capital as the basis for the development of social, political, humanitarian, economic, cultural and other spheres of public life to increase the efficiency of the economy and the well-being of citizens.

Bringing higher education to a new high-quality, competitive level is a significant factor not only in equipping higher education institutions with computer equipment but also in the development and implementation of pedagogical quality software tools in various professional subjects. Therefore, in our time, the tasks of developing appropriate didactic support for the educational process, new learning content, innovative methods, effective teaching tools, and psychological-pedagogical and scientific-methodical substantiation of ways to improve the educational space with the help of information technologies are becoming relevant (Vember, 2007).

1. The main professional tasks of the experience of using information technologies in the educational process

Nowadays, information technologies are increasingly used to optimize the process of high-quality professional training of future specialists. Currently, higher education institutions have accumulated extensive experience in the use of information technologies in the educational process, where the main professional tasks are productively solved with their help, namely:

- execution of calculations, which take a lot of working time, is intensified;
- the process of training future specialists is optimized with the help of application and development of appropriate software products;
- information is searched through automated information and search systems;
- the use of information technologies in the educational process allows for the automated design of tasks, maps, various documentation, and drawings;
- the problems of creating dynamic models of ways of using information technologies for various purposes in the educational process, and evaluating their functioning are solved.

For high-quality training of specialists, such innovative technologies are increasingly used in the educational space as multimedia equipment, computer programs, computer role-playing, interactive, business games; elements of "brainstorming"; interactive complexes: multimedia, modeling, calculation, distance learning, software, express control of acquired knowledge. In the course of conducting educational classes in institutions of higher education with the use of innovative information technologies, it is possible to achieve significant results in the training of specialists. For this, the educational process should include various subject areas: educational and informational complexes, program and pedagogical tools for educational purposes, electronic educational and methodical complexes, electronic textbooks, virtual laboratory works, and multimedia technologies.

The use of information technologies in the educational process ensures interactivity of education for students, due to direct feedback, and is carried out during exercises, practicals, and laboratory work. Taking into account the fact that students themselves determine the pace of work, and have the opportunity to work from any place, the possibility of individual education for each willing student opens up for them.

The decisive factor for the high-quality successful use of information technologies in the educational process is the willingness and ability of teachers to introduce information technologies into the educational process, to master not only the means of information technologies but also to introduce appropriate innovative methods of their use in the educational process (Plakhotnik et al., 2023).

Multimedia technologies have become widespread in the educational process. They have become the most popular and promising pedagogical information technologies that allow the creation of innovative texts, images, and data accompanied by animations, video, sound, and other visual effects (Simulation); including management mechanisms, in particular, an interactive interface.

2. Positive factors of information technology, which contribute to increasing the effectiveness of student learning

Let's highlight the positive factors of information technologies that contribute to increasing the effectiveness of student education:

1) creation of a comfortable environment for education;
2) increasing the activity of the educational process;
3) differentiation and individualization of education;
4) helps intensify the educational process;
5) creation of favorable conditions for independent work of education seekers;
6) increasing the motivation of the quality educational process;
7) promoting the formation of self-esteem among students;
8) creation of a single informational educational environment of a higher education institution, which provides an opportunity for each student to ensure the expansion of interactive interaction, to immerse himself in an interactive environment that is as close as possible to the real environment (Hurevych et al., 2012).

3. The main ways of qualitative informatization of education

Let's highlight the main ways of high-quality informatization of education:

– development of new information technologies for the improvement of education, modernization of their psycho-physiological and psychological-pedagogical foundations;
– improvement of education management by introducing information technologies into the educational process;
– training of competitive pedagogical personnel;
– formation of the foundations of the information culture of education seekers and teachers
– resource support for informatization of education.
– elimination of problems arising from the reliance on information technologies for certain educational functions;
– design of the process of information technologies and means of their design;
– elucidation of fundamental issues of pedagogical psychology and didactics;
– formation of an innovative educational space for education seekers;
– use of active learning methods;
– integration of educational activities (research, training, etc.);
– increasing the intellectual and creative potential of the educational activity of the students;
– adaptation of education information technologies to the individual characteristics of education seekers;
– the development of information technologies in the educational space, which contribute to increasing the motivation and activation of the cognitive activity of those seeking education and mastering the methods and tools of informatics to effectively apply them in professional activities;

- mandatory use of distance learning information technologies;
- ensuring continuity and continuity in education;
- improvement of the software and methodological support of the innovative modern educational space (Skubashevska, 2004).

4. Didactic possibilities of ways to improve education by introducing information technologies into the educational process

Let's highlight the didactic possibilities of ways to improve education through the introduction of information technologies into the educational process:

- instant feedback between the student of education and the means of information technologies, to ensure the implementation of an interactive dialogue;
- visual presentation on the screen (visualization of educational information regarding the process, and object being studied);
- preservation of large volumes of information, archiving with the provision of easy access to information, its duplication, and transmission;
- interpretation and modeling of information regarding the objects being researched or studied;
- automation of the organizational management of educational activities of the processes of informational and methodological support, monitoring and control of the results of assimilation;
- automation of the processing of the results of an educational experiment, information search, and computing activity with the possibility of multiple repetitions (Hordiichuk, 2011).

5. Principles of organization of innovative educational process of integrated use of information technologies

We will show the foundations on which the organization of the innovative educational process of integrated use of information technologies is built:

1. Expediency of application. Information technologies in education should be used to provide students with knowledge that is very difficult or impossible to obtain without a computer.
2. Maximum approach to the abilities of education seekers and their needs (adherence to a humanistic approach when using information technologies regarding the personal orientation of the education seeker).
3. Minimization of information – concentration of the acquirer of the educational space and the teacher on the assimilation of new educational material based on information technologies.
4. Prioritizing the leading role of the individual in all interactions with computer systems and a humanistic approach over a hardware-technological one.
5. Practical value of acquired knowledge and skills and the possibility of their use in practical activities.
6. Friendly interaction of students with the teacher and correct use of the computer.
7. Variability and integrability of the educational process.
8. Computer security (psychophysical and psychological control of education seekers, technical control of teaching aids) (Radchenko, 2012).

6. Groups of conditions for the effective use of information technologies to improve the educational space

We will define groups of conditions for the effective use of information technologies to improve the educational space:

1) conditions that ensure the key personal characteristics of the student of education in the conditions of wide use of information technologies, the formation of cognitive and social activity, the variability of programs, the choice of programs, access to databases (information), the choice of activities at the level of a higher education institution;
2) conditions that ensure the continuous development of a young independent person: availability of the final result in objective form, dialogic nature of the programs, results at intermediate stages of the educational process, variability of program performers and languages;
3) conditions that contribute to the development of the ability to self-realize the individual: determining the addressee of educational programs (programmer or user), productive intellectual work;
4) conditions that ensure the individual harmony and individuality of the student of education; the ratio of logical and figurative components in programs, the ratio of the

level and possibilities of realizing cognitive needs, and the ratio of rational and emotional in the organization of computerized education.

The introduction of information technologies into the educational process of a higher education institution leads to ensuring the implementation of individualization of education thanks to the student's independent choice of the sequence of high-quality learning paths, the pace of learning new material, the ability to quickly find additional information, repeat the studied material, select the most effective options for control tasks, etc.

Let's emphasize the advantages of using information technologies to improve the educational space, which are manifested in the content, organizational, and functional aspects of the learning process: the possibility of saving time in the learning process and preparation for its high-quality conduct, convenience in conducting classes, the ability to build any types of classes, use in a larger the number of various types of educational activities of education seekers; assimilation of a significant volume of material, increased opportunities for visualization during the educational process, the use of various types of tasks, the possibility of mastering a large number of exercises in a short time, the use of innovative accompanying materials for classes, etc. (Radchenko, 2012).

The active use of innovative teaching methods and information technologies in education, contributes to effective integration into the European and global educational space, improving the quality of the educational sector, and is one of the priority directions of the state policy of any country. It is the introduction of information technologies into the educational process that makes it possible to form the educational environment of higher education institutions for the exchange of information, productive communication, and the cooperation of students and teachers to improve the effectiveness and efficiency of the educational process.

The rapid development of information technologies has opened favorable conditions for distance education to improve the educational space. In distance learning, the educational process is structured as a process of interaction between the student of education and the educational environment, which includes the teacher, students of education, and educational materials. When organizing educational interaction "student-student" during distance learning, the mentoring position of the teacher plays a significant role. Several questions arise in the process of interaction: how to interest students of education, how to activate the desire to learn and achieve their subject position. An interactive board (Jamboard) is of great importance for quality education. The interactive service from Google can provide opportunities to use creative and creative material during classes, transfer of own ideas, learn to work in a group, and demonstrate interesting developments through joint efforts. The use of an interactive service (Jamboard) activates the work of students, allows to increase the efficiency of independent work of students, makes the educational process diverse, and provides the possibility of simultaneous communication of many students who exchange knowledge in the process of joint training, share impressions and experiences, increases the level of motivation to learn new knowledge and skills, stimulates the development of the intellectual potential of education seekers. The educational process organized in this way makes it possible to approach learning in a slightly different way. Here the emphasis is on the independence of searching for the acquirer, updating his knowledge. By systematizing, analyzing, and summarizing the new information received, students organize and control this process, consult with the teacher, and visually analyze how well the students themselves have mastered the topic. During distance learning, students are distant in time and space from the teacher but can maintain a dialogue using communication tools (Andriichuk, 2022).

A significant step in the application of modern information technologies in the educational process is the development of distance learning. Among various distance learning systems, the most common in higher education institutions are Veda System, Radmin, iSpring, PLATO, and others. Due to its wide functionality and open-source code, the Moodle software shell (modular object-oriented dynamic learning environment) has become widely used in many countries of the world. Australian teacher and IT specialist Martin Dougiamas introduced and developed Moodle in 2002. Now it is an international project coordinated and led by the Australian company Moodle HQ with the financial support of a network of service companies (Scherl, 2012). The functionality of the Moodle distance learning system allows you to organize independent out-of-class work of students, allows you to draw up training programs with a given teacher through actions, effectively control the educational sector, significantly increasing the motivation of students, saving the time of teachers and students to quickly process materials.

The organization of the educational process in the Moodle system enables teachers to dynamically monitor the process of assimilation of disciplines by students and conduct remote testing as part of quality preparation for the "STEP-1" and "STEP-2" exams.

The modern, promising electronic educational courses created for students of education are an innovative knowledge base based on the professional experience of teachers and the data of scientific literary sources, which students of education can refer to at any time to repeat the material of previous courses, which will facilitate the assimilation of the material of professional disciplines and allow forming a competitive specialist.

The implementation of effective information technologies in institutions of higher education opens up the opportunity to create a single information and educational base that will create conditions for improving the quality of the educational process and contribute to increasing the level of knowledge of future specialists (Masheiko et al., 2017).

The use of virtual and augmented reality technologies to improve the educational process is of great importance in education. With the help of such active learning, students can immerse themselves in the research process to improve their professional skills and the level of assimilation of educational material. Such technologies contribute to the improvement of the educational environment, transfer the main part of the scientific research work of students of education to the plane of innovative learning, and contribute to the formation of the development of imagination, thinking, emotional intelligence, and research skills in school students. Virtual and augmented reality technologies help to promote the success of education seekers in the educational process, increase motivation to study and stimulate brain activity. Various interesting digital resources are available to modern students, which allow them to visually show processes and phenomena that seem simply impossible, and unattainable. Thanks to virtual and augmented reality, students solve complex tasks and conduct experiments with interest, learning becomes exciting and understandable and playfully takes place. At the same time, students gain research experience, and learn to work with digital tools; subject skills are rapidly formed into universal learning activities.

The peculiarity of virtual reality is the creation of a digital copy of a physical object, a "digital double", which is used in a virtual environment for modeling, testing, and optimizing a physical object before using it in a real environment (Stratan-Artyshkova et al., 2022).

Virtual space allows you to consider processes and objects in detail when it is very difficult or impossible to trace them in the real world because a person in the virtual world is practically not affected by external stimuli. It is virtual reality that makes it possible to create comfortable conditions for the training of students, no one thinks for the student during training, he rethinks all the information himself, which is easily perceived and mastered independently. With the help of virtual reality, the learner can concentrate completely on the material and consciously memorize it. Virtual reality allows you to improve management skills, perform complex operations, and experiment. With the use of virtual reality, the learning effectiveness of education seekers is about 10% higher than with the classical format.

The main task of augmented reality is the projection of any digital information (video, image, graphics, text) over the screen of innovative devices. The implementation of augmented reality technology looks like this: a two-dimensional image, a special marker image, which can be printed on a simple sheet of paper, is placed in front of a webcam that is connected to a computer. Augmented reality is realized with the help of applications for ordinary stationary screens, tablets, smartphones, augmented reality glasses, projection spaces, and other technologies. A special program launched on the computer analyzes the image received from the camera and supplements it with virtual objects on the monitor screen. The real world is supplemented with new information and artificial elements (Velhach & Hrynkiv, 2022).

The capabilities of the computer during use (the Internet, software products, demonstration, and network equipment), that is, additional technologies adapted to it, make up the material base of information and communication technologies. Wide opportunities are provided by the use of information technologies to make the educational process useful, informative, vivid, unforgettable, and practically significant for those seeking education. Didactic opportunities allow you to combine the presentation of educational material in various ways, focus on the implementation of the learning goal, contribute to development and education, and are inexhaustible (Semerikov et al., 2012).

7. Principles of using multimedia and information technologies in educational classes

In the process of teaching in institutions of higher education, multimedia technologies are of great importance. The use of multimedia in educational classes implements many principles:

- the principle of clarity – allows you to use sound material, illustrative material, and resources of rare illustrations in any educational session. The visibility of the material engages all channels of perception of the students of education (tactile, visual, auditory), increases the assimilation of the material by the students of education;
- the principle of accessibility – development and educational programs implement a differentiated approach to education, orient students to the conscious assimilation of educational material, and not to memorization when presenting tasks from simple to complex;
- the principle of strength of knowledge – allows you to repeat and consolidate the material of previous classes, and repeatedly return to the researched or studied material, this is facilitated by the use of presentations and training programs in classes; learning material is better remembered and in a larger volume;
- the principle of systematicity – the use of class presentations allows you to display elements of previous classes on the screen, explain new ones, and develop a system of classes on one topic (Kukharenko, 2016).

When using information technologies in the educational process, new principles emerged:

- the principle of educational value, as the most important component of the educational process, consists in the involvement of education seekers in the modern process of informatization;
- the principle of didactic significance, in which didactic significance is determined by the possibility of building didactic optimal routes for the development of skills, knowledge, and abilities of each student of education (selection of tasks of different levels of activity, a set of tasks of research, creative, cognitive nature, individualization of the formation of educational skills (the ability to work with information, the ability of self-control) and the development of the system of skills and knowledge;
- the principle of pedagogical expediency speaks of the expediency of information technology if it allows obtaining results that cannot be obtained without the use of such technology, in particular, with the use of information technologies to create pedagogical comfort in the process of performing tasks, taking into account the special qualities of the personality of the students of education;
- the principle of methodical efficiency: the efficiency of the use of information technologies at the methodical level depends on the efficiency of the methods and techniques of students' activities in the education system (Nechvohlod & Shamonia, 2020).

During the informatization of the educational space, the use of information technologies and mobile communication tools, and new technologies for organizing students' autonomous learning appeared. These are e-learning, mobile learning, combined learning, and blended learning (Polishchuk et al., 2022).

8. The main methods of e-learning organization of educational activities in the educational space

Electronic learning (E-learning – Electronic Learning) includes in its essence the management of the educational process with the help of telecommunication and information technologies and the transfer of knowledge. During the application of e-learning, electronic interactive means of obtaining information are used mainly via the Internet (Adams, 2008). Two main methods of organizing the educational activities of educational space seekers can be implemented in e-learning:

- work in a group, organized in the form of chats, forums, asynchronous or synchronous teleconferences;
- work on an individual trajectory includes individualized educational independent activity of education seekers and group work using electronic content. Educational interaction is carried out here, mainly asynchronously, using e-mail, forums, tele- and web conferences.

Let us name the advantages of e-learning over traditional learning during the organization of independent educational activities of education seekers, in particular:

- information, there is an increase in the amount of educational information and its delivery channels (hypertext and network technologies, interactive web channels, teleconferences, publications);
- economic, due to the reduction of education costs on the material side and the transfer of all paperwork to electronic form;
- pedagogical, educational process becomes more interactive, motivated, individualized, and technological;
- psychological, thanks to the support of information technologies, an emotionally comfortable educational environment is created;
- operational, due to the absence of territorial, spatial, and time barriers when receiving professional educational information;
- communication, obtaining high-quality knowledge by increasing the number of participants in the educational process, establishing operational feedback, and the real possibility of working in planetary groups;
- ergonomic, due to educational technology, a free choice of schedule, rhythm, pace of education, and choice of technical equipment is available for students and teachers.

Mobile learning is a type of electronic learning that provides access to remote local educational content, to all multimedia educational tools using mobile devices (smartphones, phones, tablets), during which the teacher monitors and manages the independent educational activities of the student in real-time and provides high content saturation (Kuchai et al., 2022). With this approach, the learner gets the opportunity to learn anytime, anywhere, autonomously.

In the technologies of mixed and combined learning, the leading sources of knowledge are the teacher and the informational educational environment that functions in the conditions of distance learning. The main task of mixed and combined education is to compensate for the disadvantages and combine the advantages of distance and traditional education (Shuliak et al., 2022).

Blended learning promotes an organic combination of computer-oriented and traditional methods with the complex use of non-electronic and electronic information carriers, traditional and computer-oriented learning tools; distance forms and traditional ones are introduced for the organization of the educational process according to the principle of mutual complementation.

Blended learning promotes the application of a mechanical approach to mixing different forms of education, is in the context of any combination of distance learning and traditional, when thorough assimilation of knowledge is possible, optimal organization of the educational process, and better monitoring of the education of students. It is in blended learning that 70% of distance learning technologies and 30% of traditional learning technologies are combined.

Therefore, to improve the educational space, it is necessary to introduce information technologies into the educational process for obtaining knowledge, practical skills, control, monitoring, and correction of the knowledge of education seekers, for the qualitative organization of independent educational activities of students (Nechvohlod & Shamonia, 2020).

Conclusions

The ways of improving the educational space through the introduction of information technologies into the educational process are clarified and the decisive factors of the qualitative application of information technologies in the educational process are singled out.

The main professional tasks of using information technologies in the educational process are listed, and the positive factors of information technologies that contribute to increasing the effectiveness of student education are highlighted. The main ways of qualitative informatization of education are shown.

The didactic possibilities of ways to improve education through the introduction of information technologies into the educational process and the basis on which the organization of the innovative educational process of the integrated use of information technologies is built are highlighted. Groups of conditions for the effective use of information technologies for the improvement of the educational space are defined.

The advantages of using information technologies to improve the educational space, which are manifested in the content, organizational, and functional aspects of the learning process, are emphasized.

The rapid development of information technologies has opened favorable conditions for distance education to improve the educational space.

The use of virtual and augmented reality technologies to improve the educational process is of great importance in education. Features of virtual reality and augmented reality are shown.
In the process of professional training of competitive specialists in institutions of higher education, multimedia technologies are of great importance. The necessity of multimedia technologies in education is proven and the principles that are effective when using multimedia in educational classes are described.
New technologies for organizing students' autonomous learning, which are significant in education (electronic, mobile, combined, mixed learning), are analyzed.

The advantages of e-learning over traditional learning are listed.

Further research will focus on a type of e-learning, mobile learning, which involves access to remote local learning content.

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DOI: https://doi.org/10.34069/AI/2023.68.08.27
How to Cite:
Kozak, V., Posmitna, V., Shutenko, S., Leshchenko, A., Romaniuk, V. (2023). Language legislation in the era of independence: sociolinguistic dimension. *Amazonia Investiga*, *12*(68), 294-302. https://doi.org/10.34069/AI/2023.68.08.27

Language legislation in the era of independence: sociolinguistic dimension

Legislación lingüística en la era de la independencia: dimensión sociolingüística

Received: July 3, 2023 Accepted: August 16, 2023

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Abstract

The objective of the paper is to examine the sociolinguistic dimension of language legislation in Ukraine. The study focuses on the impact of the “language issue” on Ukrainian society in the context of war as well as to analyse linguistic representations, ideologies, and attitudes and their impact on the linguistic behaviour of Ukrainians. A resource for activating interpersonal solidarity and resistance to the enemy, and for modulating the manifestation of individual positions in macrosociological and political relations that may arise in the process of interaction. With the help of a critical approach to the theoretical guidelines of the study the role of language legislation in shaping language policy and regulating the use of languages in various spheres of life is analysed. The issues of linguistic equality, diglossia, and language policy in relation to minority languages are considered. The most important issue of the paper is that the language legislation of the independence era in Ukraine is of great importance for the sociolinguistic development of society. In times of war, it affects language processes, language policy,

Resumen

El objetivo del artículo es examinar la dimensión sociolingüística de la legislación lingüística en Ucrania. El estudio se centra en el impacto de la "cuestión lingüística" en la sociedad ucraniana en el contexto de la guerra, así como en analizar las representaciones, ideologías y actitudes lingüísticas y su repercusión en el comportamiento lingüístico de los ucranianos. Un recurso para activar la solidaridad interpersonal y la resistencia al enemigo, y para modular la manifestación de las posiciones individuales en las relaciones macrosociológicas y políticas que puedan surgir en el proceso de interacción. Con la ayuda de un enfoque crítico de las directrices teóricas del estudio se analiza el papel de la legislación lingüística en la configuración de la política lingüística y en la regulación del uso de las lenguas en diversos ámbitos de la vida. Se consideran las cuestiones de la igualdad lingüística, la diglosia y la política lingüística en relación con las lenguas minoritarias. La cuestión más importante del artículo es que la legislación lingüística de la época de la independencia en Ucrania es de gran importancia para el desarrollo sociolingüístico de la sociedad. En

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and the total transition to the state language. Excluding the language of the enemy, however, does not mean levelling all languages. It is important to strike a balance between protecting the language rights of citizens and preserving linguistic diversity in the country.

Keywords: language processes, minority languages, diglossia, language equality, sociolinguistic representations, and ideologies.

tiempos de guerra, afecta a los procesos lingüísticos, a la política lingüística y a la transición total a la lengua estatal. Sin embargo, excluir la lengua del enemigo no significa nivelar todas las lenguas. Es importante encontrar un equilibrio entre la protección de los derechos lingüísticos de los ciudadanos y la preservación de la diversidad lingüística del país.

Palabras clave: procesos lingüísticos, lenguas minoritarias, diglosia, igualdad lingüística, representaciones sociolingüísticas e ideologías.

Introduction

The importance of language policies in the post-independence period is undeniable. Scientists highlight the significance of language in shaping national identity, fostering social cohesion, and promoting linguistic diversity. It is important mentioning the challenges and debates surrounding language legislation, such as the tension between promoting the official language and protecting minority languages. Additionally, the paper outlines the objectives and structure of language legislation. In the context of multinationality, political crises, and war, the concepts of language and identity, as is often the case in times of instability, significantly change the perception of citizens. In the context of the war in Ukraine, the choice of language code has become a particularly important topic related to identity and political position. Language preferences are linked to the understanding of the "Ukrainian nation" and the desire to position oneself as a patriot. Under such conditions, the choice of code becomes a form of political expression and statements about one's identity.

Language boundary and language territory are concepts that are addressed by sociolinguistics, geolinguistics, and geography of languages (Chapman, 2022). Linguistic territoriality as a principle is subject to the procedures for applying language legislation. The choice of preserving this principle and its consequences is also the subject of sociolinguistic approaches both to understand the causes and to observe and analyse the effects of language legislation (Shevchuk, 2021). The language territory, since the language border is one of the most obvious realities of the language space, is understood as a macro concept (Filipova, Iliev & Yuleva-Chuchulayn, 2021). The purpose of the present work in this context is to try a global sociolinguistic approach to the spatial dimension of languages. Language space as a macro-concept is hierarchically placed above the linguistic territory and its variants and sub-variants, so that language can be a pluriterritorial or complex geolinguistic entity with variable external boundaries, source, and exist outside the linguistic territory. The sociolinguistic dimension of compliance with the language legislation of the state includes the analysis of social and linguistic aspects of this process. The main aspects that can be taken into account include: geopolitical causes and social consequences, language changes, language competence, and cultural identity (Table 1):

Table 1.
The sociolinguistic dimension of compliance with the language legislation of the state

Geopolitical causes and social consequences	The introduction of the Ukrainian language at the legislative level has a major, positive impact on social dynamics. This includes changes in the education system, public administration, business, and other areas of life.
Language changes	Changes in language practices and norms. This includes the development of new language policies, the creation of new dictionaries, and the expansion of vocabulary.
Language competence	The transition to the Ukrainian language at the legislative level meant the development of language competence among the population. This means that people should have a sufficient level of skills to use the Ukrainian language in various spheres of life
Cultural identity	The transition to the Ukrainian language has had an impact on the cultural identity of the population. This has led to positive changes in perception and a sense of patriotism.

Source: author's own development.

It is important to take into account the social consequences of the transition to the Ukrainian language in the post-independence era. This process has ensured successful integration and maintaining social balance. Understanding language change and its impact on communication is important for successful transition to Ukrainian and developing language competence is important to ensure effective communication and promote linguistic integration.

Theoretical Framework or Literature Review

Scientific thought separates language as a human capacity for communication and language as a homogeneous and recognisable phenomenon, in the sense of "speech", as an individual production of language (Jaspers, 2023). This division within the human capacity to communicate has subsequently become a point of disagreement among linguists. General linguistics is often criticised for being ahistorical, asocial, autonomous, and formalistic, for focusing on units of language rather than the full picture created by discourse participants, and for neglecting communicative heterogeneity (Stich, 2020).

In this context, it should be noted that language is social in nature, exists in society, and changes over time (Saussure & De Mauro, 2020). Therefore, it is necessary to see the connections between linguistics and other social sciences. European scholarship links language to the social, refusing to ignore the social, political, and economic forces that influence linguistics. If language is a social fact, as Saussure argued, then linguistics must deal with these external factors and hence become sociolinguistics (De Saussure & Wharton, 2020). Thus, sociolinguistics is linguistics that encompasses everything that has to do with language and its real life (Holmes & Wilson, 2022). Linguists should not explain linguistic facts by other linguistic facts but explain linguistic phenomena based on external data taken from the real world and social behaviour (Tiv, Kutlu, O'Regan & Titone, 2022). Thus, sociolinguistics is a broad field that intersects with social psychology, sociology, and anthropology in the study of ethnic groups, collective and individual identities, social representations, and attitudes towards certain forms of language (García, 2022).

Thus, language should be understood from a sociolinguistic perspective, in accordance with linguistic development and the understanding of the concept of linguistic territory.

Scholars postulate in this context that the infinite space of languages is also manifested through their movements, their dynamics, the transition from coverage to other types of organisation, such as a border, for example, suggesting a sequence of dividing lines or vectors (Siregar, 2022). One of the main criteria for distinguishing between space and territory, which is preserved in the sociolinguistic approach, is the presence or absence of encompassing delineations (Kusters & Lucas, 2022), which have been used to denote different patterns of elementary spatial structures.

The consequences of language entrenchment (legislation), old or recent territorial spillovers of languages, as well as new structuring of their spatialisation have a particular impact on their constituent elements and sociolinguistic profiles. At the very least, these effects contribute to the characterisation of contexts of linguistic standardisation, as is the case, for example, in the context of the war in Ukraine.

Starting from a linguistic space that is not clearly or stably demarcated, this space undergoes, over time and under the influence of various factors due to human intervention, the emergence, and development of various choreographic representations that arise in areas of interaction with other languages, especially at the political and administrative level (Rodriguez-Ordoñez, Kasstan & O'Rourke, 2022). The image of a linguistic territory is certainly relativised, but the latter appears as a paradigmatic result of delineations that structure and divide linguistic space (Kumar, 2021). Blurred and original linguistic spaces without territory and linguistic territories of original communities constitute the two historical poles. However, depending on the era, configurations have favoured tendencies to delimit linguistic space in connection with, for example, the development of nation-states, or conversely, communication areas marked by functions other than political and administrative systems, or in particular, religion, culture, or economy.

Methodology

The paper outlines the philosophical and epistemological framework of critical sociolinguistics within the framework of the language legislation of Ukraine. The paper uses a critical approach to the theoretical guidelines of the study. Based on the analysis of related studies, the linguistic ideologies of the research group are compared.

To analyse the sociolinguistic dimension of the language legislation of the era of Ukraine's independence, the qualitative approach was chosen as a method of data collection. In addition, interviews were used as a more personalised and effective method.

The research questions included four main topics:

1) The impact of the war on participants' perceptions and attitudes and, consequently, on their language practices;
2) The influence of identity and economic factors (pride and profit) on language behaviour;
3) Intergroup relations, "otherness" and the potential for conflict based on language differences;
4) Changes in attitudes and language choice in the wake of war.

The detailed questions corresponding to these four main blocks are presented below:

- What are the sociolinguistic representations (attitudes) of different ideological groups of Russian-speaking Ukrainians after the attack by Russia?
- How are they expressed in actual language practices, for example, "auto-Ukrainisation"/ "self-Ukrainisation"?
- What is the connection between the first and second concepts, and are there any differences between them (e.g., "I hate Russian, but I speak it anyway")?
- Can we talk about language changes under the influence of ideologies, and in what way?
- How do they transform into processes of "language maintenance and change"?
- How do the discourses of "pride and patriotism" influence the linguistic and identification choices of speakers?
- How are relations between ideological groups linguistically manifested?
- How do linguistic relations between ideological groups influence the language choice of speakers?
- How did the language attitudes and practices and relations between the groups change during the interviews?

Each interview began with a casual exchange between the researcher and the participant, focusing on the participant's family, professional and social background, as well as related language practices.

This was followed by interview questions. Based on the research questions, four more sets of questions are presented about:

1) Language skills, including foreign languages;
2) Attitudes towards Russian, Ukrainian, and language change, especially in times of war;
3) Prestige and market value of languages;
4) Languages spoken and studied in the regions of the participants.

There were no direct questions about the relationship between opposing ideological groups, but the participants themselves began to talk about "others" who think differently and why they are wrong. Thus, it was possible to observe an internal dialogue with imaginary opponents.

Results and Discussion

The sociolinguistic dimension of language legislation in Ukraine can be illustrated by examples of specific laws and their impact on society. Here are some examples (Table 2):

Table 2.
Laws of Ukraine and their regulatory impact on society

The Law of Ukraine "On Languages in Ukraine"	This law was adopted to ensure equal use of the Ukrainian language as the state language. It stipulates that the Ukrainian language is mandatory for official communication in all spheres of life, including government institutions, education, media, and others. This law has a sociolinguistic dimension, as it affects language policy, multilingualism, and linguistic identity of citizens.
Law of Ukraine "On National Minorities in Ukraine"	This law recognises the rights of national minorities to preserve, develop and use their language and culture. It stipulates that national minorities have the right to education, media, and other services in their mother tongue. This law also has a sociolinguistic dimension, as it affects multilingualism, linguistic equality, and social inclusion.
Law of Ukraine "On Regional and Minority Languages in Ukraine"	This law provides for the protection and support of regional and minority languages. It recognises the right of citizens to use regional and minority languages in public life, education, media, and other areas. The law also has a sociolinguistic dimension, as it promotes the preservation of linguistic diversity and the development of bilingual communities.

Source: Verkhovna Rada of Ukraine (2023)

Even in the context of war, it is, unfortunately, necessary to emphasise the fact that Eastern Ukraine is not homogeneous, but rather a territory with a wide variety of sociolinguistic and political representations, which was the catalyst for the enemy's treacherous invasion. However, when studying the linguistic situation during these tragic social changes, the situation has changed dramatically (Buriak, Skaletska, Rezvorovych & Gigin, 2023).

The present study reflects the new view of Ukrainian society on language legislation. This diversity of viewpoints, perceptions, and attitudes was made possible by involving a sample of different ideological groups.

The study of related literature has become a source of information for comparing linguistic behaviour in Ukraine during the war (Onuch, Hale & Sasse, 2018).

Volodymyr Kulyk distinguishes three competing ideologies among Ukrainian political and intellectual groups in Ukraine that claim to represent the interests of the respective ideology of the Ukrainian population, namely: “Ukrainian-speaking”, “Russian-speaking” and “centrist” (Kulyk, 2018).

First of all, the Ukrainian-speaking ideology corresponds to the monolingual discourse of the nation-state, which promotes the Ukrainian language and perceives Russian as the language of the enemy, which can be used as a cultural weapon against the Ukrainian state (Shutenko, 2022).

Secondly, the Russian-language discourse leans towards protecting the rights of Ukrainian Russian-speaking citizens, demanding that Russian be granted official status alongside Ukrainian.

Finally, the centrists see their position as non-ideological and rational, claiming to defend the interests of the entire cultural and ethnic diversity of Ukraine.

They believe that Ukrainian is the only official language, which is symbolic for Ukraine, but at the same time, they advocate for the recognition of national minority languages.

The Ukrainian-American linguistic anthropologist Lada Bilaniuk (2022) distinguishes two opposing trends in Ukrainian language ideologies and practices, which she calls “Language does not matter” (those who defend their right to speak the language they like, because language is not important for nation-building) and “language matters” (those who emphasise the importance of Ukrainian for national unity and victory over the enemy and try to speak Ukrainian), based, again, on civic and ethnocultural interpretations of the nation, respectively. It also points to the need to investigate the tendency of self-Ukrainisation in the case of the second ideology, which was one of the goals of this study (Bilaniuk, 2022).

However, it should be noted that a radical trend has developed among ideological “Russian speakers”, especially in the east and south of the country, who identified themselves with Russia, which also affected their language practices and in the context of war they are without hesitation considered traitors and this category was not even considered as a candidate for the study.

Based on the above studies, the sample was divided into two ideological groups.

The number of participants and their representativeness are debatable concepts that are themselves influenced by ideologies. In general, various works on research methods in the social sciences note that it is impossible to be sure that the characteristics of all participants are well represented by the sample, even in the case of a census (Pratt, 2023). Moreover, a large sample is not suitable for qualitative research because it does not allow for deeper observations (Khoa, Hung & Hejsalem-Brahmi, 2023). A sample size is sufficient if the researcher deems it to be so based on the research objectives, general limitations, and time constraints (Kelly, 2023).

The sample for this study consisted of 32 IDPs, 16 men, and 16 women, of different ages, socio-professional categories, and occupations, belonging to a continuum of opinions between two ideological groups that will be presented later. The aim was to interview about 10 people in each group, the exact number of participants depended on their availability.

The number of participants depended on the availability of those willing to take part in the survey. The selection method was applied to ensure that the participants adhered to the widest possible range of ideological continuum in their views. These participants were those who have typical linguistic behaviour for this ideological group, which can potentially be generalised to measure linguistic changes in this area.

The study was anonymous, but the categories of age, occupation, and level of education were used to analyse the factors influencing the choice of code. Ethnicity was not considered as a relevant variable, as previous research (Averianova & Voropaieva, 2020) has shown that regional identity is much more important and influential for Ukrainians. For eastern Ukrainians, regional identity is much more important and influential than ethnic identity, especially for the younger generation of Ukrainians who do not remember what ethnic identity is, a generation of Ukrainians who do not remember the Soviet practice of dividing the population along ethnic lines (Gnatiuk & Melnychuk, 2019).

This survey confirmed this assumption: The survey did not ask directly about ethnicity, but among them, people over 40 years old mentioned it as a factor because of or in spite of which they chose a particular language (e.g., “I am ethnically Russian, but I like to speak Ukrainian” or “I am ethnically Ukrainian, but I speak Russian because this is a region close to Russia”), which indicates that ethnicity may not always be a factor in language choice. This suggests that ethnicity can be perceived differently by participants and therefore does not follow the logic: “ethnic Russian = Russian language” or “ethnic Ukrainian = Ukrainian language”.

The younger participants did not mention their ethnicity at all, indicating only the geographical regions where they were born or live.

In an attempt to open the field to a wide range of opinions, participants were selected for the study and divided into two ideological groups. Since the main point of polarisation among the participants was the political choice of language legislation, which was reflected in their language ideologies, the participants were divided into two groups – “pro-Ukrainian” and “Ukrainianised”. Representatives of the first group tend to have a strong national identity but differ in their interpretation of the national idea at the sociolinguistic level. Supporters of ethnocultural nationalism, which we call “Language matters” in this paper, welcome the official Ukrainian orientation of the Ukrainian state, attaching importance to language for the consolidation of the state. This subgroup advocates for the Ukrainian language at all levels and tries to use it in their everyday language practices.

The second subgroup of Russian-speaking pro-Ukrainians, tentatively called “Language does not matter”, shares the zeal of the previous group but believes that the nation should be united by political rather than linguistic ideology, but has shifted its focus to the Ukrainian language due to the war. Their views range from recognising Ukrainian as the only state language, but accepting any language in personal communication (avoiding the language of the enemy), but not levelling the languages of other nationalities in Ukraine.

In the most radical cases (one participant) refused to identify himself as a Ukrainian, but did not reject the Ukrainian language and considered eastern Ukraine to be part of Ukraine.

It should be noted that although this paper uses two separate ideological groups to categorise participants, in practice these ideologies represent a continuum of opinion rather than clearly defined entities that were taken into account during data collection and analysis.

To recap, the research corpus consisted of observations of participants prior to the interviews, their behaviour at the meetings, transcripts of the recorded interviews, their behaviour on social media, their choice of language for consent forms and interviews, their choice of pseudonyms, their reactions to the debriefing, and informal off-the-record behaviour described in the research diary. Taken together, these data formed part of a complete picture that was consistently built into a narrative, taking into account the overall experience of data collection.

A limitation of this paper is the interpretation of the data. The interpretation of the data could be influenced by the author's own political beliefs and human subjectivity.

A holistic thematic approach was used to interpret the data, which was facilitated by predefined blocks of questions followed by a detailed analysis of recurring subthemes. This analysis followed the classical method of data interpretation, which consisted of four steps:

1) Coding the data using keywords or phrases;
2) Grouping these words into broader themes;
3) Building arguments;
4) Collecting data extracts to support the argument.

To measure linguistic practices and behaviour, the sources of variation underlying language use proposed by Fishman (2020) and Grosjean (1998) are combined, which can be summarised as skills (written production and comprehension, oral production and comprehension), role relations between speakers, situations (formal, conversational, intimate) and domains of language behaviour (topics of conversation, places of communication, sociocultural patterns, etc.).

Russian speakers of the "language does not matter" ideology view different national, regional, and political groups as endo- and exogroups. For radical pro-Ukrainian participants, all nationalities of Ukraine are Ukrainians, and Ukrainians, Europeans/Americans, and like-minded people are "their own".

For Russian-speaking pro-Ukrainians, the latter are "others", while Russians from Russia and Ukrainians from their region who have taken the position of the enemy and were once "their own" are seen as outsiders. This categorisation does not depend on language legislation but is an individual sociolinguistic belief that affects the social and linguistic representations of these people and influences their practices of bilingual adaptation.

Ideological differences and self-identification with opposing national and regional groups influence language choice in wartime. All participants reported having difficulties with Western Ukrainian. On the other hand, pro-Ukrainian Russian speakers expressed the most positive attitude towards this variety of Ukrainian. For most Ukrainophiles, "normal" Ukrainian is Kyivan, while for Russian-speaking participants, "pure Ukrainian" is the language spoken in Poltava, which many experts in Ukrainian sociolinguistics would consider "Surzhyk". The Russian-speaking pro-Ukrainian group considered Russian to be the standard language before the war; by the time of the interview, their opinion had radically changed towards a categorical rejection of this language. The Ukrainian-speaking pro-Ukrainian group considers linguistic differences between the two varieties desirable for distinguishing Russian-speaking Ukrainians from Russians. But at the same time, popular Russian accents are condemned as "ugly" and as "the language of the enemy".

In addition, linguistic ideologies and norms influence the classification of language practices as "natural" or "artificial".

Although the transition to Ukrainian at the level of legislation was fulfilled by all participants, and considered "natural" by Ukrainian-speaking pro-Ukrainian participants, the use of Ukrainian in all spheres of everyday life is still problematic for some Russian-speaking pro-Ukrainian representatives, and they consider this practice somewhat "artificial" for everyday contexts.

This leads to a "compartmentalisation" of language use in this group, which is typical for digitalised participants in a diglossic situation. The participants often changed the code according to their understanding of what is "natural" in each particular situation.

In addition, the understanding of the concepts of "mother tongue" and "foreign language" still depended more on the participants' political position, their belonging to a particular national and political group, and their vision of the role of language(s) in the state.

Thus, "Ukrainian mother tongue" is the language of national identification and political position of the Ukrainian-speaking pro-Ukrainian group. For the Russian-speaking pro-Ukrainian group, so far, it is only the language of linguistic competence, which they are methodically developing in order to fully switch to the "native language" and abandon the language of the enemy and aggressor.

Conclusions

The paper outlines the sociolinguistic dimension of language legislation and its impact on the language ideology of Ukrainian society. The results of the study reveal the impact of the "language issue" on Ukrainian society in times of war. In the context of multinationality, political crises, and war, the concept of language and identity has changed dramatically, even among Russian-speaking Ukrainians. Due to the war in Ukraine, the choice of language code has become a matter of principle. Such linguistic preferences are related to the understanding of the "Ukrainian nation", the desire to position oneself as a patriot, and the eradication of the enemy language. The results of the study showed that ethnicity is not always a factor in the choice of language. Supporters of ethnocultural nationalism, which we call "Language matters" in this paper, welcome the official Ukrainian orientation of the Ukrainian state, attaching importance to language for the consolidation of the state. This subgroup advocates for the Ukrainian language at all levels and tries to use it in their everyday language practices. However, the results of the language ideology of the second group show that language categorisation does not depend on language legislation, but is an individual sociolinguistic belief, influencing the social and linguistic representations of these people and affecting their bilingual adaptation practices.

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DOI: https://doi.org/10.34069/AI/2023.68.08.28
How to Cite:
Tsiura, V., Gramatskyy, E., Panova, L., Sabodash, R., & Bazhanov, V. (2023). Contract law in the conditions of recodification: modernity and future prospects. *Amazonia Investiga*, *12*(68), 303-312. https://doi.org/10.34069/AI/2023.68.08.28

Contract law in the conditions of recodification: modernity and future prospects

Договірне право в умовах рекодифікації: сучасність та перспективи майбутнього

Received: July 9, 2023 Accepted: August 18, 2023

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Abstract

The relevance of the research lies in the study and analysis of the impact of recodification on contract law and the determination of its future prospects. Recodification, which involves a systematic revision and unification of legislation, is necessary in connection with globalization, the development of electronic commerce, and new technologies. The change in social values also creates a need to revise the legal frame, in particular in the protection of consumer rights and compliance with ethical norms. The study proposes to identify problems, propose rational solutions, and contribute to forecasting the future development of the relevant field of law. The purpose of the study is to study the impact of the recodification process on the modern system of contract law and to determine the prospects for its development in the future. The methodological basis of the research is based on a combination of various scientific approaches and methods that allow for a comprehensive and comprehensive analysis of the research subject.

Анотація

Актуальність дослідження полягає в вивченні та аналізі впливу рекодифікації на договірне право і визначенні його майбутніх перспектив. Рекодифікація, яка передбачає систематичний перегляд та уніфікацію законодавства, є необхідною у зв'язку з глобалізацією, розвитком електронної комерції та новими технологіями. Зміна соціальних цінностей також створює потребу в перегляді договірного права, зокрема у захисті прав споживачів та дотриманні етичних норм. Дослідження пропонує виявити проблеми, запропонувати раціональні рішення та сприяти прогнозуванню майбутнього розвитку договірного права. Метою дослідження є вивчення впливу процесу рекодифікації на сучасну систему договірного права та визначення перспектив його розвитку у майбутньому. Методологічна основа дослідження базується на поєднанні різних наукових підходів та методів, що дозволяють здійснити комплексний та всебічний аналіз

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Some of the main methodological approaches that can be used in this work include comparative analysis, legal analysis, empirical research methods, theoretical analysis, and historical analysis. Actual problems and challenges faced by the modern system of positive law are identified; the advantages and disadvantages of various models of recodification and their impact on the modernity of the researched field are clarified; an idea was obtained about the possible directions of the development of contract law, in particular regarding unification and harmonization, protection of consumer rights and consideration of ethical norms; recommendations and proposals for improving relevant legal norms in the context of recodification are formulated.

Keywords: contract law, recodification, international cooperation, electronic commerce, cross-border agreements.

предмета дослідження. Деякі з основних методологічних підходів, які можуть бути використані в даній роботі, включають: компаративний аналіз, юридичний аналіз, емпіричні методи дослідження, теоретичний аналіз та історичний аналіз. Виявлено актуальні проблеми та виклики, з якими стикається сучасна система договірного права; з'ясовано переваги та недоліки різних моделей рекодифікації та їх вплив на сучасність договірного права; отримано уявлення про можливі напрямки розвитку договірного права, зокрема стосовно уніфікації та гармонізації, захисту прав споживачів та врахування етичних норм; сформульовано рекомендації та пропозиції щодо удосконалення договірного права в контексті рекодифікації.

Ключові слова: договірне право, рекодифікація, міжнародне співробітництво, електрона комерція, трансграничні угоди.

Introduction

The modern legal environment is characterized by constant changes and rapid development. Contract law, as one of the most essential branches of civil law, plays a decisive role in regulating relations between the parties to the agreement. However, over time, new challenges and problems arise that require updating and modernization of legal norms. In this context, the process of recodification of the researched institute is gaining more and more importance. Recodification, as a systematic process of revision and revision of legislation with the aim of its unification, simplification, and adaptation to modern requirements, becomes a necessity in connection with growing globalization and international cooperation. The change in socio-economic conditions, the development of electronic commerce, and cross-border agreements give rise to the need to establish a unified legal framework for the effective functioning of contractual relations. However, the recodification of contract law faces numerous challenges and problems, such as differences in legal systems, diversity of legal traditions, and differences in national and international levels of regulation. Therefore, it is important to conduct a scientific study to analyze the impact of the recodification process on the modern system of contracts and determine the prospects for its future development. This study is of great importance for the scientific community, practitioners, and legislators, as the results of the study will prepare the ground for further theoretical developments in the researched field and the creation of new legislative recommendations. The research will also contribute to the expansion of scientific understanding of the analyzed category in the context of recodification. Identification and analysis of problematic aspects of the modern contract relations will reveal its shortcomings and potential for improvement. At the same time, the study will take into account the impact of technological progress, changes in social values, and international dynamics on the recodification of contract law. The results of the research will also have practical value. They will help legislators and practitioners to improve the relevant regulatory framework, to ensure its compliance with modern challenges and needs of society. Recommendations and proposals based on the results of the research can be used in the formation of new legislative acts, the development of contractual agreements, and the creation of legal instruments that meet the requirements of the modern world. In addition, research on this topic will contribute to the development of scientific discourse and the exchange of ideas between scholars working in the specified field and recodification. Interaction and discussion of the obtained research results will contribute to the further development of this field, aimed at achieving even greater efficiency and harmonization of contract law in the context of recodification. Based on a methodological basis, it sets itself the task of analyzing the recodification process, identifying problems and challenges, investigating the impact of technological development and changes in social values on contractual relations, as well as determining the prospects for its future development. The results of the research will have important theoretical significance, will contribute to the expansion of the scientific understanding of the problematics researched, and will prepare the ground for further improvement of the regulatory framework and practical application of the relevant data in the context of recodification.

The subject of the research is the study and analysis of the impact of the recodification process on the modern system of contract law and the determination of prospects for its development in the future.

The main tasks of the research include:

1. Analysis of the current state of the problem. Identification of essential aspects that require recodification and modernization.
2. Examination of the recodification process. Understanding the essence, methodology, and basic principles of this process.
3. Study of the impact of globalization, electronic commerce, and new technologies on the analyzed relations. Assessment of the need for unification and harmonization of norms, and development of new legal instruments.
4. Analysis of the practical experience of recodification of the contract law. Study of examples from different countries and assessment of their effectiveness and compliance with modern requirements.
5. Forecasting prospects for the development of the researched field. Consideration of trends in society, technological development, and international cooperation.
6. Formulation of recommendations for improving the legislative framework of the analyzed topic. Offering rational solutions and innovative approaches, taking into account research results and future perspectives.

The purpose of the research is to study in detail the impact of the recodification process on the modern system of contract law and to determine the prospects for its development in the future.

Specific objectives include:

1. To analyze the current state of the analyzed problematics and identify its problematic aspects that require recodification and modernization.
2. To study the process of recodification as a systematic review and revision of legislation, with the aim of its unification, simplification, and adaptation to modern requirements.
3. Determine the impact of globalization, electronic commerce, and new technologies on contractual relations and identify the need for unification and harmonization of norms for effective functioning in the international context.
4. To analyze the practical experience of the recodification of civil law in different countries and to evaluate the effectiveness of implemented solutions and compliance with modern requirements and trends.
5. To forecast the prospects for the development of the contract law in the future, in particular, taking into account technological development, changes in social values and requirements, as well as international trends.
6. Develop recommendations for improving the legislative framework of contracts, taking into account the results of the research and future prospects, with the aim of creating a modern, adapted, and effective legal system.

Theoretical Framework or Literature Review

The degree of research on the topic can be assessed as high. In recent years, research in this area has undergone significant development, which is reflected in a great number of scientific works, publications, and conferences devoted to this topic (Dovgert, 2023; Vasylieva, 2021; Kostenko, 2021; Kachula, Khalatur, Tsikal, & Kovalchuk, 2022; Gus, 2021.

Researchers actively study the current state of contract law and analyze the problems and challenges it faces in the context of changes in society, globalization, and technological development (Davydova 2020; Dovgert, 2019; Kharytonov, 2021; Kharytonov, 2020). In particular, comprehensive analysis of the legislation and court decisions of various countries is conducted.

For example, Hrytsenko (2014) considered the methodological foundations of contract law research. The author determined that this branch of law plays an essential role in regulating economic relations of exchange. Also, the author noted that the main functions of this institute is to regulate and ensure the balance of the interests of various parties to the agreement. It is aimed at achieving the economic efficiency of relationships, supporting the principle of Pareto-efficiency improvement, and distributing risks that arise as a result of adverse uncertainty. In addition, it ensures the economic efficiency of the interaction of the parties. This means that contracts should contribute to the achievement of the highest possible level of satisfaction of the interests of the parties, taking into account limited resources and opportunities. In addition, it performs the function of reducing and distributing risks arising from adverse uncertainty of conditions or circumstances. The author concluded that contracts act as a meaningful tool for ensuring stability, balance, and efficiency in the field of economic relations, particularly in the context of concluding contracts and their implementation.

Considerable attention is also paid to the study of the process of recodification of contract law, its essence, methodology, and principles. Proposals for improving the legislative framework, and creating new legal instruments and mechanisms are being developed (Illarionov, 2020; Bilous, 2015; Dyminska, 2017; Kharytonov, & Kharytonova, 2019; Luts, 2010; Podvirna, 2018). Dovgert studied the recodification of the Civil Code of Ukraine. The article examines the problem of recodification of the Civil Code of Ukraine (CC of Ukraine) and determines the presence of factors and prerequisites for starting this process. The term "recodification" is used to describe systemic changes to an existing code (or group of codes and laws) without creating a new code from scratch. The author noted that one of the main factors for the recodification of the CC of Ukraine is the logical imitation of the further transformation of society, in particular the formation of a true and effective market economy, which is a necessary component of civil society. Ukraine is also actively striving for integration with the European Union, which is becoming an essential factor for reforms in all spheres of society. The main goal of the recodification of the CC of Ukraine is the further "Europeanization" of the code. Another significant factor is the global trend towards the unification and harmonization of private law regulation. Many countries, including Ukraine, actively use globally applicable legal norms and decisions developed within the framework of international organizations for the unification of private law. These norms-decisions are embodied in numerous international documents.
Considerable progress has also been achieved in forecasting the prospects for the development of contract law. Researchers analyze trends and changes in society, technological progress, as well as international cooperation, particularly in the context of harmonization and unification of norms (Luts, 2009; Lyakh, 2014; Marusheva, 2016; Dzera, 2008; Dyminska, 2016; Belyanevich, 2006; Omelchenko, 2013; Osetynska, 2006; Plavych, 2017; Reznichenko, 2016).

Tertychnyi (2018a; 2018b) paid attention to the analysis of global trends in the development of electronic commerce in the context of information globalization. The author analyzes the influence of information technologies and globalization processes on the development of electronic commerce. It deals with various aspects of e-commerce such as e-commerce, e-business, e-marketing and others. The author analyzes the main global trends in this field, such as the growing popularity of mobile commerce, the development of social commerce, the spread of cloud technologies, and others. The article also discusses issues related to e-commerce, such as cyber security, personal data protection, legal aspects and others. The author provides analysis and recommendations for solving these problems in the context of information globalization. In general, the article by Tertychnyi offers a detailed analysis of modern trends in the development of electronic commerce, taking into account global information processes. It can be useful for scientists, researchers, students and anyone interested in this topic.

In general, research on this topic shows significant progress and a high degree of research (Zazulyak, 2009; Yudin, 2017; Yavorska, 2008; Volovik, 2013; Strybko, 2016; Reznichenko, & Chumachenko, 2011). Continuation of work in this direction will contribute to the further development of contract law and the creation of a modern, adapted and effective legal system.

Methodology

The methodology is based on a comprehensive approach, the use of various scientific methods and analytical tools. Collectively, this allows for a comprehensive study of the contract law under the conditions of recodification, to analyze current trends, and to determine the prospects for its future development. The main stages include:
Comparative analysis. Using a comparative approach to study different models of recodification and their impact on modernity and future prospects. Different legal systems are compared and their approaches to the recodification and development of the analyzed legal institute are analyzed.

Legal analysis. Application of methods of interpretation of normative legal acts, contracts, judicial practice, and doctrine to reveal the essence and peculiarities of contract law in the conditions of recodification. Legal norms are analyzed and interpreted, attention is paid to the development of judicial practice and doctrine regarding the recodification of civil legislation.

Empirical methods. Collection and analysis of empirical data, including statistical data, helped to obtain objective information about the real state of the researched norms in the conditions of recodification and prospects for its future development.

Theoretical analysis. Using the methods of theoretical analysis to formulate conceptual provisions and generalizations regarding the current state of contract law, its recodification, and prospects for future development. Theoretical concepts, models, and approaches are used to analyze problems and find rational solutions.

Historical analysis. A study of the evolution of the contracts in the context of recodification, including historical changes, trends, and the impact of past recodification processes on the current system of civil law.

Dogmatic method. It is used to reveal the content of the norms of the civil law and their interpretation. This analysis is based on a systematic review of legal acts, judicial practice, and scientific sources to reveal the essence and scope of legal norms, as well as to identify important principles and concepts.

Prognostic analysis. Forecasting of the development of the relevant legal norms in the conditions of recodification is carried out based on the analysis of modern trends, challenges, and innovations. This makes it possible to determine the prospects and directions of the further development of contract law, taking into account changes in the socio-economic, technological, and international environment.

Interdisciplinary approach. The application of an interdisciplinary approach involves the combination of legal knowledge with other sciences, such as economics, sociology, politics, technology. This allows taking into account the wider context and the influence of other spheres of life on the analyzed legal norms in the context of recodification. The use of an interdisciplinary approach deepens the understanding of complex interrelationships and helps to find new approaches to solving problems.

Regulatory and legal analysis. The use of normative-legal analysis involves research and analysis of current legislation, draft laws, codes, and other normative-legal acts related to the law on contracts. This makes it possible to assess the impact of recodification on the existing regulatory framework and identify the need for relevant changes and modernization.

The general research methodology, based on the use of these approaches and methods, allows systematization and analysis of existing legal norms, historical data, empirical information, and taking into account the broader legal context. This ensures scientific validity, objectivity, and high-quality of research on contract law in the conditions of recodification and determination of its future prospects.

Results and Discussion

The definition and nature of contract law play a key role in understanding this area of civil law. This legal institute is an essential component of civil law, which regulates relations between parties to an agreement. It provides for the establishment of rights and obligations between the parties to the contract and determines the legal regime of their relations. The definition of contract law is that it is a branch of law that regulates the conclusion, content, and performance of contracts, as well as the consequences of their violation. It establishes legal mechanisms to protect the rights and interests of the parties to the agreement and contributes to ensuring stability and confidence in the execution of agreements. The essence of the analyzed legal institute lies in its main characteristics and principles. This is a system of legal norms that regulates the creation, content, and performance of contracts. This branch is based on such principles as freedom of contract, equality of parties, good faith, compliance with the agreement, and responsibility for its violation. One of the important aspects of contract law is the principle of good faith, which stipulates that the parties must act honestly and in good faith, taking into account the interests of both parties. This ensures balance and mutual benefit in the transaction and contributes to the creation of long-term and sustainable relationships between the parties. The law on contracts also provides for the principle of equality of parties, which means that all parties have the same rights and opportunities to enter into contracts, and their rights and obligations must be equal and equal. Summing up, the definition and essence of the analyzed institute suggest that it is a branch of civil law that regulates the creation, content, and performance of contracts, as well as establishes legal principles to ensure freedom of contract, equality of parties, good faith, and responsibility. Understanding the meaning and essence of the law on contracts is important for studying and understanding the principles and norms that determine its functioning and development (United Nations, 1980).

The role of contract law in civil law is extremely significant and essential. It acts as the main regulator of relations between private individuals and legal entities, ensuring their freedom to enter into agreements, determining the rights and obligations of the parties, and responsibility for their fulfillment. One of the key roles of the researched institute is to create a framework for interaction between parties to an agreement. It defines the rules by which the parties can enter into contracts and determine their rights and obligations. The law on contracts enables parties to agree on terms that suit their interests and needs, thus creating a framework for the realization of their commercial and personal goals. In addition, it plays an important role in ensuring the protection of the interests of the parties. It establishes legal norms that regulate the performance of agreements, the resolution of disputes, and the compensation of damages. This contributes to the creation of trust between the parties, ensuring their legal certainty and stimulating the conclusion of contracts. One of the important functions of the law on contracts is the stimulation of economic development. It promotes the expansion of business opportunities, provides a legal framework for concluding commercial agreements, and regulates relations within the framework of a market economy. Also it contributes to the creation of a favorable climate for entrepreneurship, attraction of investments, and development of business relations, which contributes to economic growth and prosperity of society. Therefore, the role of the researched branch in civil law consists of creating a legal basis for interaction between private individuals, ensuring their rights and obligations, protecting their interests, and promoting economic development. This role is decisive for ensuring stability, justice, and development of civil society.

The basic principles of contract law are the fundamental principles on which this branch of law is based. They define generally accepted norms and values that govern the conclusion, performance, and termination of contracts. These principles are noteworthy guidelines for courts, parties to the agreement, and other entities applying relevant legal norms. The first basic principle is the principle of freedom of contract. It provides that the parties have the right to conclude contracts on mutually beneficial terms, following their interests and will. This principle provides the parties with great flexibility and autonomy in determining the terms of their relationship. The second important principle is the principle of good faith and fairness. It provides that the parties must act decently, adhering to the principle of good faith and honesty. This principle is intended to ensure a balance between the interests of the parties and to protect vulnerable parties, as well as to avoid fraud and unscrupulous behavior. The third important principle is the principle of contract performance based on the principle of keeping promises. According to this principle, the parties are obliged to fulfill their obligations according to the terms of the contract. Contract enforcement is an important element of contract law, as it ensures the correspondence between the expectations of the parties and the results of the agreement. The fourth principle is the principle of protection of the weaker party. It assumes that relevant law should protect the interests of weaker parties, such as consumers, employees, or less experienced counterparties. This principle helps establish a balance between the parties to the agreement and prevents exploitation or unfair treatment. The last, but no less important, principle is the principle of compliance with the contract based on the principle of good faith. It provides that the parties must act in good faith and accordance with the principles of justice even in the event of unforeseen circumstances or a change in circumstances. These basic principles contribute to ensuring efficiency, fairness, and stability in the relationship between the parties to the agreement. They are an integral part of the legal system that regulates contractual obligations and contributes to the development of the law on contracts as a vital branch of civil law. The goals and objectives of the recodification of the law on contracts are aimed at achieving several main goals that contribute to the improvement and compliance of legal norms with modern requirements. The goals of the recodification of contract law are to systematize, unify, and modernize the legal norms governing contractual relations. The main objectives of the recodification include:

- Creation of a unified system of legal norms. Recodification is aimed at creating a coherent and logically structured system of legal norms that covers all aspects of the relevant law branch. This avoids discrepancies and gaps in the legislation, ensures the unity and comprehensibility of legal norms, and promotes their effective application.

- Unification. Recodification is aimed at the unification of legal norms that regulate contractual relations. This allows to reduce differences between the laws of different countries and contributes to the creation of common standards, which facilitates international trade and cooperation.
- Modernization. Recodification aims to adapt the analyzed branch to modern needs and realities. This includes taking into account new forms of business, technological development, and changes in society and the economy. Modernization of the law on contracts contributes to its compliance with modern challenges and ensures the effective functioning of contractual relations.
- Ensuring legal certainty and protection of the parties. Recodification is aimed at creating clear, understandable, and predictable legal norms. This ensures legal certainty of the parties in their rights and obligations and helps prevent disputes and conflicts. Recodification also aims to ensure effective protection of the rights and interests of the parties to the contract.
- Creating a flexible and adaptive legal environment. The recodification aims to create a flexible and adaptive system of the norms on contracts that can respond quickly to changes in society, economy, and technology. This makes it possible to ensure the effective functioning of contractual relations, to promote innovation and business development.

In general, the recodification of the relevant law is aimed at improving and unifying legal norms, ensuring legal certainty and protection of parties, as well as adaptation to the needs of modern society. This creates a basis for stable and progressive development of the researched branch ov civil law in the future.

Tasks of recodification of contract law include:

- One of the main tasks of recodification is the systematization and harmonization of legal norms related to contractual relations. This includes the analysis and classification of legislative acts, judicial practice, and scientific sources to create a consistent and logically constructed system of legal norms.
- Recodification is aimed at the unification of legal norms regulating contractual relations. This means bringing together different legislation within a single regulatory act or creating common international standards. Unification facilitates the settlement of differences between different legal systems and facilitates international trade and cooperation.
- Recodification of contract law aims at adaptation to modern needs and realities of society. This includes taking into account changes in the field of business, technological development, electronic commerce, innovative forms of contractual relations, etc. Recodification makes it possible to create a flexible and up-to-date system of legal norms that meets the needs of modern society.
- One of the tasks of recodification is the creation of a legal system that ensures legal certainty of the parties in contractual relations. This includes a clear definition of the rights and obligations of the parties, the creation of mechanisms for the protection of their rights, the provision of dispute settlement procedures, and effective means of fulfilling contractual obligations.
- Recodification of contract law is an ongoing process as society changes, new technologies emerge, and new needs arise. Therefore, one of the tasks is the constant updating and improvement of legal norms so that they meet modern requirements and ensure effective regulation of contractual relations.

All these tasks are aimed at improving law, ensuring its effectiveness, the confidence of the parties, and adaptation to modern needs. Recodification creates a basis for stable and progressive development of the law on contracts in the future.

Conclusions

In the future, various studies can be conducted in this field, which will help reveal new aspects and answer current questions. For example, research can develop in the direction of studying the effectiveness of recodification. Research can be aimed at evaluating the results of the recodification of contract law in different jurisdictions. It is vital to find out to what extent the recodification contributes to the improvement of the legal regulation of contractual relations, the simplification of procedures, and the provision of greater legal stability. Another option is to study the impact of technological change on the researched branch. The development of new technologies, such as artificial intelligence, blockchain, smart contracts, and others, is bringing significant changes to the law on contracts. Research can be directed to analyzing the impact of these technologies on the conclusion and performance of contracts, as well as to the development of legal mechanisms to regulate these processes.

- The task of analyzing the current state of law on contracts made it possible to identify key aspects that require recodification and modernization. This includes adapting to new e-commerce requirements, protecting consumer rights, and taking into account global trends in international trade.
- The task of researching the recodification process made it possible to clarify the essence of this process, its methodology, and basic principles. It was found that the recodification of contract law is a necessary stage for improving its adaptability to modern needs and ensuring the unity and transparency of legal norms.
- The task of studying the impact of globalization, electronic commerce, and new technologies on the law on contracts revealed the need for unification and harmonization of norms, as well as the development of new legal instruments for the effective regulation of cross-border agreements and the challenges arising in connection with technological progress.
- The task of analyzing the practical experience of the recodification of contract law in other countries provided examples of successful implementation of reforms and an assessment of their effectiveness. This experience can serve as a source of inspiration and an example for improving legislation under modern requirements.
- The task of forecasting the prospects for the development of the analyzed branch made it necessary to take into account trends in society, technological development, and international cooperation. The development of new forms of commercial relations, changes in consumer preferences, and legal challenges associated with the growth of the global economy require constant analysis and adaptation of the legal acts.
- The task of formulating recommendations for improving the legislative framework of contract law includes offering rational solutions and innovative approaches based on the research results. This may include the development of new regulations, and assistance in the creation of international treaties.

The goal of analyzing the current state of the legal acts on contracts allowed identifying problematic aspects that require recodification and modernization. This includes adapting to e-commerce, protecting consumer rights, and taking into account global trends in commerce.

- The aim of the research on the recodification process revealed its essence as a systematic review and revision of legislation with the aim of unification and adaptation to modern requirements. Recodification of the law is an important step to simplify and unify rules and ensure their effective application.
- The goal of studying the impact of globalization, electronic commerce, and new technologies on contract law showed the need for unification and harmonization of norms to ensure effective functioning in the international context. The development of new legal instruments becomes a necessity to address the challenges associated with electronic commerce and global trade relations.
- The goal of analyzing the practical experience of the recodification of the researched branch of the civil law in different countries showed successful examples of the implementation of reforms and the assessment of their effectiveness. It provides valuable conclusions and recommendations for the further development of contract law in the commercial sphere.
- The goal of forecasting prospects for the development of the analyzed field of law ensures consideration of technological development, changes in social values, and international trends. Understanding the future challenges and needs of commercial society allows to develop of strategies for the innovative development of contract law.
- The goal of developing recommendations for improving the legislative framework of contract law is one of the noteworthy goals of the research. This includes proposals for improving regulations, creating international treaties, and innovative approaches that take into account research findings and future perspectives.

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DOI: https://doi.org/10.34069/AI/2023.68.08.29
How to Cite:
Slipetska, V., Ishchenko, Y., Melnychuk, N., Symaka, A., & Makoviichuk, L. (2023). Cultural and historical factors influencing the verbalization of aggression in English journalistic texts: a comparative analysis of modern and historical texts. *Amazonia Investiga*, *12*(68), 313-323. https://doi.org/10.34069/AI/2023.68.08.29

Cultural and historical factors influencing the verbalization of aggression in English journalistic texts: a comparative analysis of modern and historical texts

Культурно-історичні чинники, що впливають на вербалізацію агресії в англійських публіцистичних текстах: порівняльний аналіз сучасних та історичних джерел

Received: July 15, 2023 Accepted: August 29, 2023

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Abstract

Aim. This study is aimed at analysing the influence of cultural and historical factors on the verbalization of aggression in English journalistic texts. Methods. The work employs the method of analysing lexical units, the grammatical method of analysing aggressive markers, and the method of stylistic text analysis. Mathematical methods of data processing included descriptive average, analysis of optimal values, Cronbach's alpha. Results. In the first half of the 19th century, there were significant indicators of the use of aggressive vocabulary, in particular the words "attack" and "assault" at about 30% and 25%, respectively. These figures, however, decreased to 25% and 20% during the 21st century. The words "bombard", "demolish" and "destroy" also showed a decreased frequency of use from the 19th to the 21st century from 20%, 15% and 10% to 15%, 10% and 5% respectively. Conclusions. The study of aggressive

Анотація

Мета. Дане дослідження спрямоване на аналіз впливу культурно-історичних факторів на вербалізацію агресії в англійських публіцистичних текстах. Методи. В роботі використано Метод аналізу лексичних одиниць, Граматичний метод аналізу агресивних маркерів та Метод стилістичного аналізу тексту. Математичні методи обробки отриманих даних включали середнє статистичне, аналіз оптимальних значень, альфа Кронбаха. Результати. У першій половині 19 століття спостерігалися значні показники використання агресивної лексики, зокрема слів "attack" і "assault", які становили близько 30% і 25% відповідно. Проте, протягом 21 століття ці показники зменшилися до 25% і 20%. Слова "bombard", "demolish" і "destroy" також показали зниження частоти вживання з 19 до 21 століття, з 20%, 15% і 10% відповідно до 15%, 10% і 5%.

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stylistic means in journalistic texts revealed that the use of aggressive vocabulary in media discourse has increased in recent centuries. Exceptions are warnings about the tendency to deepen aggressive expressions in communication. Continued monitoring and analysis of such stylistic devices is important for understanding the dynamics and impact of language aggression in modern society. Prospects. Prospects for further research on aggressive stylistic means in journalistic texts are the study of the impact of these means on the perception by the audience, their emotional reaction, and psychological state.

Keywords: life writing, verbal aggression, physical aggression, normalization, trivialization, gendered aggression, domestic violence.

Висновки. Дослідження агресивних стилістичних засобів у публіцистичних джерелах показало, що за останні століття вживання агресивної лексики у медійному дискурсі збільшилося. Виключення складають настороги щодо тенденцій поглиблення агресивних виразів у комунікації. Продовження моніторингу та аналізу таких стилістичних засобів є важливим для розуміння динаміки та впливу мовленнєвої агресії у сучасному суспільстві. Перспективи. Перспективи досліджень щодо агресивних стилістичних засобів у публіцистичних джерелах є вивчення впливу цих засобів на сприйняття аудиторією, їх емоційну реакцію та психологічний стан.

Ключові слова: життєпис, вербальна агресія, фізична агресія, нормалізація, тривіалізація, гендерна агресія, домашнє насильство.

Introduction

Relevance

The relevance of the study is that it is aimed at identifying cultural and historical factors that influence the verbalization of aggression in English journalistic texts. The study of cultural and historical factors that influence the verbalization of aggression can help in the development of effective methods of its prevention and resolution.

The most important concept — aggression, which permeates human behaviour and interpersonal relations — lays in the depths of psychology and sociology. Controversial and multifaceted, this phenomenon touches the deepest strings of human nature, as it is expressed in the effort to cause harm or hurt to another person or group of people (Bushman, 2019).

It is worth noting that aggression can acquire both physical and psychological expression, with its forms and motivations being extremely diverse. In its physical manifestation, it can find itself in the form of physical attacks, violence, and dominating others. So, psychological aggression can affect the psyche and emotional state of an individual, and is not always visible to others (Santos et al., 2021).

Journalistic English-language discourse must pay attention to the deep-rooted causes of aggression in society and its structures. On the one hand, aggressive behaviour can arise from unresolved conflicts, the desire to dominate, or the fear of becoming a victim. On the other hand, the social environment, the surrounding context and the perception of cultural norms can significantly influence the intensity of aggression among people (Rodelli et al., 2022).

Growing cases of aggression, especially in international relations, endanger harmony and peace in society. Journalistic materials should be aimed at finding ways to overcome aggression and resolve conflicts peacefully, developing empathy, tolerance and mutual understanding (Piotrowski & Fikkers, 2019).

Aggression is a complex phenomenon that requires multifaceted consideration by publicists and researchers. Solving aggression-related problems depends on all of us, and it is our shared responsibility to create a harmonious and supportive environment where each of us feels connected to others and understands the importance of peace and coexistence (Chester & Joscelyne, 2021).

In today's world, verbal aggression is one of the most common manifestations of psychological aggression, which involves the use of words or language forms to express negative emotions such as anger, hatred, and contempt. This phenomenon can take place in different areas of life, such as family, school, work and politics, creating potentially harmful consequences for their community.

The consequences of verbal aggression can be particularly dangerous, as it can be directed at a specific person or group of people, and remain non-specific, abstracting from the individual characteristics and identity of the victim. As a result, society faces various forms of verbal abuse, such as insults, cursing, slander, spreading false information and harmful stereotypes (Dutt, 2018).

Careless use of verbal aggression can destabilize the social climate and worsen interpersonal relationships, as well as contribute to violent conflicts. When people face constant criticism, insults, and threats, it can significantly undermine their self-esteem, cause anxiety and depression, and can trigger physiological responses such as increased stress levels and weakened immune systems (Goessmann et al., 2021).

Therefore, it is important to pay attention to the problem of verbal aggression and to widely cover this aspect in journalistic English-language discourse. Conscious understanding and awareness of the deep impact of verbal aggression can stimulate positive changes in behaviour and contribute to building tolerant and polite coexistence. Self-regulation of language and maintaining mutual respect are key aspects of building healthy relationships in a society where everyone has the right to be respected and treated with dignity.

Cultural and historical factors influence the verbalization of aggression in various aspects. For example, in some cultures it is considered acceptable to use verbally aggressive language in certain situations, such as in the work environment or in sports. In other cultures, verbal aggression is considered unacceptable in any situation.

Aim

This study is aimed at revealing the influence of cultural and historical factors on the verbalization of aggression in English journalistic texts. The study of these factors will help to enrich our understanding of the specifics and contextual features of aggressive speech in English journalistic discourse.

Objectives/Questions

1. Identify the most common markers of aggressive speech.
2. Carry out a lexical, grammatical and stylistic analysis of the selected texts to identify the peculiarities of the use of aggressive vocabulary.

Literature Review

Determining the relevance of research in the field of verbalization of aggression and its impact on society is not possible without a thorough study of the methodology of such studies. First, it is necessary to consider the existing experience of analysing the role of speech aggression in different contexts, such as the media, international politics and social norms.

Adler-Nissen et al., (2020) examined images, emotions, and international politics using the example of the death of Alan Kurdi. The authors drew attention to the impact of this event on the global context, analysing the role of emotions in shaping reactions and making decisions. The proposed paradigm, where emotions determine the dynamics of international politics, can complement our understanding of the dynamics of global events.

Kovalchuk and Litkovych (2022a) focus on the verbalization of aggression in media discourse during military conflicts. They examine the language strategies used in the media to maintain aggressive attitudes. They analyse the semantic shades of intonation used to strengthen aggressive statements. This work is important for understanding the influence of the media on the perception of conflicts and the formation of stereotypes.

Krasnobaieva-Chorna (2021) analysed the typology of verbal aggression of Prof. Dominic A. Infante, and an attempt was made to adapt it to phrasemics. The author studies linguistic means and features of aggressiveness in speech. The work is designed to deepen the understanding of the verbalization of aggression and supplement existing theoretical concepts.

Kreft (2020) focuses on civil society perspectives on sexual violence in conflicts, particularly in Colombia. The researcher analyses the relationship between patriarchy and military strategies in the context of violence. The work is aimed at identifying the influence of sociocultural factors on manifestations of aggression in conflict situations.

Krylova-Grek (2018) considered the psycholinguistic aspects of the semantic field of the concept of war in the modern media space. The author examines words and expressions related to the concept of war and their impact on readers' perception. The work is aimed at revealing the role of the media in the formation of stereotypes and aggressive attitudes in society. Maddox (2022) analysed the official Twitter accounts of Ukrainian officials. The author explored the response to military aggression in real time using memes. This study reveals how the country used social media to express and process emotions during the crisis.

Mezhov et al., (2020) studied the lexicon of figurative aggression in the media discourse of the beginning of the 21st century from a psycholinguistic perspective. The authors discovered the peculiarities of the use of figurative expressions in the media, which helped to understand the psychological impact of such linguistic means on perception by the audience.

Papp et al., (2022) examined the contribution of reality show viewing to college students' acceptance of gender stereotypes and sexualized aggression. The authors analysed how reality television affects perceptions of gender roles and perceptions of aggression.

Saiko (2022) investigated the dominant images of invective constructions of manipulation in English-language newspaper texts. The study of lexical tools used for manipulation helps to reveal the specifics of media influence on the audience.

Stephens and Eaton (2020) examined cultural factors influencing young women's beliefs about disclosure of domestic violence victimization in India. They analysed how the sociocultural context affects attitudes toward domestic violence.

One of the unexplored issues is the change in shades of intonation and semantic load of aggressive statements depending on the era and socio-cultural context. Studying English-language publications from different historical periods can help reveal changes in the perception of aggressiveness and its expression, which will add to our understanding of the development of verbal aggression in society.

The role of mass communication technologies in the evolution of verbalization of aggression is also worth studying. The influence of the press, radio, television, and now the Internet on the spread of aggressive speech may be a key aspect in understanding current trends in journalistic discourse. Research on the impact of the media on the formation of stereotypes and the maintenance of aggressive attitudes will be a useful for building effective strategies to combat verbal aggression.

An important direction of research will be the study of aggression in political discourse. Political leaders, journalists and public figures can use verbal aggression to achieve their goals by manipulating the masses and provoking an emotional response. Studying such situations in different historical contexts will help to understand how aggression was used to shape public opinion and influence political processes.

Methods

Design

This study used a blended approach that combined qualitative text analysis and quantitative measures to assess participants' perceptions of the intensity of aggressive examples described in the selected texts. A qualitative analysis of the texts was used to identify the different types of aggressive examples that were presented in the texts. Quantitative measures were used to assess how participants perceived the intensity of different types of aggressive examples. Table 1 shows the stages of the conducted research.

Table 1.
Stages of the study of cultural and historical factors of verbalization of aggression in English journalistic texts

Stage	Period	Description
Stage 1	January 2022 - March 2022	Determining research objectives, developing methodology and selecting criteria for text selection.
Stage 2	April 2022 - August 2022	Collection and analysis of journalistic texts of the end of the 19th century using lexical bases and software to identify stylistic means of aggression.
Stage 3	September 2022 - May 2023	Collection and analysis of journalistic texts from English-language texts for 2022-2023 for comparison with the end of the 19th century, calculating percentages of frequency of use of stylistic means of aggression.
Stage 4	June 2023 - July 2023	Analysis of research results, preparation of an article with conclusions and comparisons regarding the frequency of use of stylistic means of aggression in English-language journalistic sources of the late 19th and 21st centuries.

Source: compiled by the authors of the research.

Participants

The texts for the study of aggressive stylistic devices in English-language journalistic sources for 2022-2023 and the end of the 19th century were selected from several sources. The sample of texts was carefully selected to reflect different types of American publications and journalistic styles, as well as to ensure a sufficient number of texts for statistical analysis and comparisons.

1. Facebook, Instagram and Twitter. APIs will be used for these social networks to collect journalistic texts that were published during the specified period. Texts will be selected from public accounts that relate to journalism and are related to current events or public issues. The selection will focus on the texts of American publishers, which will allow the analysis of aggressive stylistic devices in modern media publications.
2. Corpus of Historical American English (COHA). It contains textual data from the late 19th century to modern times. The selection of texts from COHA will focus on journalistic sources of the late 19th century, such as newspapers, magazines, and other printed publications, which will allow us to compare the use of aggressive stylistic devices in the journalistic discourse of that period with modern ones.

Instruments

Google Books Ngram Viewer is a tool that allowed viewing the frequency of use of words and phrases in texts. It includes texts that have been published from the year of 1500 to date. *Google Cloud Machine Learning Engine* was used to analyse text data.

Data Collection

1. *Method of analysis of lexical units.* The analysis of lexical units of aggressive semantics was used to identify markers of speech aggression of political discourse with the aim of creating thesaurus fields for English-language journalistic discourse.
2. *Grammatical analysis of markers of aggression in a text* is a method of identifying signs of aggression in a text based on its grammar. The method is based on the fact that aggressive text often contains certain grammatical features, such as the use of imperative sentences, imperative forms of verbs, exclamations, swear words, etc. It is used to detect offensive texts in various formats, such as articles, comments on the Internet, social networks, etc.
3. *Method of stylistic analysis of markers of aggression in the text*. This method is based on the fact that aggression is often expressed in certain writing styles, such as the use of swear words, threats, violence, and other forms of abusive language. The method was used to detect aggression in various types of textual content, such as blog posts, social media, news articles, and other forms of online communication.

Analysis of Data

1. *Descriptive average.* It is used to calculate the average frequency of word inclusion in the corpus.
2. *Determination of the optimal value.* It is used to determine the critical value in the sample.
3. *Cronbach's alpha reliability coefficient* indicates the internal consistency of the test items. The Cronbach's alpha is calculated using the formula 1:

$$\frac{N}{N-1}\left(\frac{\sigma_X^2-\sum_{i=1}^{N}\sigma_{Y_i}^2}{\sigma_X^2}\right), \quad (1)$$

where σ_X^2 – total test score variance;

$\sigma_{Y_i}^2$ – variance

Ethical Criteria

Research on the influence of cultural and historical factors on the verbalization of aggression in English journalistic texts should comply with the following ethical criteria. These are the principles of scientific integrity and protection of the rights and well-being of research participants. Maintaining respect for linguistic norms and cultural features of English journalistic discourse, avoiding offensive or inappropriate expressions. Conducting research with an objective and critical approach, avoiding bias and distortion of results. Publication of research results according to the academic standards and methodologies, as well as indicating the texts used.

Results

Journalistic discourse is very often characterized by the verbal aggression of representatives of the opposition. In this aspect, the lexico-semantic approach to the study of this phenomenon involves the study of linguistic ways of presenting it to the community. First of all, it is necessary to understand that speech aggression is usually interpreted as a form of communicative interaction, which aims to offend or intentionally harm the existing image of the opponent, a group of people, an organization or society in general. It is considered relevant that verbal aggression often replaces aggressive physical action and manifests itself in insults, mockery, threats, hostile remarks, ignoring generally accepted etiquette norms. Table 2 presents the identifiers of some markers of speech aggression in journalistic English-language discourse.

Table 2.
Identifiers of some markers of speech aggression in journalistic English-language discourse

Marker of Verbal Aggression	Definition	Example
Personal Attack	Directly insulting or belittling someone	"You're a complete failure in your job."
Name-calling	Using derogatory terms to label a person or group	"The protestors are just a bunch of thugs."
Sarcasm	Mocking or ridiculing someone indirectly	£Oh, great job on that project! Really top-notch.£
Exaggeration	Magnifying or overstating negative aspects	"This is the worst idea in the history of the company."
Offensive Language	Using profanity or offensive words	"Your argument is f***ing ridiculous."
Threats	Expressing intent to harm or punish	"If you don't agree with us, there will be consequences."
Intimidation	Instilling fear or apprehension in others	"Better watch your back if you cross us."
Stereotyping	Generalizing and applying negative traits to a group	"All politicians are corrupt and dishonest."
Mockery	Making fun of someone or something	"Nice job on that speech. (insert eye roll)"
Disparagement	Criticizing and diminishing someone's worth	"You're not smart enough to understand this."

Source: compiled by the authors of the research.

This table 2 makes us understand that speech aggression can take different forms in journalistic discourse. Understanding these markers helps identify aggressive rhetoric and helps build more reasoned and constructive communication.

This table 3 reflects the change in the frequency of the use of aggressive vocabulary in English-language journalistic texts over two centuries. From the remotest times, the language of journalism has its own characteristics, and this analysis enables to notice the changing trends in the style of expression of aggression in the media space.

Table 3.
Lexical means of expressing aggression in English-language journalistic texts of the late 19th and 21st centuries

Words	Frequency of use, % (19th century)	Frequency of use, % (21st century)
Attack	30	25
Assault	25	20
Bombard	20	15
Demolish	15	10
Destroy	10	5
Devastate	5	2
Invade	2	1
Obliterate	1	0.5
Ravage	0.5	0.25
Sack	0.25	0

Source: compiled by the authors of the research.

Analysing the data in the table, several observations can be made regarding the use of aggressive vocabulary in English-language journalistic texts over the course of two centuries. In general, it can be observed that the frequency of use of aggressive words has decreased from the 19th century to the 21st century. This may indicate an increased awareness and a more cautious approach to language in modern journalism.

The least used are words that express more intense aggression, such as “obliterate”, “ravage” and “sack”, which have a low frequency of use and their meaning can be archaic sometimes. A general trend toward more cautious and less aggressive speech can be detected in American journalistic discourse from the last century to date. This may be related to the growth of the culture of communication and the awareness of the influence of the media on society.

Three types of the grammatical means of expressing speech aggression in the analysed international discourse were studied: modal verbs, pronouns, adjectives. We analysed:

a) “modal verbs with the meaning of obligation/compulsion, such as must, have to, ought to”;
b) “pronouns I, we, they, you” used to contrast opposing parties;
c) “superlative adjectives”. Figure 1 shows visual information based on the results of the research.

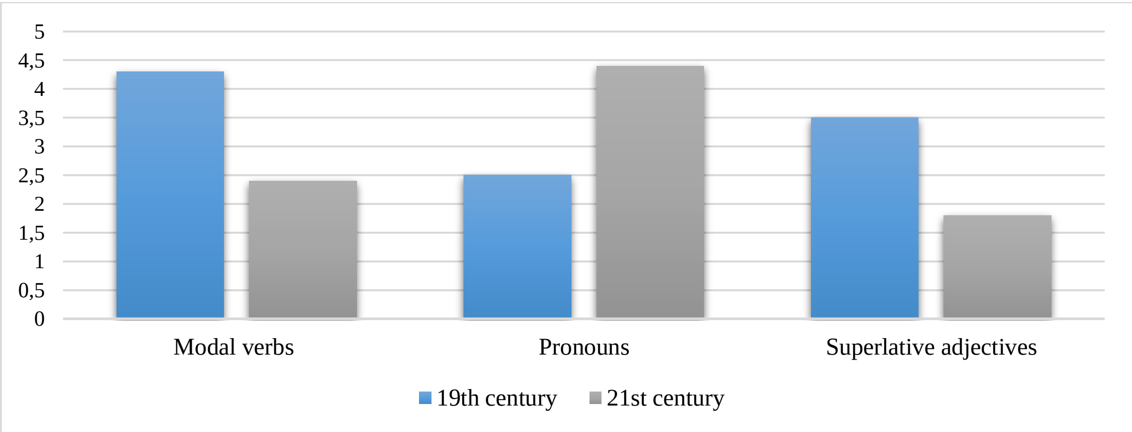

Figure 1. Grammatical means of expressing verbal aggression
Source: compiled by the authors of the research.

Based on the above data, we note the use of modal verbs with the meaning of obligation/coercion, opposition of pronouns. Grammatical means of expressing aggression are: superlative adjectives, which emphasize the extreme degree of indignation, are less used.

As the table 4 shows, the frequency of using stylistic means of expressing aggression in English-language journalistic texts of the end of the 19th century was higher than in the 21st century. This may be because the late 19th century was a time of great political and social upheaval, such as the American Civil War, the French Revolution, and World War I. These events led to an increased aggression and violence in society, which was also reflected in journalistic texts.

Table 4.
Stylistic means of expressing aggression in English-language journalistic texts of the late 19th and 21st centuries

Stylistic means	Frequency of use, % (19th century)	Frequency of use, % (21st century)
Repetition	20	15
Antithesis	15	10
Oxymoron	10	5
Metaphor	5	2
Synecdoche	2	1
Irony	1	0.5
Hyperbole	0.5	0.25
Epithets	0.25	0

Source: compiled by the authors of the research.

In the 21st century, the level of aggression in society decreased, which led to a decrease in the frequency of using stylistic means of expressing aggression in journalistic texts. However, some stylistic units such as repetition, antithesis, and oxymoron are still used quite often. These stylistic units are used to create a sense of emotional tension, excitement, and drama, which are important for attracting the reader's attention.

It is important to note that the frequency of using stylistic means of expressing aggression in English-language journalistic sources may differ depending on the specific context. For example, in news articles stylistic units such as repetition, antithesis, and oxymoron may be used to describe war or violence, while in advertising articles they may be used to create a sense of extreme or adventure.

Discussion

The work includes research aimed at studying aggression and its detection in various media contexts and cultural environments. They make a significant contribution to the understanding of aspects of aggressive speech, in particular in journalistic discourse, media content and interaction in society.

Gulnora (2023) and Kingstone (2022) focus on evaluative vocabulary and its detection in media texts. Selected methods and approaches will help to find out how aggressive means are perceived and used in the modern media environment.

These results will reveal aspects of aggressive expression in literary works and its impact on colonial stereotypes.

Haladzhun et al., (2021), Ebzeeva et al., (2021) and Nünning (2023) studied the representation of aggression in media materials against representatives of the Roma ethnic community. The results will contribute to a deeper understanding of the problems of using aggressive means in relations with marginalized groups. The research gives grounds to understand how aggressive language is used to shape facts and create a story in media discourse.

Such authors as Komalova and Kulagina (2021), Kovalchuk and Litkovych (2022b) and Kravets et al., (2023) distinguish the domain of aggression as one of the poorly studied. The authors note that the journalistic discourse of evolutionary and traditional markers of aggression is not enough to detect aggressive rhetoric.

Studies by Arya and George (2022) and Aloia (2022) focus on aggressive stylistic devices in media discourse during wartime. Their results will provide insight into the specifics of using aggressive language in military contexts.

In general, studies from different academic fields provide a multifaceted view of aspects of aggressive speech in journalistic and media texts. They reveal not only the quantitative aspect of the change in the use of aggressive vocabulary, but also the stylistic, cultural and psychological factors influencing this trend. Enriching our understanding of aggressive speech, these studies provide a platform for further research and development of communication strategies in modern society.

The practical implications of the study of the impact of cultural and historical factors on the verbalization of aggression in English journalistic texts include the following. Understanding the influence of cultural and historical factors helps writers, journalists, and other communicators consciously choose communication tools and strategies that will contribute to increasing the effectiveness of communication and avoiding conflicts. Research helps develop cultural intelligence in society, enriches understanding of other cultures, promotes rapprochement and cooperation between nations. The results of the study can become the basis for the development of programmes and initiatives aimed at preventing and countering verbal aggression, increasing cultural tolerance and improving intercultural communication. Knowledge of the impact of aggressive speech on the psyche of information consumers contributes to developing psychological methods and approaches to help people who face with verbal aggression.

The theoretical significance of the study include the following provisions. The study helps to understand the relationship between speech manifestations and psychological processes, and also reveals the influence of cultural contexts on language practices. The results of the research can enrich existing linguistic theories about the influence of cultural and historical factors on speech. The study of aggressive speech in journalistic texts helps cultural scientists to better understand society's attitude to aggression and its impact on intercultural communication. The study creates an academic background for further research and presentations on the verbalization of aggression, which contributes to the development of scientific discourse in this field.

This study provides preliminary results, which may not fully reflect the real picture, especially because of the used text selection method. Furthermore, the causes and consequences of the trivialization of aggression cannot be clearly identified within the scope of this study either. A qualitative or blended study is necessary to obtain comprehensive answers to these questions.

Despite this, the work provides a general outline of society's attitude to aggression, as evidenced by the life stories of the selected texts. On this basis, we can draw a conclusion about general trends. It is recommended to conduct further large-scale empirical studies with the aim of revealing the causes, scope and consequences of the expression of aggression in the journalistic context. Further research will help overcome the limitations of previous studies and enrich our understanding of the subject.

Conclusions

Relevance. This study has become relevant due to the focus on identifying cultural and historical factors that influence the verbalization of aggression in English journalistic texts. The analysis of cultural and historical influences on the verbalization of aggression can contribute to the development of effective methods of its prevention and resolution. This study will help to better understand how historical and cultural features shape aggressive language in journalistic texts. *Findings*. In the first half of the 19th century, the frequency of the use of aggressive vocabulary, in particular the words "attack" and "assault", was quite high, about 30% and 25%, respectively. However, these figures decreased to 25% and 20% during the 21st century. The words "bombard", "demolish", and "destroy" also show a decreased frequency of use from the 19th to the 21st century, from 20%, 15% and 10% to 15%, 10% and 5%, respectively. Taking into account the above data, it should be noted that modal verbs with the meaning of obligation or coercion, as well as the opposition of pronouns are used in expressing aggression in English-language journalistic texts. The superlative adjectives, which emphasize the extreme degree of indignation, can be distinguished among the less used grammatical means for expressing aggression. *Applications.* The study may contribute to the awareness of the importance of word choice and speech strategies for journalists, particularly in publications on hot or aggression-related topics. Understanding cultural differences in the verbalization of aggression will help to avoid misunderstandings and conflicts between different cultures. The research findings can be used in the development of psychological rehabilitation methods for those who have encountered aggressive speech or become its victims. The results of the study can be useful for the development of programmes and initiatives to prevent and combat verbal aggression. *Prospects for further research.* Further research on the influence of cultural and historical factors on the verbalization of aggression in English journalistic texts can expand the understanding of this phenomenon and bring new prospects. This may also include studying a large number of English journalistic texts from different periods and cultural contexts to identify changes in the verbalization of aggression over time. Study of the influence of state language policy and the media on the use of aggressive vocabulary in journalistic texts is also a promising direction.

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DOI: https://doi.org/10.34069/AI/2023.68.08.30
How to Cite:
Fedorov, V., Fedorova, T., & Dronov, V. (2023). The right to information from the point of view of legal theory, international law and international relations. *Amazonia Investiga*, *12*(68), 324-332. https://doi.org/10.34069/AI/2023.68.08.30

The right to information from the point of view of legal theory, international law and international relations

Право на інформацію з точки зору теорії права, міжнародного права та міжнародних відносин

Received: July 21, 2023 Accepted: August 29, 2023

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Abstract

Taking into account the informatization of public life, the growing role of information, and the development of the information society, the right to information is important not only as a certain set of powers but also as a priority vital interest, the implementation of which has a decisive impact on the life of a modern person. The purpose of the work is the study of information rights in the context of law per se, from the point of view of establishing the researched law at the international level and with regard to international relations regarding information. Research methodology consists of such methods as comparative legal method, inference, hermeneutic method, induction and deduction method, and historical legal method. As a result of the conducted research, it was concluded that the legal regulation of the right of citizens to access public information is one of the most important guarantees of the development of any democratic society. It is concluded that the establishment of the right to information and access to public information at the international level has a positive effect on the realization of fundamental rights by citizens, as well as on the activities of authorities and institutions of public society.

Keywords: information, right to information, access to information, information with limited

Анотація

Зважаючи на інформатизацію суспільного життя, зростання ролі інформації та розвитку інформаційного суспільства, права на інформацію має значення не тільки як певна сукупність правомочностей, а й як пріоритетний життєво важливий інтерес, реалізація якого визначально впливає на життєдіяльність сучасної людини. Метою роботи є дослідження інформаційних прав (права на інформацію, право від інформації, право на доступ до інформації) в контексті права як такого, з точки зору закріплення досліджуваного права на міжнародному рівні та з огляду на міжнародні відносини з приводу інформації. Методологію дослідження складають такі методи, як: порівняльно-правовий метод, умовивід, герменевтичний метод, метод індукції та дедукції, історико-правовий метод. У результаті проведеного дослідження зроблено висновок, що правове регулювання права громадян на доступ до публічної інформації є однією з найважливіших гарантій становлення будь-якого демократичного суспільства. Підсумовано, що закріплення на міжнародному рівні права на інформацію та доступ до публічної інформації позитивно впливає на реалізацію громадянами основоположних прав, а також на діяльність органів влади та інститутів громадського суспільства.

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access, international standards, international rights.

Ключові слова: інформація, право на інформацію, доступ до інформації, інформація з обмеженим доступом, міжнародні стандарти, міжнародні права.

Introduction

The right to information is a fundamental right that embodies freedom of speech and reflects the principle of democracy. The development of this right characterizes the degree of progress of society and the level of personal freedom of an individual that can be ensured by the state. Recognition and provision of human rights and freedoms is the main duty of the state. Informational rights provide guarantees to citizens that the latter have the opportunity to have beliefs and not be subject to persecution in connection with this, to defend ideas and control the activities of the authorities.

The all-pervasive influence of the information sphere contributed to the transformation of legal opportunities for obtaining information. More and more scientists are considering the concepts of information and information rights. At the same time, with the passage of time, with the understanding of the importance of information rights and their social necessity for each person, the interest in the research only grew, and, as a result, the scientific output was enriched every year (Vakaryuk, 2018). Whereas, the issue of the right to information in the context of law, international law, and international relations is not sufficiently researched, and there are currently no comprehensive studies of this issue.

In today's realities of the information society, the complex of rights and freedoms in the information sphere is considered inviolable and inalienable. The right to information itself is multifaceted and includes such powers as the need to know about the creation of certain information resources that relate to the sphere of a person's social or personal life, the ability to request and receive publicly significant or personal information from entities authorized to dispose of it entities, distribute it freely and require confidentiality in cases established by law.

Information communication plays an equally important role: obtaining information, protecting information, and obtaining access to information with limited access. In this context, international standards are important. In accordance with international standards that regulate the procedure for access to public information, the right to freedom of thought and speech, to the free expression of one's views and beliefs, to the collection, storage, use, and dissemination of information orally, in writing or in any other way - at one's own discretion - is guaranteed. At the same time, it is noted that the exercise of these rights may be limited by law in the interests of national security, territorial integrity, or public order in order to prevent riots or crimes, to protect public health, to protect the reputation or rights of other people, to prevent the disclosure of information, received confidentially, or to maintain the authority and impartiality of justice. In view of the above, the right to information is an important right and needs to be researched in the context of law, international law, and international relations.

The object of research is the right to information in the context of law, international law, and international relations. The subject of the study is social relations that arise during the exercise of the right to information, as well as those that influence the exercise and provision of this right within the framework of the national and international context.

Theoretical Framework or Literature Review

International legal standards of the right to access to public information are analyzed in the work of Ablyakimova (2013). As a result of the research, the author concluded that in modern conditions, the right to access public information can be considered an independent right of a person and a citizen, which ensures the satisfaction of his information needs, participation in state affairs, the realization of other rights, in particular the right to freedom of speech. According to the author, the meaning of the right of access to information has increased precisely in modern society, and this is connected with those political, social, and economic transformations that accompany the processes of globalization and informatization and are integral features of the information society. On the basis of these processes, the formation of international legal standards in this field took place, which has been rapidly developing in the last decade. Currently, access to information is one of the important criteria of a democratic society, and, accordingly, ensuring access to information becomes the duty of the state in the context of ensuring democracy and the realization of human rights and freedoms.

Thus, Barabash and Yatskiv (2021) analyzed information rights as a component of the fourth generation of human rights. The authors drew attention to the fact that the increase in the volume of information belonging to a person puts forward new requirements for legal methods of protecting the human right to information. Timely response to changes in the information sphere, including in the field of electronic interaction between the citizen and the state, will make it possible to develop new ways of ensuring the human right to information, the implementation of which can accelerate the legal development of Ukraine in the conditions of the information post-industrial society and the rule of law, which protects the information sphere every person has no less than other, more traditional rights and freedoms.

The main approaches to understanding the concept of "human information rights" were studied by Vakaryuk (2018). The author concluded that information rights are an opportunity, not an obligation of a person, and a person determines the scope and extent of the realization of his right at his own discretion. From the analysis of the researcher's work, it was concluded that the legal regulation of the right to information and other informational rights is not limited to the norms of constitutional law, but is an interdisciplinary institution and includes the norms of administrative, civil, financial, environmental, criminal and other legislation. The author provides the following definition of human information rights, namely, as certain human capabilities necessary to meet the informational needs of his life and development in specific historical conditions, which are objectively determined by the achieved level of development of society and information and communication technologies, are provided by socially determined obligations of other subjects and are protected by public authorities.

International law on access to information was studied by Guivan (2019). The author noted that access to information that is of public interest is one of the main tools for increasing the openness of government. Obtaining the specified information significantly affects the expectation and determination of the legal status of a person, and gives him the opportunity to plan changes in his personal life and the life of society. Therefore, in the opinion of the author, it is important to establish clear and understandable rules of conduct in the field of access to information. Thanks to the study of international legislation, it becomes possible to direct national efforts in the field of ensuring proper access to information to the priority of its openness. At the same time, the refusal should be an exception based exclusively on legal grounds.

Conceptual approaches in international law to freedom of information are outlined in the work of Zabara (2021). The author draws attention to the conditions for the implementation of freedom of information, means of implementation, and forms of such implementation. The general conditions for the realization of freedom of information (freedom to seek, receive, and disseminate information), in accordance with the provisions of international legal acts, are as follows: the freedom to seek information enables a person to search for information independently and without restrictions not only on the territory of the state but also outside its borders; freedom to receive information provides an opportunity to independently and without restrictions receive information from any national and foreign natural and legal persons and states; freedom to disseminate information provides an opportunity to independently and without restrictions disseminate information on the territory of the state and beyond. The author noted that the conditions for implementing freedom of information should not depend on the means and forms of its implementation. The means of implementing freedom of information define a set of methods for its implementation. In general, international law does not restrict a person from using the means of implementing freedom of information to search, receive, and disseminate information. Such media include printed publications, broadcast (radio and television), and digital media. Forms of implementation of freedom of information determine the types and methods of techniques for its implementation. Universal international legal acts provide a wide list of forms of implementation of freedom of information. It was noted that the implementation of freedom of information is also associated with certain restrictions.

In Zaduvaylo’s article (2017) the issue of implementing the right to access information containing state secrets in global practice is analyzed. Attention is drawn to the fact that in the European Convention on Human Rights, the rights defined in it are formulated in general terms, and the right is filled with the specific content already in the decisions of the European Court of Human Rights. There is no right to access to information per se in the Convention, instead, Art. 10 of the Convention enshrines the right to freedom of expression, which includes the freedom to hold one's views, to receive and transmit information and ideas without interference from state authorities and regardless of borders. Therefore, the recommendations of the Council of Europe "Global principles of national secrecy and the right to information" were additionally developed, which try to solve the issue of reasonable limitation of the scope of state and official secrets. The author is convinced that the necessary actions must be taken to resolve the issue of secrecy practices that still prevail in the public sector of our country.

Certain aspects of the right to access to information are analyzed in the work of Yesimov (2016). The author analyzed the regulation of access to information, according to the norms of international legislation, which makes it possible to formulate several principles that the domestic legislator should take into account when regulating this issue. One of them is the presumption of openness, which means that the authorities are obliged to provide the requested information unless there are legal grounds for refusing to provide the necessary information. When refusing to provide information, the authorities are obliged to indicate the reason for the refusal and its legality. Mandatory disclosure of information means bringing information to the public and other dissemination by authorities of information of public interest. The publication of key information about the activities of authorities should become a regular and widespread practice. For this form of dissemination, all possible ways should be used, in particular, information technologies. Additionally, the study noted that an exhaustive list of exceptions to the presumption of openness of information should be established. One of the main criteria for refusal to provide information should be damage or a threat to the security of the state.

Kashka (2018) drew attention to the problematic issues of the implementation of the right to information. It was concluded that access to information is the foundation of democratic development, a tool for ensuring the openness and control of the government, a means of increasing the activity of citizens, their consciousness, and political culture, and a form of realizing the rights of citizens to receive complete and objective information. According to the author, the government should be interested in its openness, because without it there is no trust in the measures and reforms that it initiates and carries out. However, even the creation of the best possible legislation will not allow to ensure openness until certain changes occur in the mass consciousness of civil servants and society as a whole. As a result, it was concluded that the right to information is one of the most important human rights, the realization of which has social significance and is a criterion for the functioning of a legal, democratic state.

Practical issues of implementing the right to information in the conditions of martial law are disclosed in the article by Lubinets (2023). Human rights commissioners have noted that quite often information managers refer to the legal regime of martial law as a sufficient reason for applying the postponement, without justifying the specific existing obstacles to fulfilling their duty to ensure the information rights of citizens. In addition, it was noted that information rights are limited during wartime, but this does not mean that administrators should refrain or find reasons for delay.

The issue of international legal protection of the right to information and the right to information is considered in the work of Tsymbaliv (2014). The author concluded that the legal regime of the right to information is provided for in various aspects in the national legislation of the EU countries, but it corresponds to the general European principles reflected in the acts of international law regarding the right to information in relation to the right to information.

The international experience of implementing citizens' right access to public information was studied in the work of Shyshko (2016). Summarizing the research, the researcher concluded that a characteristic feature of a number of countries of the world is that the process of access to public information from its carrier (owner) to the user can occur both directly and with the help of information intermediaries. The role of such an intermediary is most often performed by mass media. Journalists, using various sources of information, perform a number of social functions. They carry out search, analysis, selection of informational materials, and issue a finished product to the consumer of information. However, the advent of the Internet has significantly changed traditional information consumption. Users in this system have come much closer to the primary sources of information, sometimes having the opportunity to contact its creators directly. However, this does not mean that the role of information intermediaries will decrease in the future. On the contrary, it will only increase. As shown by the foreign experience, in the author's opinion, establishing direct or indirect control over mass media for the government, which is guided in its activities by principles far from democracy and freedom of speech, does not seem difficult. However, forms of restricting access to information on the Internet by any authority cannot be too effective.

Finally, Yurchenko and Kostova (2021) paid attention to the study of EU international standards on access to public information. It is noted that the national legislation of Ukraine in the field of access to public information, according to criteria such as systematicity, consistency, and compliance with international standards, is at a level that can be compared with the level of EU legislation. However, the corresponding laws of some EU countries are more successful from the point of view of detailing certain aspects of the process of dissemination and publication of public information, contain in some places broader interpretations of the very concept of "public information", connect it with the problem of the functioning of public information within the limits of the entire set of legal relations, arising in this area.

Methodology

The methodological basis of the research is a complex of philosophical and worldview approaches and general scientific and legal methods.

During the analysis of the right to information in the context of international law, law, and international relations, the comparative legal method was used. This method is used when comparing concepts, phenomena, and processes within one historical section or a clearly defined theoretical model and in the context of a historical retrospective. As for the topic of the study, the comparative legal method was used to compare the international legal establishment of the right to information as international law, national law, and the object of international legal relations, to compare legal regulation from a retrospective point of view and to compare the understanding of the researched law in different countries.

The research methodology provides for the use of "conditional inference" as a methodological form of thinking, as a result of which a new judgment containing new knowledge is formed from one or several judgments. In this research, the method is used to move from judgments regarding the issue of regulation of the right to information in certain countries and in the analysis of individual international legal acts establishing provisions on information rights, information protection, and public access to information. In addition, on the basis of the inference, the conclusion was formulated that the right to information is ensured by international legal guarantees and is an international standard that affects its regulation by the national legislation of states.

The use of the hermeneutic method made it possible to decipher the content of the right to information. The specified method is a special method of interpreting a legal norm, which involves not only the literal interpretation of the text of the norm subject to interpretation but also taking into account the legal situation in which the norm is implemented. The application of this method in the research made it possible to interpret such legal categories as "law", "information", "right to information", "access to information", "restrictions", "international standard", "ensuring information rights", as well as use the official explanation of the content of these legal norms.

The application of the induction method was used to formulate conclusions regarding the right to information based on individual private observations. This method is based on the fact that the logic of thinking develops from specific to general. For example, one of the stages of our research was the accumulation of empirical facts regarding the regulation of the right to information at the international level and the place of such consolidation in national legislation, as a result of which an inductive conclusion and proposals were formulated on ways to improve the provision of the right to information and its regulatory and legal consolidation.

When applying the deduction method, in contrast to induction, general judgment was taken into account. In particular, with the help of deduction, the general provisions on the establishment of the right to information in international and national acts are analyzed, with further highlighting of the features of such establishment and the actual possibility of realizing this right.

It is impossible to trace the development of modern sources of international law without researching the historical and legal aspects of this issue. Thus, the formation of law is significantly influenced by the historical factor, and therefore legal phenomena must be studied in relation to the history of the country. Therefore, the historical-legal method was applied in the process of addressing the genesis of the subject of research and analysis of the varieties of sources of international law in the context of the right to information in chronological order. Due to this method of research, the trend of the development of international standards of the right to information has been determined.

Results and Discussion

The right to information, which is usually understood as the right to access information that is at the disposal of state bodies, is now widely recognized as a fundamental right of every person. In today's realities, there is a trend towards legal recognition of this right, as various countries of the world striving for democracy have either already adopted or are preparing laws on freedom of information for adoption.

The right to access requested information held by public authorities is the main aspect of the right, but it is quite clear that it is not limited to it. Another equally important aspect, which is included in most freedom of information laws, is the obligation of public bodies to publish, even in the absence of requests, key information, for example, regarding their work, policies, opportunities for public participation in their work and how to make a request for information (Zaduvaylo, 2017).

Information and access to it is an important component at different levels. The key principles of the right to information are established at the international level. Let's consider the international legal acts establishing the provisions on the right to information in more detail.

Table 1.
International legal regulation of the right to information.

Regulatory Act	Key provisions
Universal Declaration of Human Rights (United Nations, 1948)	Enshrines the right of every person to freedom of beliefs and to their free expression. In particular, this right includes the freedom to hold one's beliefs without hindrance and the freedom to seek, receive, and impart information and ideas by any means and regardless of national boundaries.
Right to freedom of opinion and expression Commission on Human Rights resolution (Commission on Human Rights, 1995)	The act affirms the right of every person to freely hold his beliefs, as well as the right to freedom of expression, and declares that the exercise of the right to freedom of expression imposes special duties and responsibilities and therefore may be subject to certain limitations, which, however, are prescribed by law and are necessary to respect the rights and reputation of other persons, to protect state security, public order, health and morals of the population or to ensure public health and morality.
International Covenant on Civil and Political Rights (Council of Europe, 1966)	Establishes the general obligation of States Parties to take the necessary measures, in accordance with their constitutional procedures and the provisions of this Covenant, to take such legislative or other measures as may be necessary for the realization of the rights recognized in the Covenant. But this duty of the state, again, to a greater extent has the character of prohibition of intervention. The very right to free expression of one's opinion (according to paragraph 2 of article 19 of the 1966 Covenant) includes the freedom to seek, receive, and disseminate any information and ideas, that is, freedom of information.
Convention against Corruption (United Nations, 2003)	The UN Convention against Corruption stipulates that member states must provide the public with real opportunities for effective access to information, and take measures to identify, encourage, and protect the freedom to seek, publish, and disseminate information about corruption. Participating States shall take measures necessary to increase transparency in public administration, including the adoption of procedures or provisions allowing the general public to obtain, when necessary, information on the organization, operation, and decision-making processes of public administration, with due regard to the protection of privacy and personal data about decisions and legal acts that concern members of the public. Art. 13 of the UN Convention against Corruption provides for the need to apply measures aimed at strengthening transparency and promoting the involvement of the population in the processes of making administrative decisions; ensuring effective access to information for the population; carrying out measures to inform the population, which contribute to fighting corruption, as well as the implementation of public education programs, including curricula in schools and universities. In addition, Art. 10 provides for the need to adopt procedures and rules that allow members of society to receive, in appropriate cases, information about the organization, functioning, and decision-making

	processes in the public sector and, with due consideration, to provide the necessary conditions for the protection of private life and personal data, about decisions and legal acts that violate the interests of the population.
Convention on the Protection of Human Rights and Fundamental Freedoms (Council of Europe, 1950)	Defines that everyone has the right to freedom of expression. This right includes freedom to hold opinions and receive and impart information and ideas without interference from public authorities and regardless of frontiers. According to this norm, state authorities are mentioned only in the context of the prohibition of interference in the exercise of the right to receive and transmit information, and there are no imperative obligations to facilitate such actions.
On data protection and freedom of information: Recommendations (Council of Europe, 2002)	In accordance with the Recommendations, member states must guarantee every person, after making a request, the right of access to official documents that are at the disposal of state authorities. This principle should be applied without any discrimination, including on the basis of state affiliation. At the same time, it is noted that member states can limit the right of access to official documents. Restrictions must be clearly defined in legislation, be necessary in a democratic society, and be proportionate to the purpose of protection: national security, defense, and international relations; protection of public order; prevention, search, and investigation of criminal activity; private life and other legitimate private interests; commercial and other economic interests, such as private, and state ones; equality of parties in court proceedings.
Fair trial issues in criminal cases concerning espionage or divulging state secrets (Resolution 1551, 2007)	The document recalls the importance of freedom of expression and information in a democratic society, in which it should be possible to freely expose corruption, human rights violations, environmental destruction, and other abuses of power.
The Global Principles on National Security and the Right to Information (The Tshwane Principles) (Open Society Foundations, 2013)	The principles are based on international (including regional) and national legislation, standards, best practices, and works of experts. They relate to national security, not all reasons for withholding information. All other public grounds for restricting access must at least meet these standards.

Data provided by United Nations, 1948; Commission on Human Rights, 1995; Council of Europe, 1966; United Nations, 2003; Council of Europe, 1950; Council of Europe, 2002; Resolution 1551, 2007; and Open Society Foundations, 2013.

Considering the above-mentioned international legal acts, it can be concluded that informational rights and freedoms, like other human rights, are declared in a general, declarative form in international legal acts and conventions. Therefore, the practice of applying and protecting human information rights at the universal and regional level is of great importance for the practical exercise of information rights by a person.

However, there are many aspects to the issue of the right to information. In particular:

– the general right of the public to have access to information of public interest from various sources;
– rights of mass media to access information;
– the rights of individuals to request and receive information of public interest and information that may affect their personal rights (Zabara, 2021).

A feature of the realization of the right to information is that the right to freedom of opinion and free expression is an activator of other rights. Therefore, the proper and proportionate development of society constantly requires the appropriate acquisition, analysis, and dissemination of true information.

Regarding the understanding of freedom, taking into account the provisions of international legal acts, the main elements of the concept of freedom are "freedom of access to the state" and "freedom from the state". The first element concerns the individual's participation in state affairs. There is an additional shade of "collectivity" in it, and the rights of the individual to assemble and to create their own organizations follow from it. The second element concerns the personal life of an individual and provides for its comprehensive protection from any unlawful external interference. In this case, the state, in principle, is not obliged to ensure this right by applying positive measures.

In today's conditions of information activity, the search, acquisition, and dissemination of information continue to play an important role in the realization of the right to free expression of one's opinion in the latest conditions of large-scale use of information and communication technologies and, in addition, contribute to the formation of new views, approaches, and concepts. The conditions of realization of Freedom of Information provisions provide prerequisites and circumstances that condition its observance. According to the general conditions, the implementation of freedom of information (freedom to search, receive, and disseminate information), in accordance with the provisions of international legal acts, should take place regardless of state borders.

At the same time, issues related to access to information are regulated both at the international and national levels. Regarding foreign entities, it is important to pay attention to the fact that each country in the EU has its own law on access to public information of citizens, which in different ways interprets the process of obtaining public information more broadly than the general rules of the EU. Thus, in a number of countries, not only are the rights of requesters, managers of information, and the duties of the latter prescribed, but also social relations related to the right of access to public information, its reuse in the public sector, are defined. In a number of countries, a comprehensive definition of public information is provided, which includes any information related to public life, which enables citizens to form their own opinions on the activities of relevant bodies in accordance with the legislation (Shyshko, 2016).

Thus, it can be concluded that in different countries, the relationship between citizens and authorities in the field of access to information is regulated differently. In the broadest sense, the principle of public access to information means that citizens and mass media have the right to receive information about state and municipal laws and measures. From a theoretical point of view, this principle is closely related to the principle of freedom of the press, which means the right to the free dissemination of truthful information, that is, information can be withheld from the public only when it is necessary to prevent damage to the legitimate interests of citizens and the state.

Conclusions

As a result of the study of the right to information in the context of law, international law, and international relations, the following conclusions were made:

1. The modern concept of the freedom of information institute has been developing over the past seventy years. At the same time, general conceptual provisions were formulated within the framework of the United Nations Organization and define freedom of information, its basic principle, the role of the institute, and the importance of the institute in the development of modern international relations.
2. The transformation of the freedom of information institute takes place within the framework of international legal regulation of the protection of human rights and fundamental freedoms. At the same time, the state of international legal regulation of the Institute of Freedom of Information is influenced by the development of information and communication technologies and the content of disseminated information.
3. An important role in ensuring the right to information is the real provision of the right to access to information. The publication of information about the activities of authorities and the performance of public functions by them indicates the priority of protecting the informational rights and interests of a specific person.
4. With regard to international relations, it is noted that the world community's common vision of the key conceptual provisions of the right to information is based on a generally recognized understanding of freedom of information, as well as an understanding of its importance for the international legal regulation of current and future international information relations. It consists of the fact that the general concept of freedom of information is defined, the category is assigned to fundamental human rights; freedom of information was defined as a criterion for all types of freedom to be protected. In addition, the content of freedom of information and the conditions for its implementation are defined, namely the right to collect, transmit, and publish information everywhere and without hindrance.

Regarding further scientific research, we consider it necessary to investigate the issue of international legal provision of access to information as a component of the right to information.

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DOI: https://doi.org/10.34069/AI/2023.68.08.31
How to Cite:
Petryk, S., Andrieiev, I., Tishko, D., Kurbanov, A., & Yunger, V. (2023). The effectiveness of quality management strategies in health care organizations: an analysis of quality standards implementation and clinical performance improvement. *Amazonia Investiga*, *12*(68), 333-345. https://doi.org/10.34069/AI/2023.68.08.31

The effectiveness of quality management strategies in health care organizations: an analysis of quality standards implementation and clinical performance improvement

Ефективність стратегій управління якістю в організаціях охорони здоров'я: аналіз впровадження стандартів якості та покращення клінічних показників

Received: June 8, 2023 Accepted: August 18, 2023

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Abstract

Quality management strategies in healthcare institutions require an increasingly refined quality management system. This study aims to analyze the ISO 9001:2015 Standard for the implementation of a quality management system in the field of medical services provided by healthcare facilities, as well as to determine patterns during performance to assess the effectiveness of the quality management strategy. The article discusses key factors for achieving the quality management strategy through the implementation of a quality management system to improve clinical indicators. This system, according to the requirements of the ISO 9001:2015 Standard, ensures quality service provision.
A cyclical sequence of actions is used to analyze quality management system implementation. It is applied to quality service processes in healthcare organizations and reflects some key aspects

Анотація

Стратегії управління якістю в закладах охорони здоров'я вимагають дедалі вдосконаленої системи управління якістю. Це дослідження має на меті проаналізувати стандарт ISO 9001:2015 щодо впровадження системи управління якістю у сфері медичних послуг, що надаються закладами охорони здоров’я, а також визначити закономірності під час виконання для оцінки ефективності стратегії управління якістю. У статті розглядаються ключові фактори досягнення стратегії управління якістю шляхом впровадження системи управління якістю для покращення клінічних показників. Ця система, відповідно до вимог стандарту ISO 9001:2015, забезпечує надання якісних послуг.
Для аналізу впровадження системи управління якістю використовується циклічна послідовність дій. Він застосовується до процесів надання якісних послуг в організаціях

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(planning, execution, activities, and verification of all relevant processes as described in the ISO 9001:2015 Standard). The authors have examined the quality management strategy based on the literature review and the analyzed standard. This strategy includes leadership, adapting quality improvement initiatives, setting the boundaries of managerial and clinical policies. All the above allow the integration of quality improvement initiatives into a sustainable, organized system with continuous enhancement.

Keywords: improvement, ISO 9001, personnel competence, quality management strategy, quality management system.

охорони здоров'я та відображає деякі ключові аспекти (планування, виконання, дії та перевірка всіх відповідних процесів, як описано в стандарті ISO 9001:2015). Автори дослідили стратегію управління якістю на основі огляду літератури та проаналізованого стандарту. Ця стратегія включає лідерство, адаптацію ініціатив щодо покращення якості, встановлення меж управлінської та клінічної політики. Все вищесказане дозволяє інтегрувати ініціативи з покращення якості в стійку організовану систему з постійним вдосконаленням.

Ключові слова: вдосконалення, ISO 9001, компетентність персоналу, стратегія управління якістю, система управління якістю.

Introduction

In today's world, many healthcare organizations provide services and care for their patients. Therefore, they are faced with the challenge of ensuring that patients receive high-quality and efficient healthcare services. The first step in achieving this goal is to develop and implement quality management standards and continuously improve clinical performance. It is an essential aspect of the reliability and effectiveness of healthcare services (Donev, 2022). The implementation of such standards helps to ensure the high quality of treatment and nursing during patient care. It also reduces the risk of complications and improves the effectiveness of treatment and prevention (Hibbert et al., 2021).

A quality management strategy's effectiveness in healthcare organizations significantly impacts treatment outcomes and patient satisfaction (Haleem et al., 2022). For this purpose, there is a list of factors that influence the determination of the strategies' effectiveness:

- leadership (successful and trouble-free implementation of a quality management strategy requires strong leadership in organizations, where managers must embrace the concept of quality and actively support its performance) (ISO, 2015);
- employee involvement (effective quality management strategies require the active participation of all organization's employees, which may include staff training, seminars, and participation in decision-making);
- use of evidence-based medicine (effective strategies should be evidence-based, using the latest data and scientific recommendations to ensure that services are delivered at the time of service at the best possible time);
- monitoring, surveillance, and assessment (the existence of management systems that provide monitoring, surveillance, and assessment processes that allow the organization to obtain unbiased data on the effectiveness of its strategies, as well as to identify problem situations and make appropriate adjustments to prevent them) (ISO, 2015);
- implementation of innovations (effective strategies of the quality management system are constantly updated and improved, and the use of the latest technologies, modern methods, and approaches can improve treatment outcomes and contribute to the improvement of clinical performances);
- patient-centricity (effective quality management system strategies are focused on meeting the patient's needs, where the key aspect of management is to provide affordable, effective, and empirical healthcare).

The aforementioned factors can ensure the effectiveness of the quality management system strategy. These strategies can be implemented in healthcare facilities and organizations while providing patients with high-quality services (Leggat & Balding, 2018).

The implementation of a quality management system (QMS) and the improvement of clinical practice are key tasks in the healthcare field. This process typically involves the development and implementation of standards, protocols, and guidelines that define best practices, procedures, and treatment methods (Hibbert et al., 2021).

One of the key aspects of QMS implementation is to ensure patient safety. The development of protocols and procedures accompanies it to ensure safe medical care and prevent errors and complications. Such protocols and procedures include:

- patient identification checks before performing necessary procedures;
- use of safe medicines;
- implementation of infection control procedures, etc (World Health Organization, 2021).

Furthermore, QMS implementation helps improve clinical outcomes. For instance, implementing treatment protocols for specific diseases can enhance treatment outcomes and reduce mortality (Yabroff et al, 2019). Developing standards and improving clinical characteristics also ensures consistent quality of service provision to patients regardless of their social status or place of residence (Brouwers et al., 2021). QMS implementation, along with improved clinical characteristics, is an ongoing process that involves continuous updates of protocols and procedures, as well as training of medical personnel. It helps develop and enhance healthcare practices to ensure the highest level of service (Darr et al, 2021).

Modern organizations in the healthcare sector are classified based on ownership and management models. They can be either private or public, depending on the provision of public services. Public services involve various measures to serve and meet the needs of citizens (clients, patients) for service provision (Zhang et al., 2019). Healthcare organizations within public entities are obligated to provide effective services aimed at improving health and addressing the population's health dynamics in each country worldwide (Kristiningrum et al., 2021).

Governments worldwide strive to find models for their healthcare systems that ensure patient service quality. Over the past two decades, various external quality control mechanisms have been introduced and tested in many European countries. These mechanisms range from hospital accreditation to compliance with ISO standards, as defined by European research projects on mechanisms of external expert assessment8. First, the quality definition models are used to analyze the indicators related to the quality assurance requirements in the hospital. After that, the opportunities for improvement are identified (Moldovan & Bataga, 2022).

The standards are used to improve and enhance the quality management strategy, based on which a quality management system (QMS) can be implemented (Eisner & Patel, 2017). One such quality standard is "Quality Management Systems – Requirements" ISO 9001. This standard enables organizations, regardless of the industry in which they exist, to properly implement a quality management system (Gupta & Rokade, 2016). Over the past ten years, this standard has attracted attention in the healthcare industry for the provision of medical services. It defines a value system that combines a set of criteria for quality management. For example, they include organization management, compliance, procedural management, etc (Petkovska & Gjorgjeska, 2014).

The following factors may be relevant problems in the implementation and enforcement of quality standards in healthcare organizations:

- insufficient knowledge and incompetence of medical staff. healthcare professionals may not have a sufficient understanding of quality standards and their importance, which affects their direct implementation;
- insufficient funding and limited resources. implementation of quality standards requires large expenditures on equipment, staff training, and implementation of new systems. insufficient funding and resources can make this process difficult and, in some cases, impossible;
- insufficient use of technology when old and outdated systems, equipment, and devices may make it impossible to comply with the methodology of performance per quality standards.

The effectiveness of the quality management strategy in healthcare facilities may depend on numerous factors. These factors should be determined by the quality management standard in compliance with the requirements for the implementation of the quality management system. A mismatch or non-compliance with the requirements in each standard's clauses may trigger a chain failure in the quality management system. For example, when engaging maintenance personnel to perform work at the planning stage, problems may arise due to the incompetence of maintenance personnel. This may have a negative impact on the collection, receipt, and processing of data for analysis, affecting the organization's performance. In addition, incompetence can significantly affect continuous improvement and jeopardize the improvement of patient care methods.

The planning, development, and implementation of the QMS may also result in inconsistencies with subsequent developments that may limit the needs for patient care. Therefore, all possible risks and their opportunities should be considered in advance during planning and implementation. Therefore, it reduces the possibility of undesirable consequences and thus prevents damage to the interests of the organization.

Literature Review

The work with standards is an effective method of continuous improvement of production systems using helpful tools for maintaining documentation of the most efficient ways of creating a product or service. Working with standards helps maintain quality, ensures efficient operations, and guarantees proper use of tools and equipment. It also helps train employees to identify and eliminate non-value-added actions. Therefore, such standard work is a diagnostic tool that identifies issues and contributes to continuous improvement (Patkal & Anasane, 2022).

There are numerous concerns about improving the quality and safety of patient care in healthcare facilities. For this reason, Quality Management Systems (QMS) are widely applied to develop effective strategies for enhancing service provision (Gargasas, Samuolaitis & Mūgienė, 2019). One common strategy is a system described in the International Organization for Standardization (ISO) Standard ISO 9001. The ISO 9001 QMS standards family is used by organizations aiming to enhance the quality of their products or services (Betlloch-Mas et al., 2019). This standard represents an international agreement on quality management. It ensures that workers consistently provide products and services that meet customer requirements, continuously improve organizational performance, and increase customer satisfaction (Heydari, Lai & Xiaohu, 2019). However, the research by Kristiningrum (2021) analyzed that inefficient medical centers and organizations still exist today, even with the implementation of ISO 9001 QMS.

A quality system is defined as an organizational structure that manages quality or as a coordinated working structure across the entire company, documented in effective, integrated technical and managerial procedures to guide coordinated actions of workforce, machinery, and information to ensure customer satisfaction with quality and operational efficiency (Kumar, Maiti & Gunasekaran, 2018).

The components of a quality system to achieve high-quality assistance can be found in separate documents, such as "National Standards for Safety and Quality in Healthcare." This document covers a list of QMS components:

- policy development and review;
- compliance requirements;
- risk management;
- clinical documentation;
- accreditation and scope of practice;
- training and development;
- healthcare rights charter;
- confidentiality.

In the research by Leggat & Balding (2018), a concise overview is provided where the National Health Service (NHS) proposes four QMS components:

- strategy;
- capabilities and culture;
- processes and structures;
- assessment.

The implementation of a surveillance system and policies contributes to overall problem-solving and prevention in over 50% of cases within healthcare organizations. It not only results in cost savings for the organization but also, on a global scale, reduces variation in the delivery of medical services during patient care. In the study by Petkovska & Gjorgjeska (2014), the expected benefits of implementing the system in the Republic of North Macedonia healthcare sector are explored. These benefits are related to the establishment of an essential basis for obtaining all necessary resources, as well as reducing costs by minimizing inadequate personnel in clearly defined departments.

Future accreditation processes can be implemented in a much shorter time frame, especially with established communication and collaboration between departments. Financial savings are evident in healthcare organizations that have implemented an ISO 9001 quality system. This redirection of resources allows for the development and implementation of new treatment technologies that may lead to QMS improvements.

Ultimately, standards are designed to improve outcomes, and the primary logic of the QMS application is to:

- improve organizational performance and create a process-dependent system;
- improving systems and microsystems through process dependency;
- improving the system and microsystem to improve services;
- increasing service resilience and effectiveness (Darr et al., 2021).

Therefore, a thorough analysis of the standard QMS implementation requirements is necessary to assess the risks and potential occurrences during the servicing of healthcare facilities, as well as to analyze methods and measures for their prevention.

The study aims to conduct an analysis of the ISO 9001:2015 Standard for the implementation of a quality management system in the healthcare sector, as well as to identify patterns during the implementation process to assess the effectiveness of the quality management strategy.

The following tasks need to be accomplished to achieve this goal:

- to conduct a literature review on the use of international standards in healthcare organizations and identify factors that influence the adoption of new standards.
- to analyze the ISO 9001:2015 Standard ("Quality management systems – Requirements") to determine the effectiveness of the implementation strategy in the healthcare sector.
- to analyze key indicators and factors contributing to healthcare facilities' quality service provision.

Methodology

International Standard ISO 9001:2015 "Quality management systems – Requirements"

ISO 9001:2015 Standard is used for developing Quality Management Systems (QMS) in healthcare organizations. It can be utilized to enhance processes, organization, and patient satisfaction. This standard aims to improve clinical indicators within healthcare organizations by establishing a QMS focused on processes, organization, and improvement (ISO, 2015). Despite having multiple versions, the author has analyzed the 2015 version.

ISO 9001 Standard imposes requirements on QMS under the following conditions:

1. The organization must demonstrate the ability to consistently provide services and products that meet customer needs and requirements (including legislative and regulatory requirements).
2. The organization is oriented towards increasing customer satisfaction, which is explained by the effectiveness of the system's application, specifically through system improvement processes and ensuring compliance with customer requirements based on legislative and regulated requirements.

The set of requirements of this standard are common. They are intended to be applied in any field of activity, regardless of key parameters (type, size, etc.).

The following factors need to be considered to implement QMS standards:

- to define the object (enterprise, company) and the service area (pharmaceutical and medical sectors, metallurgical and engineering sectors, etc.) for QMS implementation.
- to define the organization's environment and analyze needs (identify priorities and areas).
- to familiarize oneself with the requirements of international standards (e.g., ISO 15189:2022).
- to adapt standards according to the organization's interests.
- to conduct planning and involve personnel in team collaboration, etc.
- to collect and analyze data for result compilation.
- to determine more suitable monitoring and observation systems to integrate into QMS.
- to conduct internal audits and certification.
- to implement a continuous improvement process.

Results and Discussion

An interdependent cycle of sequential actions applied to the processes in the field of service quality in healthcare organizations is used to analyze the QMS standards implementation. This cycle reflects key aspects of QMS and demonstrates the Plan-Do-Check-Act circle (PDCA) of all relevant processes described in the ISO 9001:2015 Standard. Figure 1 depicts the PDCA cycle, which is explained as follows:

- plan (defining the system's objectives involving its processes and necessary resources to achieve planned outcomes

during service provision, as well as identifying risks and opportunities of their occurrence).
- do (implementing the planned, defined objectives and developing minimization of risk occurrences and their avoidance).
- check (conducting monitoring and observation systems with process measurements to obtain service performance and adequate service provision, followed by reporting).
- act (taking safety measures based on corrective actions to improve effectiveness).

The PDCA cycle describes internal organizational factors (planning, improvement, QMS maintenance, and effectiveness evaluation) according to the organization's needs and its position in the environment, stakeholder requirements, and their needs. However, stakeholder satisfaction and the provision of services with resulting products significantly impact QMS, affecting performance and efficiency.

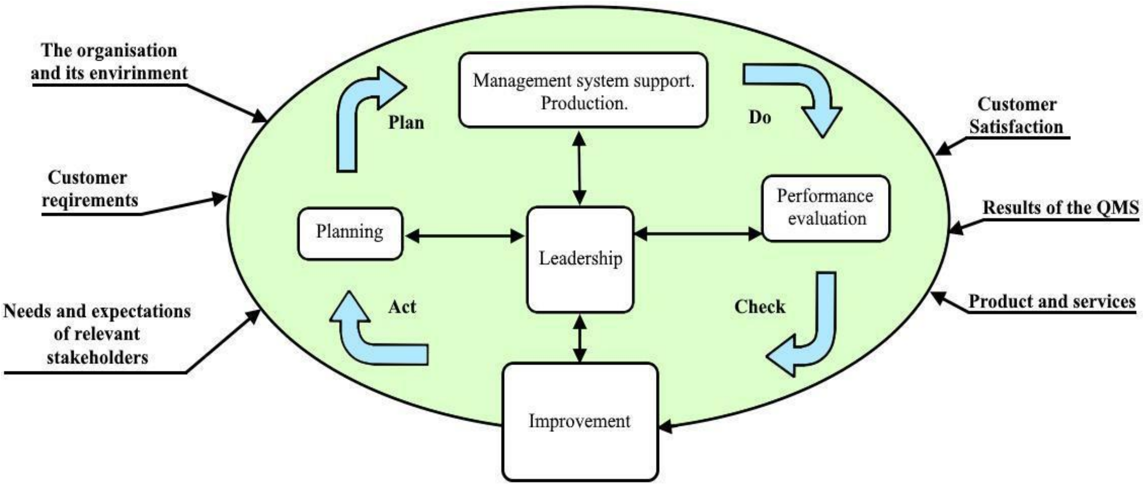

Figure 1. Plan - Do - Check - Act cycle for QMS implementation.
Source: ISO 9001:2015 "Quality management systems – Requirements".

Now, we will take a closer look at the QMS. It is considered for a healthcare organization, and the requirements for its implementation as described by the ISO 9001:2015 Standard. The improvement, development, and implementation of QMS standards are considered in the Table 1. The table describes the operations of the standard for a more detailed study and analysis. The table contains the main operations.

Table 1.
Requirements of the ISO 9001:2015 clauses for analyzing the implementation of standards in a healthcare organization.

№	Requirements of standard clauses	Explanation
1.	Analysis of needs	The beginning of the analysis of the healthcare organization's needs. Identification of priorities and areas for improvement.
2.	Familiarization with international standards	Research of international ISO standards, such as ISO 9001:2015, ISO 15189:2012, and other standards related to QMS and medical laboratories, equipment, etc.
3.	Adapting the standards to the organization's needs	Consideration of specific organizational features and adaptation of standards to the needs of the medical institution.
4.	Implementation planning	Development of a detailed plan for the implementation of healthcare quality standards, which should define roles and responsibilities, performers, and deadlines.
5.	Personnel involvement	Designation of responsible persons for each aspect of the implementation and staff training on the new procedures as required.

6.	Data analysis based on the collected documentation	Collection of internal data on processes and work performance to assess the current state and identify existing problems in the quality system.
7.	Implementation and monitoring	Implementation of new quality control procedures and mechanisms, as well as monitoring their effectiveness and making the necessary changes if problems are identified.
8.	Audit and certification	The planning of internal audits to verify compliance with standards, as well as external audit certification, if necessary.
9.	Continuous improvement	Implementation of a continuous improvement process based on the results of audits and feedback from staff and patients.

Source: compiled by the authors.

Analysis and understanding of stakeholders' needs and expectations

The organization's task is to identify external and internal factors relevant to its purpose and strategic direction with the impact and ability to achieve the intended result. Therefore, a company should monitor and analyze information from external and internal factors.

Any organization in a particular service sector with the provision of services should identify the stakeholders that can be involved in the QMS from a reasonable point of view, as well as regulate the requirements of the stakeholders involved in the QMS.

Adaptation of standards to a company's needs

The healthcare organization adapts the QMS standards by establishing the service area based on ownership and considering internal and external factors, stakeholder requirements, and the products and services. To meet the ISO 9001 quality control standard, the organization must ensure all requirements are met without fail. In addition, this service considers the applicable limits in its defined service area. It is essential to properly regulate and validate all information regarding the scope of application and service. It should be noted that within the application area, all types of covered products and services must be described with relevant documentation and justification, following the standard's requirements.

Furthermore, the organization must consistently maintain and improve the documented information required for process functioning. Keeping records ensures confidence in executing planned processes during servicing.

Implementation planning

Planning involves actions related to risks and opportunities identified and considered by the Quality Management System (QMS) to achieve the intended outcome. These actions also aim to prevent undesirable (sudden) aspects and reduce their occurrences. In addition, they are aimed at increasing desirable effects that can lead to QMS improvement. The task of a healthcare organization is to plan activities regarding risks and opportunities based on the integration and implementation of preventive actions according to QMS requirements.

The primary goal of healthcare organizations during planning is to define quality objectives and plan actions for their effective achievement. An institution establishes quality goals involving relevant departments for the execution of medical operations and processes directly considered by QMS. Quality goals should be aligned with policies, applied requirements, updated, applicable to service conformity for patient satisfaction, and covered by monitoring and safety systems.

An institution aims to identify the necessary resources and responsible people, as well as set deadlines for completion with an assessment of the results to ensure quality and effective planning to achieve the service quality goals. In the case of planning with changes, the organization addresses the need for changes to QMS if modifications need to be executed as planned. During these changes, there are considered consequences of designated shifts, QMS integrity, delegation of authority, and responsibilities.

Personnel involvement

The medical institution's personnel in the healthcare organization should possess proficiency and expertise. These efforts evaluate the QMS's effectiveness. Achieving this requires the organization to ascertain a person's competency before assigning tasks. This involves assessing their qualifications, conducting exams, reviewing prior work experience, and providing orientation training, among other measures. The competence and knowledge of medical professionals involve their ability to apply knowledge for the professional execution of their duties in delivering quality services. Knowledge in the quality field of the organization is driven by management policies, objectives, personal contributions to improve system performance, and enhancements to performance indicators while also considering consequences for non-compliance with QMS requirements.

Competency can encompass various aspects of medical practice, such as:

- medical personnel should possess sufficient knowledge in their acquired specialty, including anatomy, physiology, pathology, and the treatment of various diseases.
- they should also possess the necessary skills to perform various procedures and manipulations, such as conducting examinations, administering drugs and medications intravenously, and providing emergency assistance.

Communication in healthcare is essential for maintaining effective telecommunication with patients. Healthcare professionals must provide clear explanations regarding procedures and potential consequences, as well as instructions on medication acquisition.

In critical cases, the organization should consider retraining medical personnel to guarantee their knowledge and practical skills align with theoretical methodologies and practical implementation. Some measures aim to conduct training under the supervision of mentors, transfer personnel to other positions, and involve competent people in contract negotiation.

Data analysis based on the collected documentation

The QMS of a healthcare organization covers a set of recorded and regulated data prescribed by the 9001:2015 Standard. For this purpose, an up-to-date map of recorded information is created. An institution ensures that the documentation is described correctly and identified with its name, date, and expiration date, initials, number, seal with signature, and depending on the format and media. Documented information is usually controlled to ensure its availability and expiration date, its confidentiality, proper use or loss of integrity, etc.

The organization distributes, accesses, and searches the data that have been previously recorded while maintaining the documentation and monitors for changes as required by the standard to ensure proper data control. In addition, the recorded data of external origin is thoroughly checked and identified in a correct way.

Implementation and monitoring

Surveillance and monitoring management systems are essential components of any healthcare organization to ensure patient safety. These systems should include measuring instruments and equipment that assist in analysis and assessment during service provision. The organization employs various monitoring methods, including remote monitoring, when patients are outside the service-providing organization's premises. Conducting monitoring ensures the evaluation of the effectiveness and performance of the quality management system while preserving relevant information in the documented form with confirmation of the provided results.

In a healthcare organization, monitoring is carried out to reflect the patient's clinical condition and gauge patient satisfaction with their own needs. The organization's task in implementing a monitoring system is to determine methods for obtaining and observing data by providing key features and data analysis during service delivery. Analyzing and evaluating data during monitoring and measurement allows the establishment of:

- adherence to the execution and quality provision of services by staff.
- the level of patient satisfaction.
- expected planning effectiveness.
- the need for corrective actions to enhance the Quality Management System (QMS), as well as the effectiveness of measures to prevent and mitigate risks and opportunities.

Audit and certification

The organization carries out internal audits as per planned schedules to gather information on how well the Quality Management System (QMS) satisfies the needs and demands of the company according to ISO 9001:2015 Standards. To achieve this, the organization plans, executes, and develops audit programs that cover and comprise the audit frequency, methods, planning needs, and duties. The audit program evaluates potential effects on processes that impact the organization and defines each audit's criteria and scope while reporting the results to the management.

The main stages of an internal QMS audit in a healthcare organization include:

1. Audit Planning. This stage involves identifying areas subject to audit, creating an audit plan, and selecting the audit team.
2. Audit Execution. Auditors assess QMS compliance with defined requirements and procedures. They include reviewing documentation, observing processes, and conducting interviews with staff.
3. Results Analysis. After the audit, auditors analyze collected data to determine QMS compliance. They identify discrepancies and provide recommendations for addressing them.
4. Implementation of Changes. Based on audit results, the organization develops and implements a plan to make necessary changes to the QMS. These changes might involve updating procedures, enhancing staff qualifications, or adopting new technologies.
5. Effectiveness Review. After implementing changes, the organization verifies its effectiveness by conducting subsequent audits. This evaluation assesses the results of changes and identifies any new discrepancies or non-conformities.

Internal QMS audits in a healthcare organization are conducted to identify potential issues, pinpoint areas for improvement, and enhance the quality of medical services provided. Conducting these audits regularly and systematically ensures continuous improvement of quality management.

Continuous improvement

The healthcare organization should consider searching for and addressing opportunities that can improve and perform various actions as necessary to meet the needs of patients and gradually increase the level of satisfaction during the service. The following measures are taken into account:

– improving the types of services aimed at meeting the requirements and needs of patients both in real-time and in the future.
– making amendments (adjustments) to avoid and reduce the impact of negative factors and factors.
– corrective actions, innovations, and reorganization that affect the effectiveness of the quality management system.

In some cases, corrective actions are considered if there is a discrepancy in the quality management system. It is accompanied by complaints from patients and their level of dissatisfaction. In order to resolve the non-conformity, it is necessary to respond and take preventive actions aimed at identifying the causes of the non-conformity and analyzing them to make adjustments and make decisions in advance about the consequences of individual incidents with ongoing monitoring. Based on the identification and analysis of non-compliance, it is possible to conduct a needs assessment to avoid repeated occurrences of undesirable incidents, as well as to anticipate the potential for their occurrence in advance. In some cases, if necessary, risks and opportunities are updated during planning and implementation with changes to the quality management system. It allows for minimizing non-compliance on the part of the healthcare organization during the provision of services and maintenance.

An institution must continuously work to improve its quality management system's suitability, adequacy, and effective performance to improve clinical practices and outcomes. The improvement involves the use of available analysis and evaluation results from baseline data to identify the need for improvement of the quality management system.

Development of an effective quality management strategy

The quality management strategy contains a list of requirements of the 9001:2015 Standard that have been reviewed and used to build the quality management scheme shown in Figure 2.

As can be seen from Figure 2, the effectiveness of solutions requires creating conditions (obligations and responsibilities) where leadership includes teamwork with a competent team (staff). After that, it is necessary to adapt quality improvement initiatives and bring them to the organizational context. For strategy development, it is required to create and implement quality management improvement initiatives that are in the organization's interest with practical value and impact on the main helpful contributions to clinical performance.

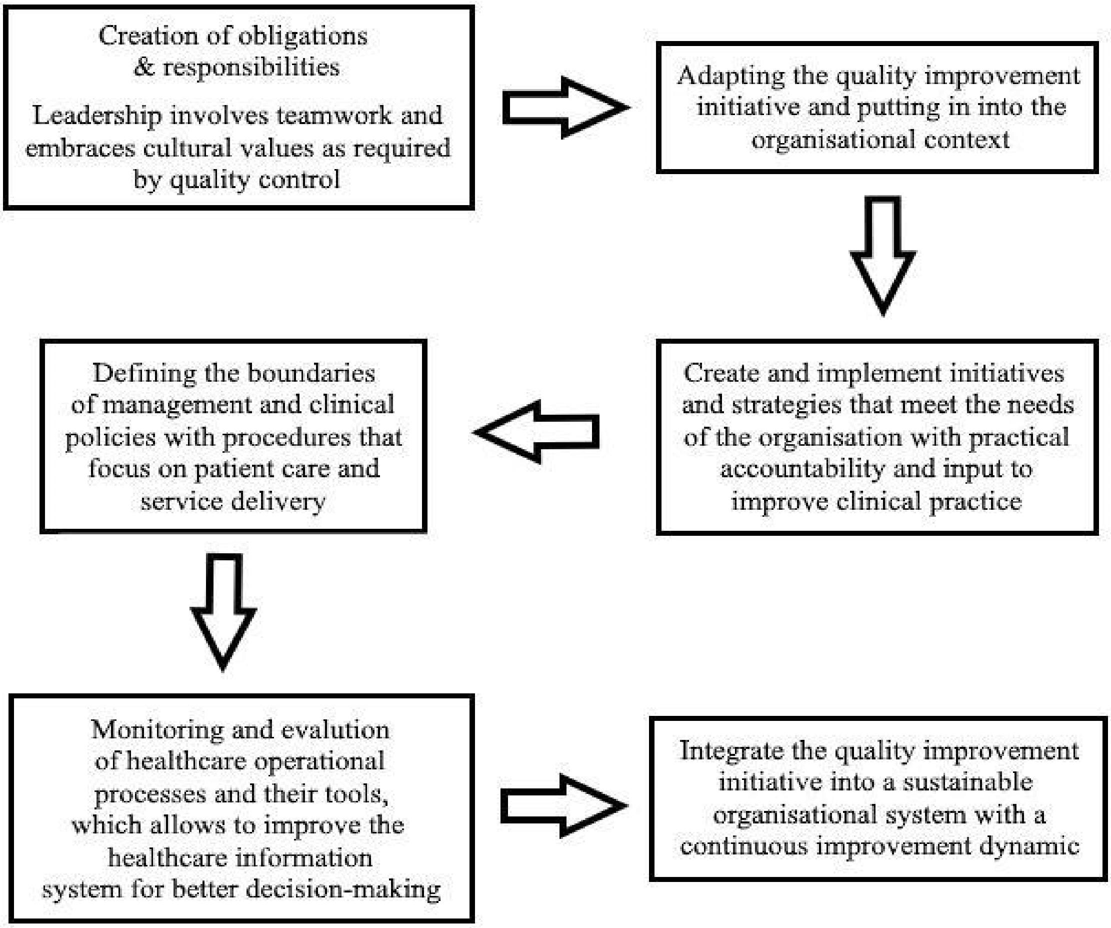

Figure 2. Flowchart of sequential operations for implementing a QMS strategy.
Source: El-Zein, G. Impacts of Quality Improvement Strategies on the Performance of Primary Healthcare Organisations (El-Zein, 2021).

Once sustainability initiatives are established and implemented, it is necessary to define management and clinical policy boundaries with procedures that focus on patient care and service delivery. When defining the boundaries of management and clinical policy, monitoring should be involved to determine the assessment of operational processes that focus on patient safety. Also, it should include available tools that improve the health information system for better decision-making. Based on the developed strategy, the quality improvement initiative is integrated. It creates a sustainable organizational system with a dynamic of continuous improvement.

Continuous improvement of quality in the healthcare system is a challenge for many countries worldwide. It is incredibly challenging for those in complex stages of transitioning from outdated and inefficient quality systems, where medical approaches and services vary significantly due to the lack of consideration and implementation of more modern Quality Management Systems (QMS). For instance, in recent years, Kosovo, on the path to European integration, has started implementing new quality management systems per EN ISO 9001 requirements, incorporating continuous monitoring systems in healthcare, and establishing benchmarks for best practices (Lleshi, 2020).

The assessment of medical service quality should be based on quality indicators and criteria, with continuous monitoring and evaluation at all stages of healthcare provision being the most crucial. Achieving high-quality medical services requires constant refinement and adaptation to patient needs, involving measures to satisfy patient needs and enhance their experience (Nothacker et al., 2021). Nadziakiewicz & Mikolajczyk (2019) suggested that organizations should shift from numerous disconnected initiatives to integrated strategies capable of improving outcomes and delivering value for money spent. Studying new quality tools and assessment methods can provide healthcare organizations and patients with fair and sustainable solutions.

Lately, new and innovative sustainable development systems are being introduced and proposed in healthcare organizations. These systems are compatible with hospital accreditation standards and differ from others by focusing on medical institutions with continuous improvement of management systems by establishing performance indicators to achieve sustainability (Burgers, van der Weijden & Grol, 2020). Moldovan & Bataga (2022) proposed a self-assessment based on a framework system that supports medical institutions in determining performance levels in all defined areas. It aids in identifying improvement opportunities and making decisions regarding priority actions.

The implementation of an ISO 15189-based QMS in laboratory work provides a strong foundation for laboratory quality to ensure patient safety and prevent patient safety issues (Allen, 2013). In the case of such issues, effective processes exist for investigation and preventive measures. However, addressing patient safety issues in laboratories largely depends on the presence of an effective quality management system.

Conclusions

In this study, the authors have analyzed the quality management strategy in the healthcare sector. The research examined key factors in the development and implementation of a quality management system standard. These factors include: analysis of organizational needs; adaptation of standards to administrative requirements; planning and implementation; staff involvement; data collection and analysis; monitoring; conducting internal audits to achieve continuous improvement.

Based on the ISO 9001:2015 Standard "Quality Management Systems – Requirements", the authors analyzed each factor's impact on enhancing or compromising the quality management system at each implementation stage. Special attention is given to planning, staff involvement, and conducting internal audits, as these can lead to adjustments during the initial planning stages if expected results are not achieved or if discrepancies arise according to standard requirements.

The primary goal of healthcare organizations during planning is to define quality objectives and plan actions for effective achievement. It involves setting quality objectives that involve relevant departments in executing medical operations and processes directly linked to the Quality Management System (QMS).

The healthcare institution's medical personnel must be competent and knowledgeable, capable of applying their expertise for proficient service delivery. The competence depends on knowledge, skills, and communication. All these can impact both improvements and deteriorations in patient service quality. Thus, planning may need adjustments based on this personnel competence.

To adequately control documented information, the organization must manage the distribution, access, search, and preservation of documentation, as well as monitor changes as required by the standard. Additionally, recorded external data used for QMS planning should be thoroughly reviewed and properly identified.

Internal auditing of the QMS in healthcare organizations helps identify potential problems, pinpoint areas for improvement, and enhance the quality of medical services. This process should be conducted regularly and systematically to improve ongoing quality management.

Healthcare organizations should actively seek and address opportunities for improvement to meet patient needs and progressively enhance satisfaction levels during service. The organization must consistently improve its quality management system's suitability, adequacy, and effectiveness to enhance clinical practices and indicators. Improvement considers the results of analysis and assessment based on initial data. It aims to identify the needs for improving the quality management system.

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DOI: https://doi.org/10.34069/AI/2023.68.08.32
How to Cite:
Bilov, V., Goi, V., Mamonov, K., Tregub, O., & Levchenko, O. (2023). Advantages of building information modeling (bim) during the operational life. *Amazonia Investiga*, *12*(68), 346-363. https://doi.org/10.34069/AI/2023.68.08.32

Advantages of building information modeling (bim) during the operational life

Переваги інформаційного моделювання побудови (імп) протягом терміну експлуатації

Received: June 26, 2023 Accepted: August 25, 2023

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Abstract

Building Information Modeling (BIM) technology is rapidly gaining traction in facility management and operations. This software aids in the effective management and exchange of building data, offering valuable benefits throughout construction stages, from planning to maintenance. This study delves into the factors affecting the operational performance of a BIM model and its paramount benefits during the digital design phase. Emphasis is placed on the merits of BIM during the operational phase, primarily using Autodesk Revit software. The research includes an analysis of engineering systems, particularly digital modeling of HVAC, water supply, and electrical systems. Drawing from BIM implementation experiences in Ukraine, the study reviewed significant contributions to digital model designs, examining BIM models across various infrastructure projects. A unique aspect of this research is the development of a digital BIM model using Autodesk Revit 2016, which uses advanced tools to spotlight the benefits of modeling throughout the design process.

Анотація

Технологія Моделювання Інформації для Будівництва (BIM) швидко набирає обертів у управлінні та експлуатації об'єктів. Це програмне забезпечення сприяє ефективному управлінню та обміну даними будівництва, пропонуючи цінні переваги на всіх етапах будівництва, від планування до обслуговування. Це дослідження вивчає фактори, які впливають на операційний результат моделі BIM та її основні переваги під час цифрової дизайнерської фази. Основний акцент робиться на перевагах BIM під час операційної фази, переважно використовуючи програмне забезпечення Autodesk Revit. Дослідження включає аналіз інженерних систем, зокрема цифрове моделювання систем HVAC, водопостачання та електричних систем. Виходячи з досвіду впровадження BIM в Україні, в дослідженні розглядалися важливі внески в дизайн цифрових моделей, аналізуючи моделі BIM в різних проектах інфраструктури. Унікальною особливістю цього дослідження є розробка цифрової моделі BIM за допомогою

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Keywords: digitalization, BIM, software, Autodesk Revit, digital model.

Autodesk Revit 2016, яка використовує передові інструменти для виявлення переваг моделювання на всіх етапах процесу дизайну.

Ключові слова: цифровізація, BIM, програмне забезпечення, Autodesk Revit, цифрова модель.

Introduction

In the modern world, numerous operations and processes are facilitated by computer technologies, which encompass a range of information transformations in various forms, such as textual, graphical, and auditory, into a digital format known as digitization. Digitization combines advanced technologies and systems from architecture, engineering, and construction, transitioning from traditional design methods to contemporary approaches using Building Information Modeling (BIM) (Tan et al., 2021).

Although initial attempts to apply computer technologies in building projects date back to the early 1980s and 1990s, the most significant utilization of such technologies occurred in the early 2000s when computer technologies entered the era of modernization and optimization in building design. The concept of the "Building Information Model" emerged in the early 1990s but gained prominence in the early 2000s when software provider Autodesk published an article titled "Building Information Modeling" (BIM), followed by other software companies joining the field (Panteli & Fokaides, 2020).

The digitization of building information modeling (BIM) involves complex processes for developing an intelligent model that integrates professionals from architecture, engineering, and construction to ensure efficiency in building design, construction, and operational phases. The primary advantage of BIM technology lies in developing and utilizing computer-generated n-dimensional (n-D) models to simulate the facility's planning, design, construction, and operation. It enables architects, engineers, and builders to visualize what will be constructed within the modeled environment while also identifying potential design, construction, or operational issues (Ibem et al., 2018).

Modern BIM capabilities can solve many problems and shortcomings that indicate a lack of consistency in the development and exchange of digital information, such as resource intensity and minimal efficiency in managing the processes of design, construction, operation and lack of effective life cycle management of facilities, as well as the inadequacy of regulatory support for modern construction technologies, etc. To solve these problems, many countries and Ukraine propose the introduction of BIM technologies, which consist in the development and sharing of a digital model that can contain all the necessary characteristics on the basis of which design and estimate documentation is developed (Šimenić, 2021).

The digital model, created by designers using specialized software, allows for integrating information related to physical and functional characteristics. However, the key advantage of BIM technology over traditional design methods lies in its ability to unite architecture, engineering, and construction professionals through a shared database of digital models. This enables efficient data exchange throughout the entire project lifecycle. During the development and operation of a building, the model data allows for valuable information about the construction elements and the interconnections between model components. Determining the necessary resources (materials) and minimizing project implementation time on the construction site is crucial. Moreover, any changes made to model elements enable quick and accurate updates across all associated sections of digital drawings (Krasovskaya et al., 2021).

One of the advantages of BIM is its adaptability, as the model can be accepted at any stage of construction and infrastructure, both during the design and operational and post-construction phases. The design phase encompasses implementing architectural design aspects, structural analysis, mechanical, electrical, and plumbing evaluations, and environmental and energy assessments for analysis purposes. Implementing BIM during construction involves monitoring progress and addressing safety and security issues. In contrast, the post-construction phase is associated with monitoring the building's operation, typically from the digital twins' perspective and machine learning technologies' application. It is worth noting that BIM can be used for assessing building operations after completion and reflects the actual energy performance (Panteli & Fokaides, 2020).

However, BIM technologies are only used in the design of individual buildings and structures. BIM technologies have not yet been fully implemented in the practice of design, construction and operation, which certainly makes a large number of studies particularly relevant today (Jian, 2020).

The task of architects, engineers, and builders during the design phase is to employ efficient methods to reduce project costs, enhance productivity and quality, and shorten project implementation timelines. BIM, which contains a digital potential, serves as a means to achieve these goals and objectives (Eastman, 2011).

Over the past decade, BIM has been widely utilized in prefabricated construction in the building industry. Recent scientific and industrial research has shown that the application of BIM with software influences the reduction of life cycle costs, waste reduction, increased productivity, and improved quality in construction (Zhang et al., 2021).

Literature review

Implementing and developing building information modeling (BIM) technology has brought numerous advantages to the industrial and construction industries. The use of BIM is associated with benefits such as eliminating unforeseen budget variations, improving cost estimation accuracy, and reducing time for compiling cost estimates and project timelines (Sepasgozar et al., 2022). El Mounla et al., (2023) suggest that the development of information technology enables cost and time savings in project and construction activities and facilitates effective integration of inputs from contractors and suppliers during the design phase, enhancing the construction performance of projects. The studies by Darko et al., (2020) and Bello et al., (2021) identified key advantages of BIM, which include:

- instant detection of conflicts between different building systems;
- reducing fragmentation in the construction industry;
- enabling seamless integration of various industry segments;
- enhancing efficiency in the sector;
- reducing costs associated with information exchange and utilization among project stakeholders;
- providing an alternative solution for design coordination as projects can be reviewed in a digital model.

Rodrigues et al., (2020) described how, for an entire project, design conflicts alone among designers could amount to tens of thousands of observations, making such an approach unsatisfactory in the long term.

Ding et al., (2019) analyzed that BIM contributes to rapid visualization and accurate change updates during the conceptual stage of building project development, improving communication among project design teams and enhancing collaboration between architects and engineers in the development team. The authors presumed that improving the quality of architectural and engineering design regarding error-free drawings leads to a continuous increase in work productivity.

Compliance with safety rules during the operation and maintenance of buildings is equally important when designing a digital BIM model. Wang et al., (2021) proposed an evaluation method that, combined with BIM technology, allows for quick and reliable assessment of the fire hazard of the target building model and realizes an organic unity of science, efficiency, and economy. Additionally, the authors developed a risk calculation model for the operational and maintenance periods to enhance the fire safety capacity of buildings.

The operational phase of a building's life cycle can consume a significant amount of energy, leading to a considerable negative impact on the environment. While energy modeling can be applied as a tool to assess the energy performance of an operational building, the emergence of BIM technology facilitates the evaluation process through defined and enriched building information. However, this approach has a drawback concerning the compatibility issue between BIM software tools and energy modeling tools, and the modeling results are rarely verified due to the lack of corresponding experimental data.

In the United States, the construction sector and building operations account for nearly 43% of the total energy consumption in the country. Furthermore, during the operational phase, buildings consume 87% and 84% of the total energy in Europe and the United States, respectively. Therefore, in the struggle with a deleterious influence, the operational phase of a building's life cycle gains practical significance, wherein energy modeling can play a crucial role in predicting energy efficiency, optimizing design, and building operation (Li & Mills, 2020).

Construction regulation of streets and roads is determined according to a previously formed urban planning plan (Samko, 2023).

Aims

This study **aims** to determine the key advantages of building information modeling during the operational phase based on global research using Autodesk Revit software. An analysis of engineering systems during the operational phase was conducted as part of the research. It included the digital modeling of HVAC systems (heating, ventilation, and air conditioning), water supply, and electrical systems.

The following tasks should be accomplished to achieve the set **goal**:

– review and analysis of literature on global research regarding the use of building information modeling.
– identification of the most suitable software for design and model development.
– analysis of patterns in building information modeling to determine key advantages and disadvantages during the operational phase.
– analysis and comparison of two software programs, Autodesk Revit and AutoCAD, regarding their digitalization capabilities.

The **scientific novelty** lies in developing a digital BIM model using Autodesk Revit 2016 software, utilizing comprehensive professional tools to identify the key advantages of modeling at each stage of the design process.

The **practical significance** of the results obtained is that the authors have studied and analysed the developed BIM model at the stage of building design with the characteristics of operational properties, which made it possible to determine the main advantages of using BIM technology in the design of a digital model of any object.

Methods and Materials

Autodesk Revit 2016

The Autodesk Revit series software, developed by the leading global provider of digital design software, Autodesk, is a parametric 3D design and architectural design software platform. The software consists of three main professional tools for design: Autodesk Revit Architecture (architectural version), Revit Structure (structural version), and Revit MEP (Mechanical Electrical and Plumbing - equipment, electrical, water supply, and drainage version), as shown in Figure 1 (Sun, Fan & Sharma, 2021).

Autodesk Revit 2016 version comprises three software components with powerful data exchange capabilities to create a collaborative design platform and facilitate multi-disciplinary 3D design. The software has a robust data management function and can store all the necessary information about component parameters in the model database.

The first step in determining whether or not to use Autodesk Revit software is to analyze the advantages and disadvantages of this product. So let us explore and consider the three software tools of Autodesk Revit 2016 more closely.

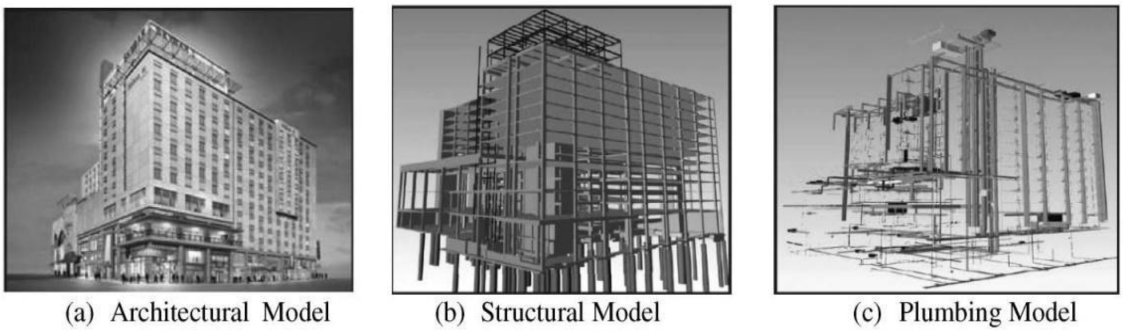


Figure 1. The main professional tools of Autodesk Revit
Source: (Azhar, 2011).

a) **autodesk Revit Architecture.** Software for 3D simulation designed for modeling plumbing, electrical, heating, and other related equipment, suitable for architectural design specialization. The program features powerful parametric modeling capabilities and enables quick project creation. The software is visually depicted in Figure 1 (a) - Architectural Model.

b) **autodesk Revit Structure.** A program for three-dimensional design specifically developed for structural designers. The software provides a wide range of structural components to meet the design requirements of construction professionals. The software is visually depicted in Figure 1 (b) - Structural Model.

Advantages of Autodesk Revit Architecture and Revit Structure:

– increased accuracy: Allows construction engineers to create precise and validated projects, facilitating easy design modifications and visualizing how changes impact the entire building model.
– improved collaboration and communication: Enables construction engineers to collaborate with other team members in real time, reducing errors and discrepancies during the design process.
– efficient project management: Helps construction engineers effectively manage their projects, allowing easy tracking of project progress, task planning, and resource management).

c) **autodesk Revit MEP.** A program for constructing a BIM model with all plumbing systems: water supply, drainage, electrical system, heating, ventilation, and air conditioning systems for construction firms and owners. The BIM model contains all the information about the parameters of the plumbing system, and the software can be used for all plumbing systems. The software is visually depicted in Figure 1 (c) - Plumbing Model.

Advantages of Autodesk Revit MEP:

– improved coordination: Enables building engineers to coordinate their projects with other disciplines, helping reduce clashes and errors during construction.
– increased efficiency: Allows MEP engineers to create accurate and detailed designs, making it easy to make changes and see how they impact the entire building model.
– accurate cost estimation: Assists MEP engineers in accurately estimating the cost of building systems, making it easy to calculate the quantities of materials and equipment needed for the project.

The software has detailed settings, such as pipe layout parameters and material properties. After creating a BIM model of the piping system, the software can intelligently lay out the pipes, establishing spatial connections between the piping system and building models, and Autodesk Revit MEP includes clash detection functionality. Designers can optimize the layout of the piping system. The software can also be used with Navisworks for comprehensive clash detection between specialized pipes and auxiliary equipment.

The disadvantages of using Autodesk Revit software include the following:

– large file sizes.
– incompatibility with the Mac OS operating system (it operates only on Windows).
– the requirement for a more powerful processor.

Analysis of Autodesk AutoCAD software

AutoCAD is a computer-aided design (CAD) program developed by Autodesk in 1982, which has been continuously improved and developed to create a multitude of additional components that leverage the capabilities of AutoCAD. The software is commonly used for the 3D design of machine parts, but its lack of parametric objects makes it only a good tool for designing heating, ventilation, and air conditioning (HVAC) systems. HVAC design is performed using AutoCAD or the more widely used MagiCAD software for AutoCAD.

Each design zone is modeled separately in its file, typically one file per floor or level. Thus, it limits the ability for concurrent editing by multiple users, even though designers from different specialties often work simultaneously. Consequently, simultaneous collaboration is not possible. Depending on the project's scope, a large number of files are created, and each file requires a manual layout to satisfy the specific design requirements.

Building information modeling based on AutoCAD typically involves using two programs simultaneously. AutoCAD is used for design, while another program like Navisworks is used for integrating all models and performing BIM checks. As a result, real-time visualization of changes to existing models is impossible. (Kalpio, 2018).

Results

BIM model development at the building design stage

Using BIM technology to create a digital prototype of the hospital model enables viewing each individual component of the designed plan through a software library. The small area model covers 100m^2 and includes several sections: separate corridors for medical staff, patient service rooms, and personal hygiene rooms (bathrooms).

The digital building model is presented in Figure 2, which includes the following architectural and structural elements from the library: a base consisting of corrugated sheeting, steel column fastenings, a roof with interior ceiling finishes, 60 mm sandwich panels, doors and windows, and staircases with fastenings. The MEP systems include sanitary facilities with water supply and drainage, electrical system layout, and ventilation system. Equally important are the heating and conditioning systems, which engineers collectively consider during the design phase. The MEP systems will be addressed in the following subsection with the operational characteristics of the model.

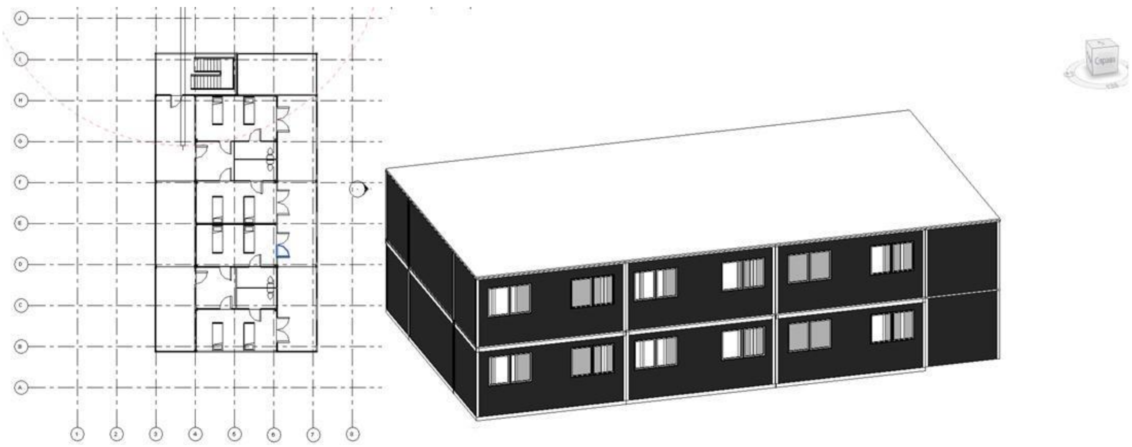


Figure 2. Digital prototype of the hospital model with a schematic plan and 3D version.

The initial modeling stage consists of designing and erecting the framework on a grid, followed by assembling the structure using a library - each container block has dimensions of 3x6x2.8 meters. They are connected to each other using fastening elements - clamping bolts. The material for the structural fastening consists of galvanized steel, and the basic structure of steel columns is made of 4mm galvanized steel with four columns. The doors, measuring 900x2040, are made of steel and aluminum frame with an integrated handle, and the window size is 800x1100, consisting of plastic and aluminum frame with embedded glass, with a thickness of 5x9 mm. The model consists of two floors, with each floor containing 14 assembly structure containers, providing access to the second floor through stairs. The visual assembly realization of the first and second-floor structures is shown in Figure 3.

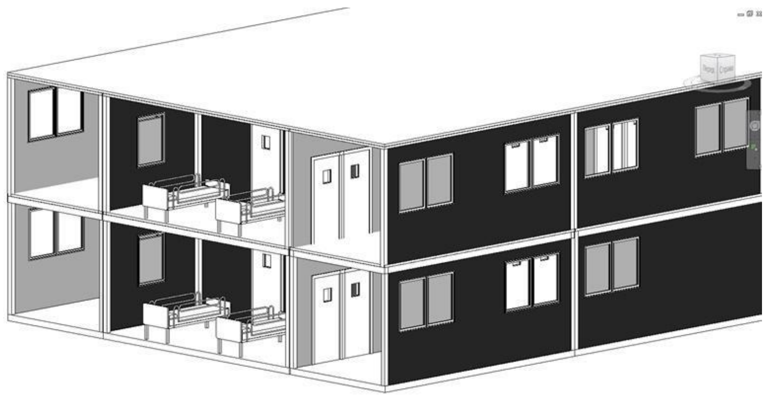
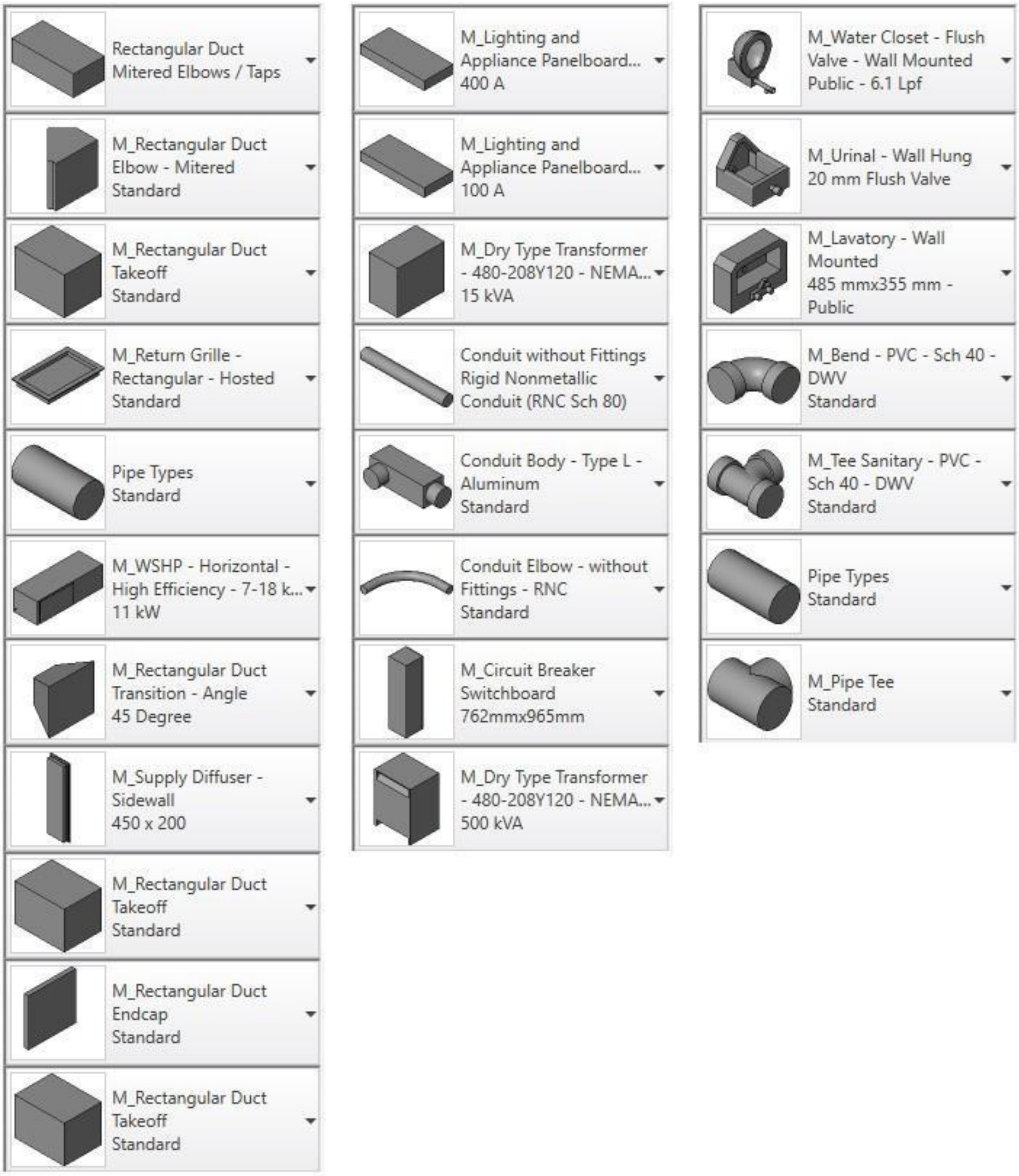


Figure 3. Digital 3D model of the construction of two floors structure.

Before proceeding to the installation phase of sandwich panels, windows, and doors, it is necessary, first and foremost, to assemble and securely attach the framework of the fastening elements of the structure – steel beam-columns with dimensions of 115x115 mm.

Operational characteristics of the BIM model

During the development of a BIM model in the building design phase, it is necessary to determine which engineering systems and structures can be used to meet human needs and provide services during the operational period throughout the facility's entire life cycle. These engineering systems include heating, ventilation, air conditioning, water, and power supply. Figure 4 illustrates the main Autodesk Revit 2016 software library elements for constructing engineering systems.



а) б) в)

Figure 4. The use of elements from the library to build systems for the operation of a) heating, ventilation & air conditioning; b) water supply; c) power supply.

1) *heating, ventilation, and air conditioning systems*

The design of the HAVC system consists of elements from the Autodesk Revit library and is designed as follows: a central rectangular air tube is connected to the other tube lines by the M_Rectangular Duct Elbow, M_Rectangular Duct Takeoff, and M_Rectangular Duct Endcap. Then the piping system is connected to a water source heat pump (M_WSHP) with a high efficiency of 7-18 kW, with left reverse and the right discharge of 11 kW, at the outlet of which, on the other side, the piping is laid along with the outlet of air diffusers with side walls (M_Supply Diffuser - Sidewall) using connecting elements. The types of air ducts and connecting elements are standard in size.

The floor plan of a typical room with a water source heat pump (WSHP) is shown in Figure 5 a) together with its section and its b) plan.

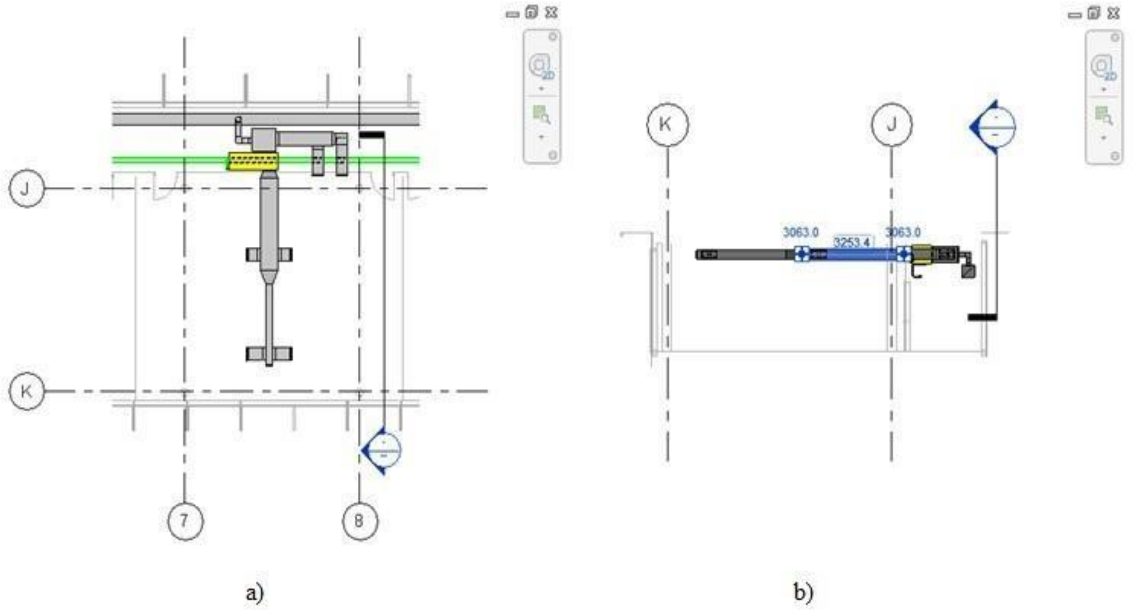


Figure 5. The floor plan of a room with a water source heat pump (a) and a cross-sectional plan (b).

After constructing the floor plan in the software environment, it can be visualized in a 3D format, displaying all elements within the inter-room space, as shown in Figure 6.

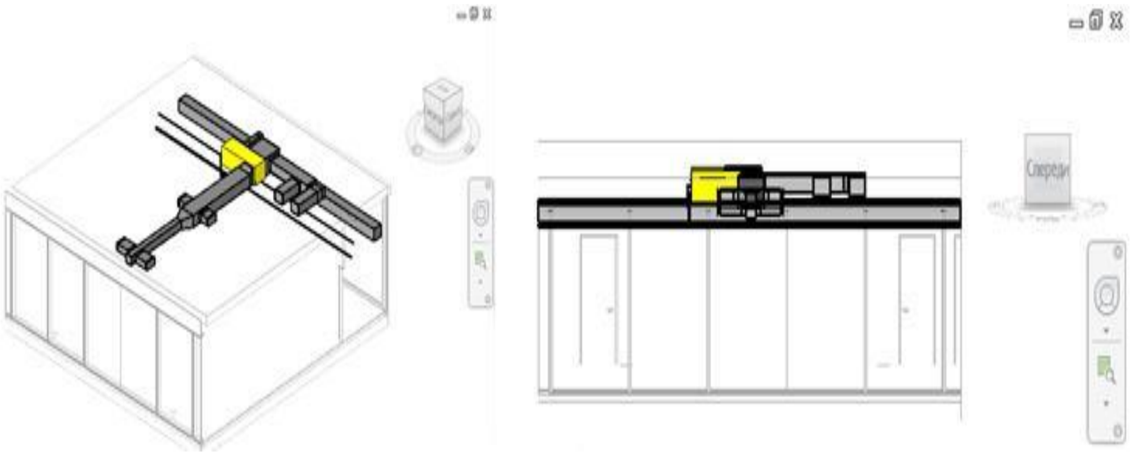


Figure 6. 3D model of the completed HVAC system.

2) *water supply*

Figure. 7 illustrates a schematic floor plan of a sanitary unit using elements of the MEP library.

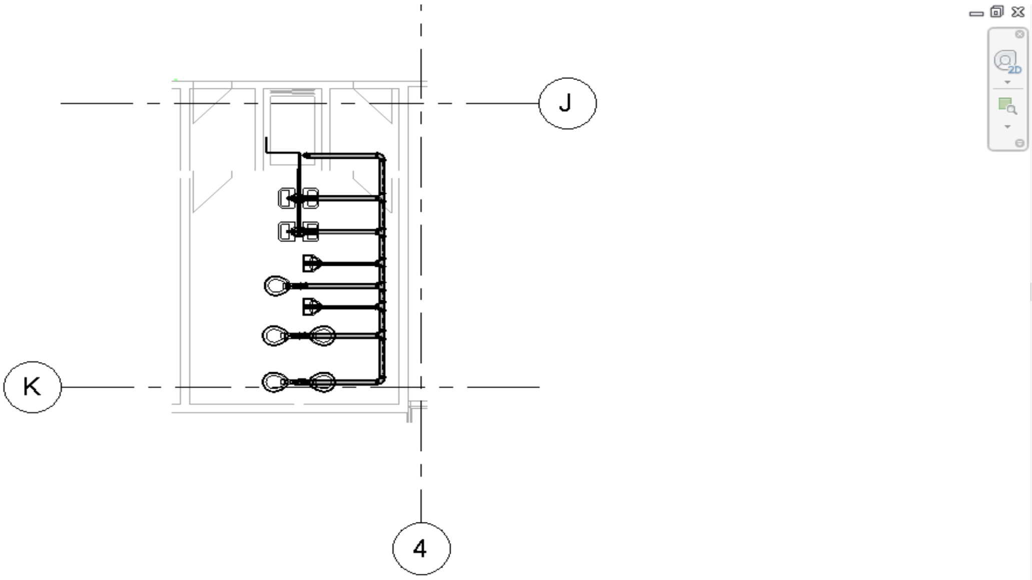


Figure 7. Schematic floor plan of the sanitary unit.

The design of the water supply system consists of a standard type of pipeline (M_Pipe Standard) and a common type of pipe elbow (M_Pipe Elbow Standard), with a drainage system (M_Bend - PVC - Sch 40 - DWV) and a sanitary tee (M_Tee Sanitary - PVC - Sch 40 - DWV). The sanitary fixtures include a wall-hung urinal with a 20mm flush valve (M_Urinal Wall Hung 20 mm Flush Valve), a wall-mounted public toilet measuring 485mm x 355mm (M_Lavatory - Wall Mounted 485mm x 355mm - Public), and a wall-mounted public water closet with a flush valve (M_Water Closet - Flush Valve - Wall Mounted Public).

A 3D rendering of the designed water supply system is shown in Figure 8, illustrating the main elements of sanitary fixture mounting with the pipeline components and drainage system.

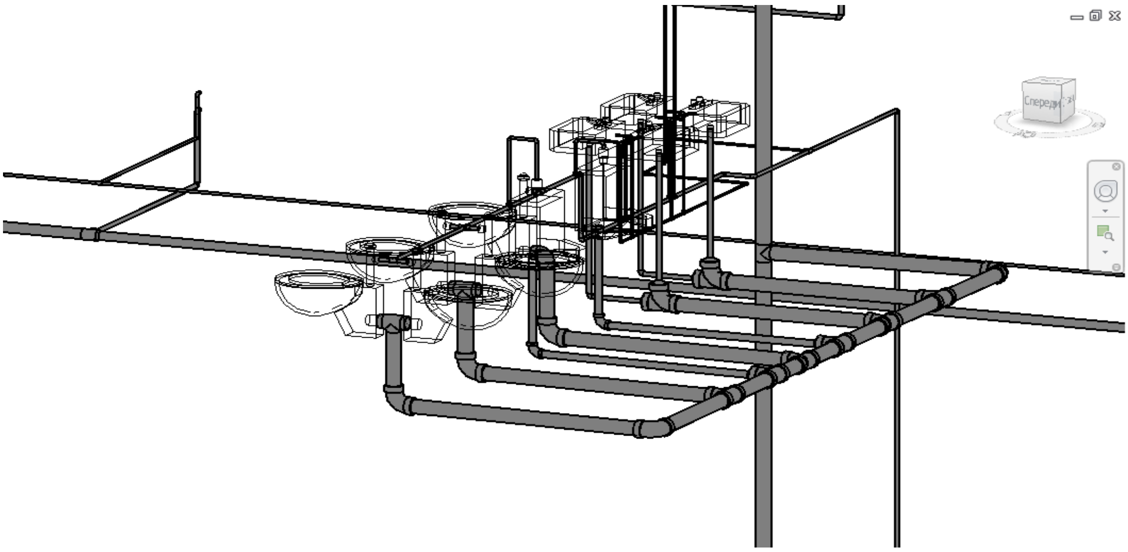
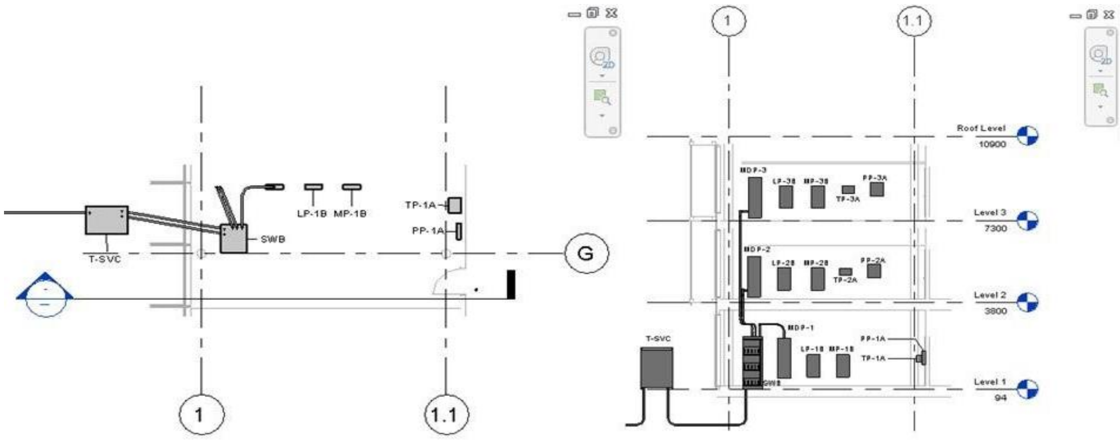


Figure 8. 3D model of the water supply system.

3) power supply

An electrical system schematic plan design consists of electrical equipment elements, a transformer, boxes, and box connectors. Figure 9 shows a floor plan and a sectional view. The model of the designed power system comprises electrical equipment for lighting panels and devices with a voltage of 480 V.



a) b)

Figure 9. Floor plan and section view of the power system.

Let us take a closer look at the power system construction scheme. Starting from the 480V Dry Type Transformer (Dry Type Transformer - 480 - 208Y120 - NEMA Type 2: T-SVC), it is connected to the Switchboard with Circuit Breaker (Circuit Breaker Switchboard: SWB) using a junction box and its associated components. From there, the wiring is distributed to the first, second, and third levels, respectively, using connecting elements.

As shown in Figure 10, there is electrical equipment and a 480V Dry Type Transformer labeled TP-1A, TP-2A, and TP-3A on each level. Each level is equipped with a Lighting and Appliance Panelboard 480V enclosure (MDP-1-MDP-3), Lighting and Appliance Panelboard 480V with surfaces MP-1B- MP-3B, LP-1B-LP-3B, and PP-1A-PP-3A, which operate at 208V.

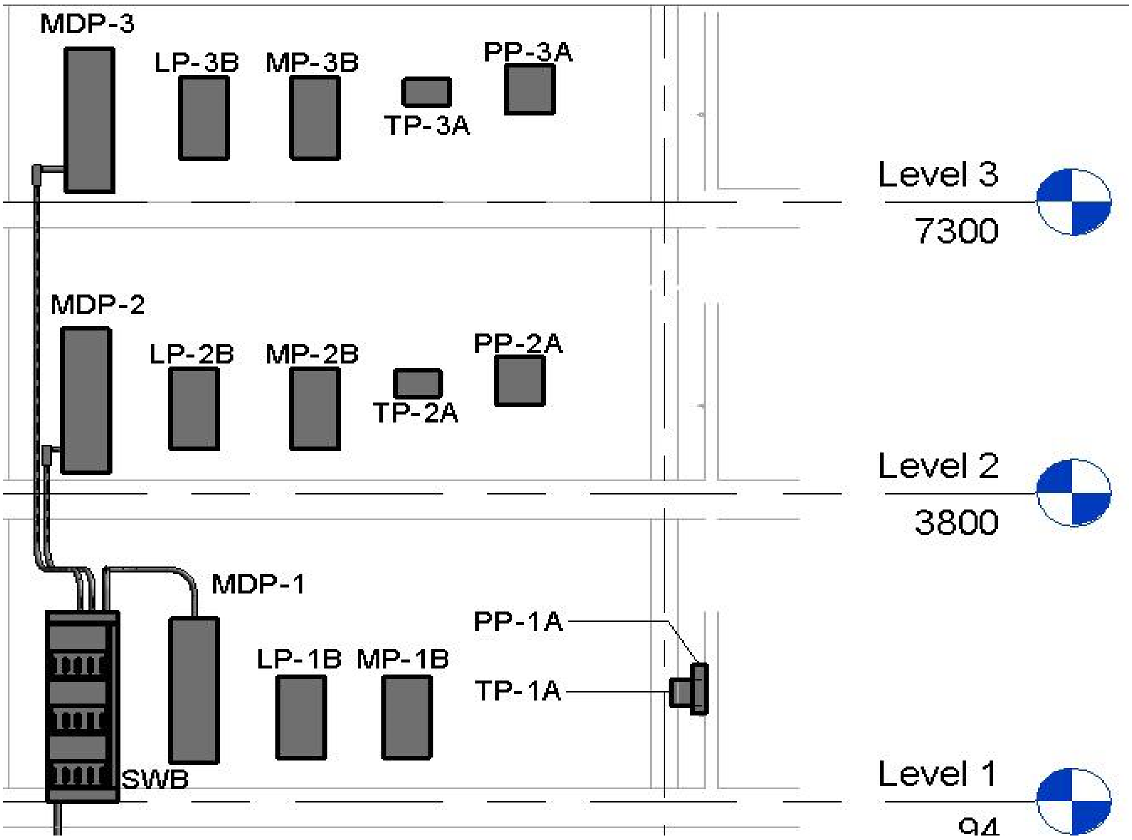


Figure 10. Compliance with the installed power equipment according to the levels.

The fully designed model, which includes HVAC, plumbing, and power systems, is shown in Figure 11 as a 3D model, showing the elements from the library for monitoring during the entire life cycle of its operation.

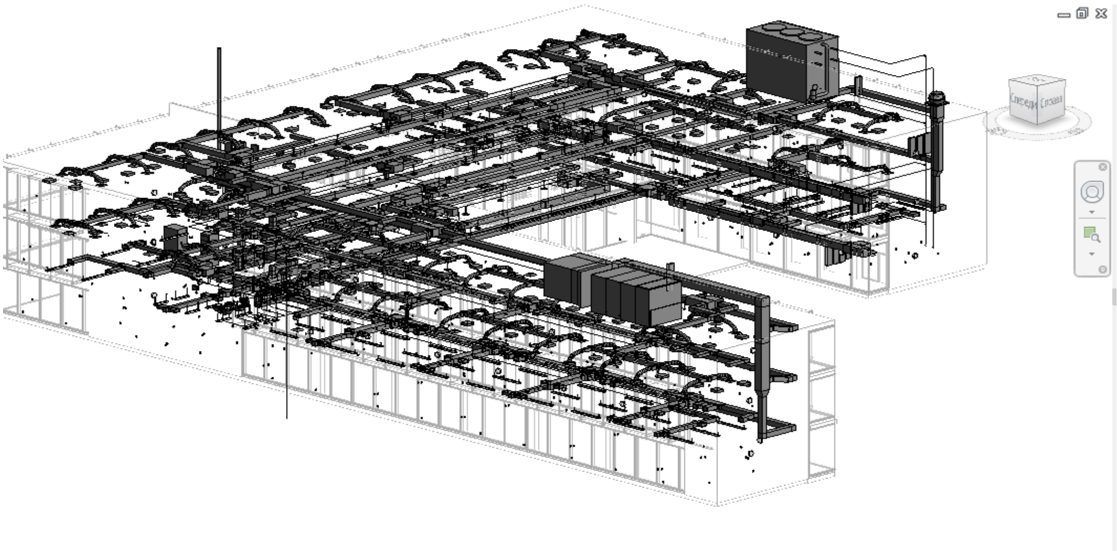


Figure 11. 3D model of the MEP software environment showing HVAC, water supply, and power systems.

Advantages of using BIM technology in digital model design

Table 1.
BIM technology benefits at the model design stage

Pre-construction stage	***Construction stage***	***Post-construction stage***
Visualization - allows (1 visualization and showing a detailed part of the plan as a 3D model, with the ability to display a digital model of the entire project to ensure sustainable design and analysis. ***An accurate and coordinated*** (2 ***drawing*** obtained for a specific type or detail of the project reduces time and the number of errors in the plan. The BIM system provides for the automatic change of information on one of the drawing plans based on automatic generation when changes are made to the project. ***Cost estimation at the design*** (3 ***stage*** allows for an accurate summary estimate. With BIM, it is possible to calculate the costs of a specific project even before a detailed design estimate is made, which is necessary for construction.	***Construction Planning:*** BIM (1 requires linking the construction plan to 3D objects in the project to evaluate the progress of construction and demonstrate how the site and building should appear at each stage of construction ***2) Clash Detection during BIM Design:*** Virtual 3D clash detection eliminates design errors caused by inconsistent 2D drawings. In the BIM system, projects from all disciplines can be compared within a unified design system, making it easy to systematically and visually verify multi-system coordination ***Waste Management:*** BIM (3 ensures accurate model design and material resources required for each work segment, improving contractor and subcontractor planning and schedules. It enables the timely arrival of equipment and materials, reducing costs associated with construction waste.	***A 3D model for facility and*** (1 ***operations management*** that allows viewing specific aspects of management and provides up-to-date information about the building, as all changes will be automatically updated in the BIM system. It also has advantages in managing operations and maintenance of the building. A BIM component can display maintenance-related information, such as maintenance schedules, spare parts ordering information, etc**.** ***2) Information monitoring and communicability.*** During the operational phase of the facility, there is always access to its technical condition, allowing the identification of deficiencies related to the replacement of structures, constructions, equipment, and more. It enables designers to monitor the technical condition of the building on a communicative level and improve systems

The Building Information Modeling (BIM) system is utilized from the design stage to the construction stage, demonstrating various advantages at each stage. Based on the analysis of building information modeling, the key benefits can be characterized when designing the model at each stage, as shown in Table 1.

Development and implementation of BIM technologies in Ukraine. Examples of BIM

models of urban development and road infrastructure.

In Ukraine, the Cabinet of Ministers of Ukraine (CMU) Resolution No. 152-p /2021 approved the concept of introducing BIM technologies. The document (Šimenić, 2021) points out the lack of consistency in the development and exchange of digital information, resource intensity and inefficiency of managing the processes of design, construction, operation, lack of approaches to effective management of the life cycle of facilities (survey, design, construction, liquidation), inconsistency of regulatory support with modern construction technologies, facility accidents, etc.

BIM is an effective tool for ensuring the principles of sustainable development throughout the entire life cycle of buildings and structures and road infrastructure. After long-term operation of the facilities, the use of a building information model provides opportunities for quick and resource-saving planning of capital repairs and reconstruction.

The BIM technology is based on the development of three-dimensional graphic elements (virtual prototype of building structures) and information related to them, which characterises the physical, mechanical and functional parameters of a building in a structured and interconnected manner.

A BIM model is a digital three-dimensional representation of an object and information about it obtained in the course of surveys and design (modelling), which can be used as an information resource in the construction, management, reconstruction, and operation of an infrastructure facility. Infrastructure objects include roads, artificial and underground road transport facilities, engineering networks, etc. For the development and analysis of BIM models, appropriate computer programs are used, as shown in Figure 12.

BIM elements (models) are imported from the default BIM authorization tools. Most tools available on the market allow the input of data from numerous sources so that the data exchange can use the original file formats (e.g., DWG, DGN, RTV, SKP format). There are also various add-ons that make it easier to transfer data between authorization programs and validation programs. For infrastructure projects, data from Civil 3D is often exported to Navisworks via NWC exports. The use of the IFC format, generally the most used format for exchanging data between BIM applications in architecture, has so far been less widespread in infrastructure projects for the reasons stated in the chapter on data interoperability (Šimenić, 2021).

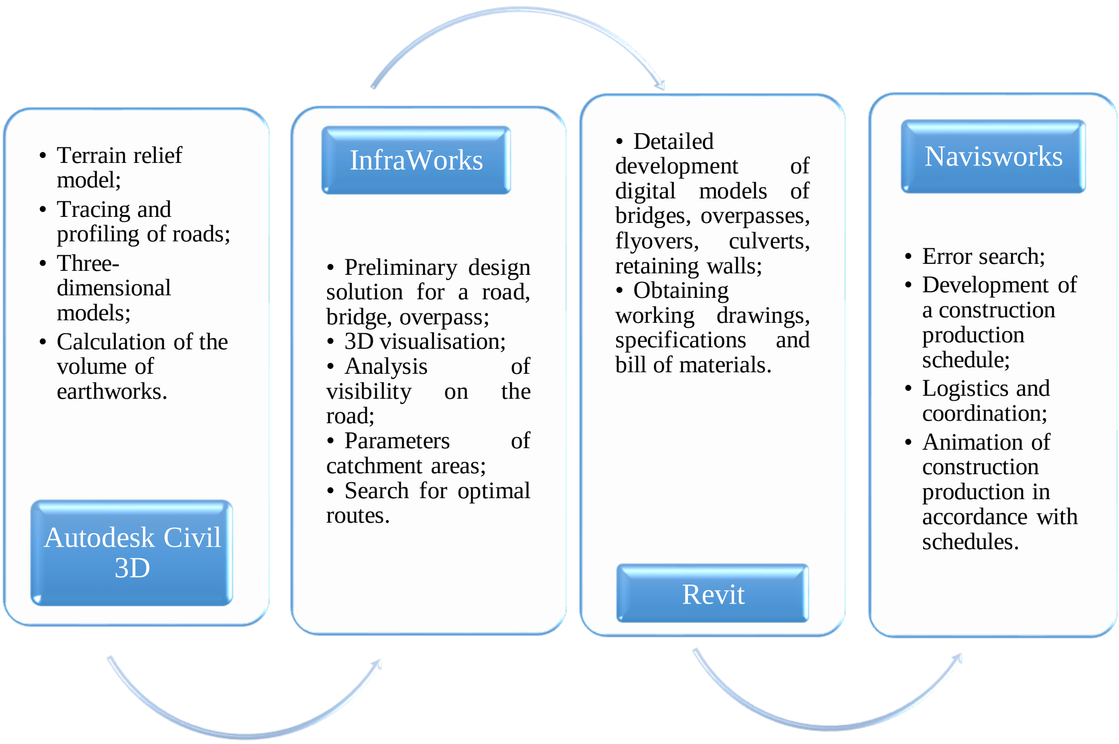


Figure 12. Structural and logical sequence of developing a BIM model of road infrastructure.

Figs. 13-17 show examples of building information models of urban development and road infrastructure. Let's take a look at the main BIM models of a traffic junction, an overpass, an urban development, a motorway and a bridge.

Figure 13. BIM-model of the transport interchange at the construction site of the Northern Bypass in Dnipro city.

Figure 13 shows a BIM model of the Northern Bypass road junction, which was developed using Autodesk Civil 3D software. In the common authoring tools (Autodesk Civil 3D), the modelling process begins by selecting the cross-sectional elements of the road – predefined shapes that can be modified by parameters (Figures 14 and 15).

Figure 14. BIM model of the construction of the Northern bypass overpass in Dnipro city.

There are many additional useful features – for example, tools developed for the generation of intelligent intersection objects. Autodesk Civil 3D has tools for creating standard intersections and roundabouts as shown in the Figure 15 and Figure 16.


a)

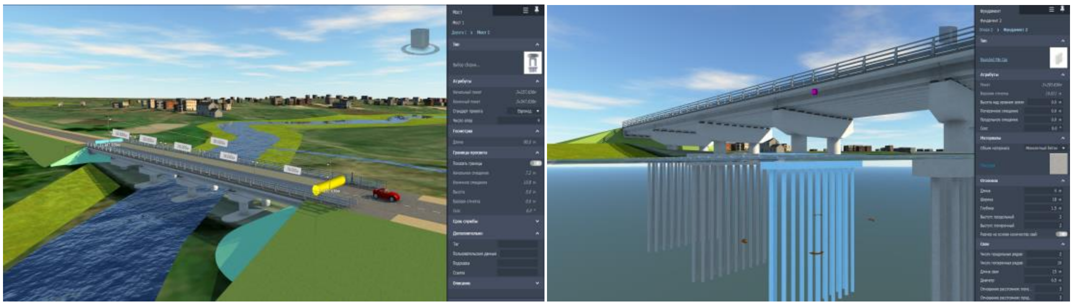

b)

Figure 15. a) BIM model for the reconstruction of urban development and street and road network in Dnipro city; b) BIM model of urban development and road network roundabout in Dnipro city.

When using these features, consideration should be given to the possibilities of editing and adapting them to real projects in terms of compliance with applicable standards and elements of road safety (Figure 16). For example, the design of roundabouts varies considerably between countries. Therefore, when using predefined elements, besides satisfying the technological form in terms of BIM, attention should also be paid to the appropriate standards.

Figure 16. BIM model of existing urban development.

The development of the bridge BIM model shown in Figure 17 consists of the following parameters (a): type (assembly selection); attributes (initial 3+257.636 m and final 3.347.636 m pickets), project standard (Eurocode), number of supports 4; geometry (length 90 m); clearance boundaries (initial 7.2 m and final 10.8 m offset), height 5.0 m, base mark, slope; service life, etc. The parameters of the monolithic block foundation are shown in Figure 17 (b) and consist of the following: length 4 m, width 18 m, depth 1.5 m, longitudinal and transverse projections 2 m.



a) b)

Figure 17. An example of parameters of a bridge BIM model: a) parameters of a digital BIM model object; b) parameters of the structure foundations.

Discussion

BIM technology, used for the design and construction of buildings, plays a significant role during the operational phase. Numerous studies have been dedicated to the trends of the building lifecycle using information technologies. However, one of the current issues is the adoption and implementation of BIM-based building operations. In the work of Aengenvoort & Krämer (2018), the main six stages of building operation are described as follows:

1. Requirements management.
2. Preparing for operation.
3. Commissioning.
4. Ongoing operation.
5. Change of ownership or operator.Data collection for existing buildings.

Due to their structure and sequential algorithm, these stages facilitate updating data related to building operations. They also simplify various use cases that arise during the operational phase, such as operation, inspection, and equipment maintenance. Data related to the operational stage can be obtained either by transferring design and construction data or by collecting data for existing buildings, including those where BIM methods were not used before operation.

One of the most significant barriers to utilizing BIM methods during the operational phase of buildings arises from the limited availability of digital data models (which can only be used with BIM methods) for existing buildings. Furthermore, for these digital building data models to be helpful during the operational phase, they must also reflect the actual state of the facility, including information on "as-built" conditions.

Since BIM technology is considered a technological breakthrough that contributes to the modernization of the construction industry and enhances its productivity, it is necessary to pay attention to the peculiarities of facility management during the operational and maintenance period. In the study by Hoang et al., (2020), the authors investigate the implementation status of BIM for facility management during the operating and maintenance stages of buildings in Vietnam. They discuss the main problems, advantages, and disadvantages that need to be addressed by design professionals in the construction industry to fully leverage the potential of BIM during the operational and maintenance phase.

For opinion Tregub O., Demura A., BIM technology can serve as a virtual design based on innovative methods, which makes it possible to improve the predictability of building efficiency and operation (Tregub & Demura, 2022).

The benefits and key characteristics of using BIM technology can improve and transform operations and maintenance to provide facilities with digital information to their supervisors to extract analysis and process information about the condition of the building in a three-dimensional digital environment. However, Gao & Pishdad-Bozorgi (2019) suggested that due to the rapid development of BIM, researchers and professionals need a more contemporary overview of BIM implementation and research in facility management and maintenance. First and foremost, additional research is required to understand the fundamental principles of BIM implementation for facility management and maintenance, including data requirements, areas of inefficiency, process changes, and more. Secondly, research on the return on investment in innovative systems is necessary to justify the value of BIM applications in technical servicing and to enhance the life cycle cost analysis method, which plays a vital role.

Over the past decade, technologies for creating digital twins have found the most comprehensive application in various industrial sectors to enhance maintenance procedures. However, the operational and maintenance stage in a building's life cycle is the costliest.

Therefore, intelligent building technologies are combined with BIM technology to manage objects, and in some cases, machine learning methods are employed for prediction capabilities. In the study by Coupry et al., (2021), the authors combine these technologies to enhance technical servicing operations in "smart" buildings. According to research findings, BIM technology can be used in conjunction with XR technologies to improve technical servicing operations. Additionally, the authors highlight challenges related to proper implementation based on BIM in combination with XR devices and propose an example of using a scheme of possible interactions during maintenance operations.

The report on the requirements and recommendations of the UN Economic Commission for Europe (Šimenić, 2021) states that the introduction of BIM technology into the practice of design, construction and reconstruction has a number of advantages:

– development of a 3D model using computer-aided design systems, rapid correction of model information and reduction of the number of changes in the project in an automated mode, operational control, creation of error protocols;
– reduction in the number of inconsistencies and conflicts;
– accurate estimation and optimisation of construction, reconstruction, and operation costs;
– development of a virtual construction model, accurate scheduling of construction equipment;
– improvement of logistics processes in construction and reconstruction.

Having analysed the results and benefits of implementing BIM technology in the practice of design, construction and reconstruction, the authors have put practical value into the development of BIM technologies.

Conclusion

The key modeling aspects were considered and analyzed based on the developed BIM model to create a digital model using architectural and structural elements from the software library. Autodesk Revit 2016 software was used to analyze the main advantages of BIM modeling in the software environment, which made it possible to design many engineering features with operational characteristics based on a digital model. The operating characteristics of the BIM model during the engineering network design stage include the use of necessary engineering systems, structures, and equipment required throughout the object's lifecycle. The designed engineering systems include heating, ventilation, air conditioning, water supply and drainage, and power systems.

The designed systems, based on the library with elements and created templates, allowed us to fully visualize the MEP layout of the digital BIM model, which includes the design and calculation of internal engineering systems and the processing and production of relevant documentation. The distinctive feature of such a model is its ability to track the object at any stage of design and implementation, whether it has been commissioned or not. The BIM model contains all the information about the piping system parameters, and the software can be used for all piping systems.

Thus, the interdependence between the three design and construction stages was established during the digital BIM model's design and construction. Visualization, precise and sequential drawing with cost estimation during the design stage falls into the initial construction phase, allowing a detailed 3D model of the plan based on the BIM model, reducing time costs, and enabling cost estimation for the developed project.

Construction planning, clash detection during design, and waste management allow for changes to be made during the construction phase. Waste management ensures accurate design modeling and material resources for sequential work execution, improving the planning and scheduling of contractors and subcontractors. However, during the construction phase, BIM design can identify and rectify errors that may have occurred due to 2D drawings.

The structural and logical sequence of developing a BIM model of road infrastructure is based on the experience in Ukraine. Based on the experience of implementing BIM technologies in Ukraine, a significant contribution to the design of digital models was reviewed and investigated, where BIM models of a traffic junction, an overpass, urban development, a motorway and objects connecting motorways with structures were considered.

After the completion of construction, the 3D model of facility management allows revisiting and reviewing the necessary management aspect with up-to-date information about the object. BIM technology enables automatic updates of all system changes, contributing to operational management and maintenance advantages. Therefore, each component of the BIM model reflects information about the technical condition and servicing, enhancing efficiency and minimizing time costs.

Comparing the two software, Autodesk Revit and Autodesk AutoCAD, the second one is more commonly used for designing machine details and equipment. However, the absence of parametric objects is one of its main drawbacks, along with separate modeling of each zone within the software file. Each design zone is modeled separately for each floor or level, limiting file editing to a single user, whereas designers from various disciplines often work simultaneously, indicating the inability for simultaneous collaboration. As a result, real-time visualization of changes in existing models is impossible.

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DOI: https://doi.org/10.34069/AI/2023.68.08.33
How to Cite:
Ridei, N., Tytova, N., Kanova, L., Khodunova, V., & Romanenko, N. (2023). On the rebalancing of socio-cultural systems by semantic profile: monitoring the quality and safety of life. *Amazonia Investiga*, *12*(68), 364-371. https://doi.org/10.34069/AI/2023.68.08.33

On the rebalancing of socio-cultural systems by semantic profile: monitoring the quality and safety of life

Sobre el reequilibrio de los sistemas socioculturales mediante el perfil semántico: control de la calidad y la seguridad de la vida

Received: July 1, 2023 Accepted: August 29, 2023

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Abstract

The purpose of the article is to highlight the mechanisms of rebalancing socio-cultural systems in the context of forming indicators of quality and safety of life, which are determined by using a semantic profile. The research methodology is centred around the principle of semantic analysis, various variations of which form the potential for differentiating the semantic profile. The analysis method provides general characteristics of the quality and safety of life in a particular socio-cultural system. Discreteness is used to cover a broader socio-cultural or civilisational community. Comparison is used to differentiate the scales of the semantic profile. The results of the study indicate that the semantic profile is in demand when assessing socio-cultural transformations in the segment of life quality and safety. The semantic differential scale provides an opportunity to analyse the most common elements of human and social activity,

Resumen

El propósito del artículo es destacar los mecanismos de reequilibrio de los sistemas socioculturales en el contexto de la formación de indicadores de calidad y seguridad de vida, que se determinan utilizando un perfil semántico. La metodología de la investigación se centra en el principio del análisis semántico, cuyas diversas variaciones constituyen el potencial para diferenciar el perfil semántico. El método de análisis proporciona características generales de la calidad y la seguridad de la vida en un sistema sociocultural concreto. La discrepancia se utiliza para abarcar una comunidad sociocultural o civilizacional más amplia. La comparación se utiliza para diferenciar las escalas del perfil semántico. Los resultados del estudio indican que el perfil semántico es demandado a la hora de evaluar las transformaciones socioculturales en el segmento de la calidad de vida y la seguridad. La escala diferencial semántica brinda la oportunidad

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taking into account dialectical and synergistic vectors. The scientific novelty of the study lies in the emphasis on the need to involve a set of syncretic and dialectical elements. Thus, the semantic profile serves as an effective tool for collecting and analysing data, which is used to transform the socio-cultural space in the segment of quality and safety of life.

Keywords: semantic profile, semantic differential, semantic profile scale, socio-cultural transformations, quality of life.

de analizar los elementos más comunes de la actividad humana y social, teniendo en cuenta los vectores dialécticos y sinérgicos. La novedad científica del estudio reside en el énfasis en la necesidad de involucrar un conjunto de elementos sincréticos y dialécticos. Así, el perfil semántico sirve como herramienta eficaz de recogida y análisis de datos, que se utiliza para transformar el espacio sociocultural en el segmento de la calidad y seguridad de vida.

Palabras clave: perfil semántico, diferencial semántico, escala de perfil semántico, transformaciones socioculturales, calidad de vida.

Introduction

The modern socio-cultural environment is characterised by total dynamism. This nuance should be taken into account when developing methodologies for assessing the level and state of social development. Sustainable scales of measuring socio-cultural activity are appropriate at the stage of stable gradual development of civilisation. However, the current processes of globalisation, technologisation, and informatisation, combined with the instability of the general public space, have led to total permanence. Under such conditions, it is difficult to assess the quality of life and security of a person and society. Conventional sociological parameters are unable to cover the diversity of today's realities. That is why the scientific community is actively using methods that allow us to analyse the situation in a dynamic way. A semantic profile based on differential indicators is the best solution for studies of this nature.

The purpose of the article is to develop the elements of the semantic profile that will be used to rebalance socio-cultural systems. The quality of life is formed from many components that need to be clearly classified and synchronised with current socio-cultural processes. The task of scientific research involves the development of diverse samples of semantic profile scales that characterise the level of quality and security components of modern society.

The research problem is focused on the confrontation of dichotomous and synergistic principles of the formation of semantic profile indicators. The semantic differential can manifest itself in two socio-cultural contexts in relation to the quality of life:

- the factor of confrontation between diametrically opposed elements;
- a factor in synchronising various indicators.

The research focuses on the need for structured rather than chaotic rebalancing of socio-cultural systems. One of the mechanisms of this structuring is the use of a semantic profile, which clearly defines positive, negative, and neutral characteristics of the quality and safety of life.

The research questions of the study are intended to actualise the following factors of rebalancing socio-cultural systems:

- semantic differentiation of traditionality and innovation of civilisational progress in general and cultural development of man and society;
- semantic dichotomy of sustainability and dynamism of the format of socio-cultural space functioning;
- semantic varieties of a global and authentic nature that form a cultural and ideological picture of the world.

These problematic aspects of modern human life and society determine the dynamics of civilisation development, which in turn requires the inclusion of new parameters of socio-cultural activity, which are successfully analysed using the semantic profile methodology.

Theoretical Framework or Literature Review

Modern scientific, sociological, and cultural discourse actively explores all clusters of social activity. Dynamic civilisational development actualises the need for periodic renewal (in the sense of rebalancing socio-cultural systems). This leads to the need not only for analytical studies that already state transformations in culture and society. There is a particular need to build a strategy for the functioning of the socio-cultural paradigm in the segment of quality and safety of life.

The problem of systemicity in the socio-cultural space, which is a prerequisite for structuring the vectors of its development, was considered in the study by Buriak et al., (2023). Organisational elements of cultural development that become the basis for systematising the semantic profile (Bannikova, 2019).

Salvatore et al., (2019) proposed a comprehensive consideration of the semantic profile in the context of semiotic cultural and psychological theory (SCPT). The combination of relational and dynamic factors forms an up-to-date pragmatic, scientifically based system of research on meanings and contexts. The problems of quality and safety of life are considered in such dimensions - permanence and changeability. However, the principle of sustainability in the issue of quality and safety of life remains the guiding principle for modern scientific discourse (Jura et al., 2020).

The dichotomous dimensions of the semantic profile require updating the relevant socio-cultural concepts. One of them is the co-evolutionary path of development and awareness of the need to take into account the interests of all ecosystem actors (Sovhira, 2023).

An important source for developing strategies for rebalancing socio-cultural systems is the characteristics of individual segments of social activity that determine the quality and safety of life. In particular, Hordiichuk et al., (2022) in their study focused on the concept of mobility, which is included in the characteristics of quality of life and occupies a niche among the scales of the semantic profile.

Emotional experience is an important element of quality of life and reflects the synergistic dimension of the socio-cultural environment. Loderer et al., (2020) note cross-cultural similarities using dual internal cultural correlations. In this case, the use of semantic analysis characterises emotional characteristics, which are determined by physiological and expressive components.

The pandemic period has become a time of active research into the transformation of socio-cultural systems with the active use of semantic profiles. Baele & Rousseau (2023) apply the principle of semantic profile securitisation, revealing the content of fundamental factors of quality and safety of life. The following characteristics are particularly relevant for the ordering of semantic profile scales, as they form the parameters of the positive, negative, and neutral dimensions of the socio-cultural paradigm.

Methodology

The research methodology is centred around the semantic research method. General scientific methods, primarily of the analytical cluster, provide a diverse characterisation of the parameters of quality and safety of life that are proposed as the basis for the components of the semantic profile scales. The comparative analysis provides a differentiation of indicators, which allows for an adequate assessment of the level of quality of life and its safety characteristics.

It is worth noting that synergistic principles of research are actively used in the modern scientific, sociological, and cultural discourse. In the current study, the interdisciplinary approach is actualised in the context of involving different components of socio-cultural activity and their synchronisation within the same paradigm. “Identification and annotation of influences” in the socio-cultural environment is possible only if there are relevant and effective tools for studying and analysing this environment (Bogović et al., 2022). A kind of circulatory system of the semantic paradigm in the socio-cultural space is communication (direct, semantic). Ibrus & Ojamaa (2020) propose using interdisciplinary dialogue as the main methodological principle of the semantic system. Having such initial guidelines greatly simplifies the task of developing algorithms for further rebalancing the system of social processes and public consciousness.

At the same time, the principles of multiculturalism and pluralism have a significant impact on the methodological support of the problem of rebalancing socio-cultural systems. With the increase in the characteristics of quality of life and their varieties, the source data for scales and gradations of semantic analysis are becoming more diverse. This leads to the transformation of both quantitative and qualitative indicators of society's activity in the global civilisation and localised dimensions.

The semantic profile as a method of scientific research is constantly being improved and updated. This is facilitated by the spread of the influence of technoscience and technoculture, which implement the model of algorithmic thinking (Fazi, 2021). Under such conditions, the level of explanability of indicators and research results significantly increases due to the semantic profile. While previously many indicators were interpreted in the existential or phenomenological dimension of the philosophy of science, modern research is characterised by more precise characteristics.

Results and Discussion

Scientific discourse uses many tools to study socio-cultural development. Sociology, cultural studies, psychology, and philosophy are among the key disciplines that help to constantly monitor social activity and rebalance (transform, modify, update, correct) the socio-cultural paradigm. A number of methodologies are used to collect data, analyse it, and formulate algorithms for transformation. One of the most popular methods of socio-cultural research is the use of a semantic profile, which can provide both a general description of social or individual activity and a specific description of a particular segment or sphere of life.

To fully characterise objects, processes, or phenomena, various scales of semantic differential are used, which are typical for this type of research:

- bipolar scales with an even number of scales formed from antipodean concepts;
- unipolar, which are characterised by the presence of a neutral (zero) indicator (central, initial, or final);
- relational, which include variability and dynamism of indicators;
- discrete, which divide a particular socio-cultural phenomenon into parts or eliminate its integrity;
- synergistic - scales aimed at forming a unified status of the object under study.

The rebalancing of socio-cultural systems can be both a consequence of crisis phenomena (Zhylin et al., 2023) and a moment of renewal and transformation. Rebalancing of socio-cultural systems does not happen spontaneously. This process has its preconditions, course, and consequences. All transformative socio-cultural activity takes place in specific contexts. Maton (2019), exploring the concept of linguistic waves, brings the concept of “semantic density” to the forefront. The author notes the dependence of any cultural or sociological factor on the context (general or specific).

The semantic profile aims to highlight two key socio-cultural characteristics: qualitative indicators and identity concepts (Rogers, 2019). Based on these components, semantic profile scales are formed (see Fig. 1).

Figure 1.
General characteristics of quality of life in semantic terms

The level of quality of life:	High	…	-3	-2	-1	0	1	2	3	…	Low

Source: authors' own development

Even such a primitive semantic scale demonstrates significant potential for a general understanding of the problem and opens up prospects for the development of highly complex semantic profiles that reveal all elements of socio-cultural activity. The level of quality of life is a general indicator that can include a significant number of elements from various spheres or processes of social activity. In today's dynamic world, it is quite difficult to provide a complete description of the concept of quality of life. Therefore, it is advisable to use the semantic profile in the context of a possible change in the number of scales (from 2-3 to a number that will cover all the components considered in a particular case), variations in polarisation or correlation of quality indicators (high, low).

Ricca (2022) notes the need to update the concept of shared socio-cultural life. However, civilisational experience indicates the impossibility of such positioning of cultural space. The rebalancing of socio-cultural systems occurs as a result of the analysis of the data obtained regarding the positive or negative impact of certain factors on the quality and safety of life. The semantic profile does not involve a formal analysis of quantitative indicators, focusing on elements that have an impact on public consciousness and social experience. Valence, affectivity, and emotionality are important axiological concepts that, according to Itkes & Kron (2019), shape the assessment of the current state of affairs in society and culture.

It is possible to study the socio-cultural environment and the need to rebalance it through an understanding of the principles of society's development. Two methodological variations have traditionally helped the scientific community in this regard: dichotomy and synergy. The semantic profile of a socio-cultural system in the context of quality and safety of life can be formed on dialectical principles (see Fig.

2) and on synergistic dimensions (see Fig. 3). The current study takes into account certain general characteristics of the quality of life, thanks to which an attempt is made to understand the algorithm for using the semantic profile. Having obtained a model of methodological research and understanding its specifics of the application, an almost unlimited number of indicators that determine the quality of life in the socio-cultural space can be added to the semantic profile.

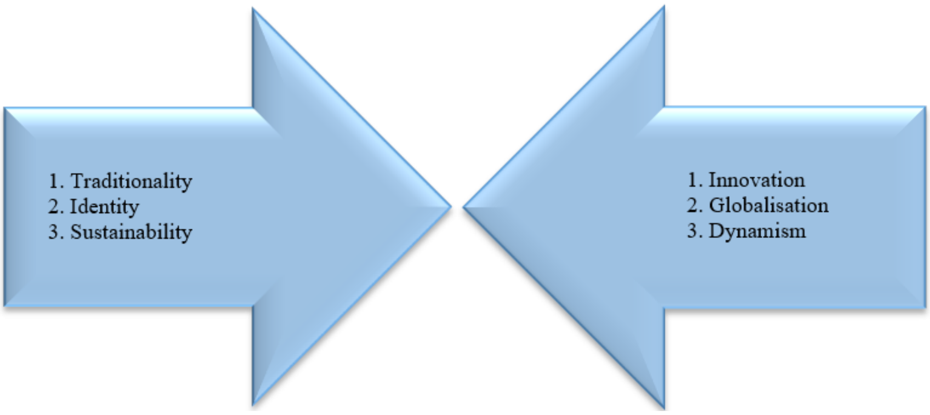

Figure 2. Semantic and dichotomous dimensions of socio-cultural aspects of quality of life.
Source: authors' own development.

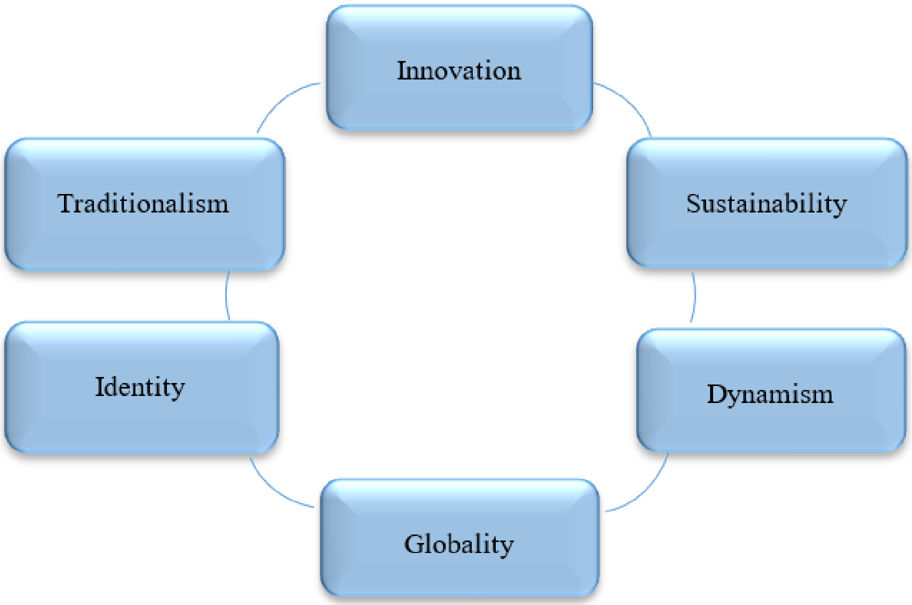

Figure 3. Synergistic principles of building of living standards in the semantic context.
Source: authors' own development.

With two approaches to assessing the quality of life, strategies for rebalancing socio-cultural systems can be developed. At the same time, it should be understood that this process of transformation is not a linear, deterministic process. The socio-cultural environment is in a state of constant renewal of certain characteristics. Therefore, the rebalancing of systems cannot have clear parameters. The issue of the format of transformations is losing its relevance, giving way to the priority of content and context. In such circumstances, semantics is the best option for researching the socio-cultural space.

A relevant solution for building an effective socio-cultural space is to comply with quality standards. Using the example of the smart city concept, it is possible to trace the interconnections of people, processes, events, things, and data (Pliatsios, Kotis & Goumopoulos, 2023). In this case, the semantic profile is formed through a comparative analysis of traditional and innovative components. The urban (or neo-urban) style is characterised by elements familiar to a modern developed city. The information technology profile of a smart city requires new approaches to the organisational structure.

ICTs are at the forefront of the socio-cultural transformations of our time. This leads to processes that involve information technology dimensions in the modern socially oriented research discourse. The technological and digital world is a kind of system within a system, so transformations in the narrow ICT circle are extrapolated to the general socio-cultural environment.

Turahojaeva & Abdusattorova (2022) focus on the semantic changes that result from the active implementation of digitalisation. ICT resources form new dimensions of quality and safety of life. However, the scientific community faces the challenge of organising these processes into structured systems. Understanding the nature and essence of socio-cultural phenomena (and not just their content and format) provides real opportunities to rebalance social experience and practice-oriented structure. The rebalancing of socio-cultural systems is vividly demonstrated by the example of the INTERNET environment. While at the beginning of its development, the Internet was associated with the information and communication cluster, with the development of the digital world, it has become a network space that covers almost all areas of social activity (Hösl, 2019). Information is the main source for semantic analysis, so it makes it possible to form indicators of the quality of life and extrapolate them into a transformation strategy.

Quality and safety of life have many characteristics in different contexts of socio-cultural activity. For scientific analysis, it is necessary to structure these elements accordingly: to determine their priority, scale, and relevance. The semantic profile is focused on these principles of human and social life. Without being able to identify the essence of things and ideas in the public space, semantics allows us to characterise their essential elements (values, meanings, cognitive arsenal).

For example, the concepts of mobility and accessibility are among the defining elements of the quality of life in a modern civilised society. Asghar, Torrens & Harland (2020) conducted a study of the impact of assistive technologies on the development of the socio-cultural environment. Using a differential semantic scale (seven-point scale using 16 pairs of adjectives), the researchers concluded that the status of factors that increase the level of inclusiveness is not significant enough compared to other basic characteristics of quality of life.

An important role in building a semantic profile paradigm is to take into account the characteristics of quality of life not under steady-state conditions but in force majeure circumstances. The turn of the twentieth and twenty-first centuries demonstrated the sustainability of civilisational progress, which affected the methods of assessing socio-cultural characteristics. The rebalancing was carried out in an evolutionary linear manner, which did not require the use of dynamic variables in assessment methodologies.

However, since the COVID-19 pandemic, the world picture has been in a mode of permanence (and sometimes social turbulence). Disaster analytics is being included in the general system of quality-of-life indicators (Khan, Gupta & Gupta, 2020). Under such conditions, security parameters change dramatically and form a dynamic scale of transformations.

The semantic profile expresses the self-referentiality of social systems. The primacy of social or cultural is a traditional dichotomy of scientific discourse (Tada, 2022). The differentiation of profile indicators takes place in the context of positive or negative assessments. In this context, an important issue is the indicator of neutrality, i.e. the zero value from which the countdown in both directions of the semantic scale begins.

The neutral status in a semantic profile has two interpretations:

- a reference measurement from which it is possible to determine positive and negative factors;
- initial dimension, which indicates the direction and intensity of the development vector (progress or degradation).

A controversial issue in the problem of rebalancing socio-cultural systems in the context of the level of quality and safety of life is the full observance of the scientific nature of this process. The influence of philosophy, psychology, and other fields that influence the study of socio-cultural space is obvious (Martynyshyn et al., 2023). It is noted that emotions, experience, or worldview beliefs do not always contribute to a full perception of socio-cultural realities. This state of affairs directly affects the effectiveness of using a semantic profile in research.

In addition to its advantages, the semantic profile has quite a few disadvantages. Subjective interpretation, double standards, and evaluation bias are not a complete list of components that reduce the reliability of a semantic profile. Contexts that change meanings are a requirement of the times in a dynamic web and, at the same time, become a threat to the purity of scientific research (Poirier, 2021).

On the other hand, semantic profiling can cover large scales and varieties of contexts, making it one of the key methods in the study of the transformation of modern culture and society. Salvatore et al., (2020) use specific examples (migration processes, religious views, LGBT community) to point out the variety of topics that can be included in semantic profile indicators.

The demand for the use of the semantic profile lies in its versatility and ability to analyse both general socio-cultural trends and practical and everyday dimensions. The semantic analysis provides research in essence, not in fact, so it is a non-linear tool that is able to include such promising elements as multiculturalism, interdisciplinarity, pluralism, self-organisation.

Conclusions

Thus, the semantic profile is a relevant tool for assessing the level of quality and safety of life. The data obtained as a result of semantic analysis of the socio-cultural space become the basis for the process of rebalancing the scientific picture of the world and all its components. The characteristics of life in the context of its quality and safety are analysed by searching for meanings and contexts, not just by formal analysis of indicators. The semantic profile scale is subject to the precision of mathematical science. However, subjectivity should be taken into account when determining the issue of contexts, with which experience, emotional state, etc. are actualised. If we consider the characteristics of quality of life in more detail, they have informative and practical content and are measured by other research methods. The semantic profile focuses mainly on the intended use, giving preference to content analysis over format.

The study actualises two methodological approaches to filling in the semantic profile: dialectical and synergistic. In accordance with the methodological vector, the scale of the semantic profile is chosen: bipolar (dichotomous) or unipolar (interconnected). The balance of the socio-cultural paradigm is achieved in different ways, so the semantic profile can be formed in different ways of recording social or individual activity. The data obtained become the basis for developing further strategies for rebalancing and transforming socio-cultural systems.

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DOI: https://doi.org/10.34069/AI/2023.68.08.34
How to Cite:
Mykhalskyi, I., Balatska, O., Nefodov, D., Altukhov, O., & Plevako, K. (2023). The influence of U.S.-China relations on the current geopolitical situation. *Amazonia Investiga*, *12*(68), 372-381. https://doi.org/10.34069/AI/2023.68.08.34

The influence of U.S.-China relations on the current geopolitical situation

Вплив Американо-Китайських Відносин на Розвиток Сучасної Геополітичної Ситуації

Received: July 29, 2023 Accepted: August 28, 2023

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Abstract

The complex interaction between the USA and China, which has developed into a real confrontation, greatly affects global politics and economics, significantly influencing the geopolitical situation. The political behaviour of most countries, delicate geopolitical balance, and the solution to global problems are now directly dependent on changes in U.S.-China relations. The study aims to determine the consequences of U.S.-China relations for global politics. The methodology of the study involved using a comparison method, graphical analysis of the characteristics of the role of the U.S. and China for the respective countries (adversary, rival, ally, partner), prognostic method and content analysis of German political declarative documents. Establishing optimal U.S.-China relations would help solve the problems of global recession, mass migration, environmental issues,

Анотація

Складні процеси взаємодії Сполучених Штатів Америки та Китаю, які переросли у справжнє протистояння країн, стрімко нарощують свою роль у порядку денному глобальної політики та економічній сфері, суттєво впливаючи на формування геополітичної ситуації. Політична поведінка більшості країн світу, хиткий геополітичний баланс, вирішення глобальних проблем тепер знаходяться в прямій залежності від змін у американо-китайських відносинах. Метою дослідження є визначення наслідків американо-китайських відносин для глобальної політики. Методологія дослідження передбачила використання: методу порівняння, графічного аналізу характеристик ролі США та Китаю для відповідних країн (противник, суперник, союзник, партнер), прогностичного методу та контент-аналізу декларативних документів політичних сил Німеччини. Встановлення оптимальних американо-китайських відносин

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Russian military aggression in Ukraine, and food security. The article reveals the pragmatic approaches of most countries to the competition between the U.S. and China. Identifying the critical goals of U.S. and China relations will help establish possible prospects for cooperation or increased conflict due to changes in the geopolitical situation. The study proves the need to develop and implement strategies to support stability, find standard solutions to global problems, and cooperate between the U.S. and China.

Keywords: media security, traditional media, new media, misinformation, fake content, media literacy.

дозволило б посилити вирішення проблематики глобальної рецесії, масової міграції, екологічних питань, російської військової агресії в Україні, продовольчої безпеки. Виявлено прагматичні підходи більшості країн до конкуренції США та Китаю, що спостерігається у діяльності держав. Виокремлення ключових цілей кожної сторони американо-китайських відносин сприятиме встановленню можливих перспектив співробітництва або посилення конфлікту як наслідку зміни геополітичної ситуації. Дослідження доводить необхідність розробки та впровадження стратегій, спрямованих на підтримку стабільності, знаходження спільних рішень щодо глобальних проблем, співробітництва між США та Китаєм.

Ключові слова: геополітика, США, Китай, міжнародні відносини, конфлікти, протистояння, глобальні загрози.

Introduction

The critical actors in the international arena determine the modern geopolitical situation. In recent years, one of the most essential and dynamic relations is between the United States of America and the People’s Republic of China. U.S.-China relations are of crucial importance for global geopolitics and economics. These countries occupy key positions in the world by economic power, military potential, technological development and influence on regional and global politics.

In the past century, the U.S. and China have gone through a challenging path – from rivalry and conflict to establishing diplomatic relations and cooperation. The current dynamics of interaction between these countries have the potential for both rapprochement and exacerbation of contradictions, which can significantly affect the global balance of power and geopolitical relations. The issues of trade, technology, cybersecurity, international sanctions, human rights and regional conflicts have become particularly important in U.S.-China relations. They can also affect other countries' and regions' socio-economic development and stability.

The world order has been undergoing significant changes, but the increasing globalisation of the world economy, the introduction of innovative technologies and economic integration have continued despite the existing crises. However, the growth of the economic power of Asian countries, particularly China, has contributed to strengthening political influence, namely of new integration initiatives and associations. The peculiarity of these processes is that the U.S. was not a co-founder of such associations and, accordingly, did not take an active part in their activities as it had used to be before (Csurgai, 2021).

Understanding the impact of U.S.-China relations on the geopolitical situation is critical to formulating effective strategies and policy decisions to ensure stability and development in the international arena. It is essential to consider various political, economic, socio-cultural and strategic aspects of U.S.-China relations, especially technological development and cybersecurity. Political decisions made by both countries can have significant implications for the geopolitical balance, affecting regional conflicts, economic stability and international order.

Contemporary U.S.-China relations relationships are complicated due to the struggle for resources, identity conflicts, geostrategic rivalry, and the contradictory effects of globalisation and power shifts. The geopolitical approach is multidimensional and based on systems analysis, seeking to identify the interactions at different levels of States in multiple dimensions, considering external and internal geopolitical factors (Csurgai, 2021).

The 2022 G-20 Bali summit facilitated an encouraging meeting between U.S. President J. Biden and Chinese President Xi Jinping, which concerned the dangers of nuclear weapons. This is evidence of the geopolitical realities in which the U.S. is pursuing economic confrontation, emphasising specific economic claims against

China. In turn, fearing American military threats in the South China Sea, the Chinese side has taken aggressive political actions to convince the U.S. of its military capabilities. However, if aggressive enough, neither side wanted an actual military confrontation. China's behaviour is based on the situation with Russia's aggression in Ukraine, during which the United States and its allies supported Ukraine. At the same time, China opposed the U.S. by passively supporting the Russian side, which proved more dangerous for China than for the U.S. Another factor was the large-scale decline in the Chinese economy, which threatened social stability. China did not want a war that it could lose, and the U.S. was not interested in an economic crisis in China (Friedman, 2022).

Understanding the impact of U.S.-China relations on the current geopolitical situation requires a comprehensive approach that considers political, economic, military, technological and cultural aspects, historical context and the role of other political actors. The study aims to determine the impact of U.S.-China relations on global politics. Hence, the research objectives are as follows:

1) to prove the influence of U.S.-China relations on global politics;
2) to identify the main factors influencing the dynamics of geostrategic interests and diplomatic relations;
3) to analyse the consequences of the impact of U.S.-China relations on the geopolitical structure on the example of individual countries.

Literature Review

It took China only a few decades to transform from an ordinary member of the international community to become the most significant regional power aspiring to become a global player. Today, humanity is witnessing a new confrontation between the U.S. and China, characterized by mutual claims, trade restrictions, and a technological struggle.

After the COVID-19 pandemic, the issue of interests between the U.S. and China has become more acute in the economic and trade spheres, taking on a more ideological dimension. Trump administration officials have been critical of China, its government, and its violations of human rights and international agreements.

China's high hopes for improving relations with the U. S. in the event of J. Biden's election in the fall of 2020 did not materialize. Although J. Biden mostly sought to avoid escalating ideological discussions with Chinese party leaders, relations remained tense, and competition intensified in various policy areas. From China's perspective, under J. Biden's leadership, the U.S. adopted a tougher policy, employing sanctions and restrictions on specific Chinese citizens based on their stance. In May 2022, Secretary of State A. Blinken emphasized the need to enhance the country's investment potential and collaborate with American partners to compete with China and shift its strategic position (Blinken, 2022).

However, the changes in the relations were not unilateral; they were primarily driven by China and can be partially explained by the emergence of alternative political approaches that have developed in recent years. The Jinping administration is spreading the idea that China has to act more assertively to play a much more significant role in the world. The official documents indicate a strengthening of approaches aimed at integrating China's key role in the global community. The internal policy of China is based on the thesis of achieving the status of a global political player by the country. The Chinese leadership considers these tasks quite realistic, which is being implemented as a strategy to weaken the West and strengthen the East (Buckley, 2021).

The military budget of China in 2022 amounted to approximately 292 billion US dollars, which is over 4% higher than the expenditures in 2021 (Tian et al., 2023).

China's position on its peripheral territories related to Taiwan is also quite principled. At the same time, China's ambitions beyond its traditional regional role are growing. Hence, the growing U.S. pressure leads to a specific reaction from China regarding its vision of the balance of power in the global public space and international order. For example, the large-scale One Belt, One Road project manifests China's vision of changes and challenges to the rules and institutions of the liberal democratic world (Yu, 2019; Glaser, 2022).

As we can see, the complexity of relations between China and the U.S. has its historical preconditions, which began to intensify in 2008 and created a certain unpredictability for the further implementation of the U.S. global policy. The strengthening of China's potential is gradually evolving into its aspiration to transform the existing international environment to achieve significant outcomes, namely creating a favorable political climate conducive to China (Doshi, 2021). China's neutral position after Russia's invasion of Ukraine on 24 February 2022 was also contrary to U.S. policy. Analysing Joe Biden's approach to the FOIP, it is clear why China is considered the most significant potential threat to the security of the U.S. (Lieberherr & Maduz, 2022).

In turn, the Chinese strategy is based on the desire to become the most considerable economic and military power, shifting the hegemony of the U.S. Based on the geopolitical competition between the two countries for political values and institutions that establish the post-Cold War world order, China has seen American institutions and values as an obstacle to itself and a deterrent to growth (Doshi, 2021). Therefore, to politically and economically counter U.S. global influence, China has actively begun to join regional and international institutions.

The economic convergence of countries characterizes the current situation, and questions of technological security are becoming increasingly critical. In the United States, the CHIPS and Science Act was passed at the end of 2022 (Peters, 2022), which was supposed to accelerate the "internalisation" of semiconductor production. The concentration of production in China required the reorganisation and restructuring of the global economy and trade. At the same time, exports of U.S. goods to China in 2020 reached $124 billion, while imports reached $434 billion. Hence, the U.S. trade deficit with China was $310 billion (Bureau of Economic Analysis, 2022). China has become the largest supplier of goods to the U.S. and the third largest consumer of its exports after Canada and Mexico (Chotiner, 2021).

The competition between the United States and China is rising. In the future, rising tensions may lead to a widening of ideological and economic indicators, which could distinguish a bloc with the U.S. and its allies on the one hand and the Russian-Chinese alliance on the other, which will strengthen resistance on various fronts in the further global development after Russia's invaded of Ukraine (Carlson, 2022).

The future U.S.-Chinese interaction and their struggle will depend on the directions of China's domestic policy and its development. There are enough complex problems that put pressure on the Chinese Communist Party. China's past socio-economic policies led to a long-term decline in economic growth. The current assessment of the situation shows that China's growth could reach 2-3%, creating a completely different future (Rajah & Leng, 2022; Grano, 2023).

The competitive confrontation between China and the U.S. has affected small countries' political options, and many chose between the U.S. and China (Kuik, 2020; Tritto et al., 2022). At the discourse level, the U.S. and China address their supporters by characterising their actions as a competition between effective and lousy governance (on the part of China) and authoritarianism and democracy (on the part of the U.S.). Despite some economic separation, China remains dependent on the international trade network. The confrontation has intensified due to the financial factor and accelerated due to digital transformations. The extent to which this state of affairs can shake the international community in matters where broad cooperation is needed also depends on other factors that may emerge in the near future.

Methods

The study's analytical structure is based on identifying key actions and geopolitical orientations of the U.S. and China, which involve defending their political, economic and military interests. Contextual and comparative analysis of opinion polls, reports, surveys and other sources were used to analyse the data. The research procedure is based on obtaining the necessary data analysing the state of U.S.-China relations and the attitudes of different countries to them, the results of data analysis, and the formulation of conclusions. The research methodology involved the use of a comparison method, graphical analysis of the characteristics of the role of the U.S. and China for the respective countries (adversary, rival, ally, partner), prognostic method and content analysis of German political declarative documents. The dataset used was the results of a 2021 survey on the perception of China's role and place in relation to their own countries and the results of a 2023 survey on the role and place of the U.S. regarding their own countries. Forecasting the geopolitical situation in ten years was based on the survey of respondents in 2023. These surveys were conducted by the European Council on Foreign Relations (ECFR) in 2021 and 2023 (Krastev & Leonard, 2023; Oertel, 2021; Moldicz, 2021).

The final stage involved determining the role and place of China in Germany's foreign policy based on the content analysis of its declaration documents. In this case, Germany is the largest economy in the European Union and a significant geopolitical player (Reimers, 2021; Damm, 2020).

In characterising the influence of the U.S. on the overall geopolitical situation, the authors use data from surveys of respondents in 10 European countries with different levels of economic development – Denmark, Estonia, France, Germany, Italy, Poland, Portugal, Romania, Spain, and the United Kingdom (Krastev & Leonard, 2023). To characterise China's influence on the overall geopolitical situation, the study used data from surveys of respondents in 12 European countries (Hungary, Poland, Estonia, Bulgaria, Italy, Denmark, Portugal, Austria, Sweden, France, the Netherlands, and Germany) (Oertel, 2021; Moldicz, 2021). Data from surveys of respondents in 10 countries (Denmark, Estonia, France, Germany, Italy, Poland, Portugal, Romania, Spain, and the United Kingdom) were used to determine the overall geopolitical situation in the world based on the analysis of policies regarding the perception of other countries as threats or allies for the next ten years (Krastev & Leonard, 2023).

Results

The confrontation between the U.S. and China has led to different approaches to defining each country's role in selected European countries. A survey of respondents on the perception of the role of the U.S. for their own countries was conducted in 2023. Most respondents in eight countries consider the United States a "necessary partner". However, Denmark and the United Kingdom consider the United States an ally, while Germany and Poland have fairly evenly split the two options (Figure 1). Based on a similar study in 2021, fewer Europeans saw the U.S. as an ally, and this response was not prevalent among the citizens of the countries surveyed (Krastev & Leonard, 2023).

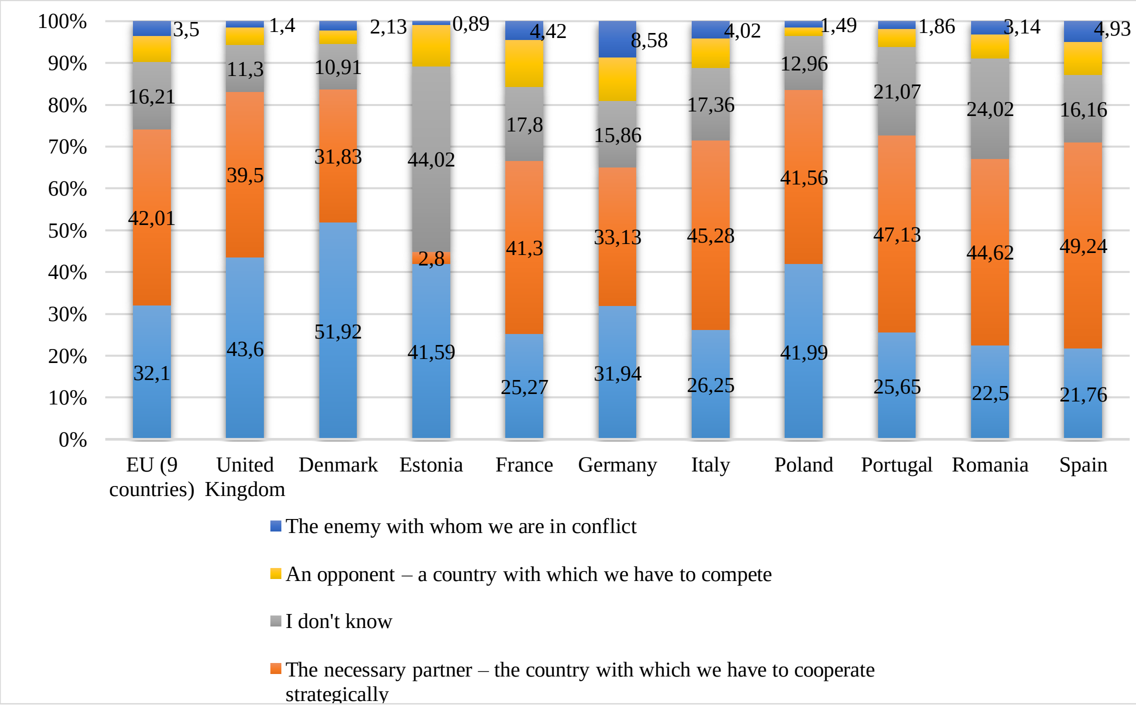

Figure 1. Respondents' views on the role of the U.S. for their country in 2023, %
Source: (Krastev & Leonard, 2023)

The same approach can be used to assess China's role in individual European countries. 47% of respondents in Germany identified China as the opposing party with conflictual relations with European countries (according to a survey conducted in 2021) (Figure 2). A similar assessment was given by the Netherlands, France, Portugal and other countries that took part in the survey. Indeed, the public perception of China as a partner in EU Member States is relatively high, demonstrating that there are specific common interests with Europe. Still, this state of affairs is somewhat conditional. Despite the perception of partnership with China as necessary in certain areas, countries that can be called leaders in Europe (Germany, France) have different positions (Oertel, 2021).

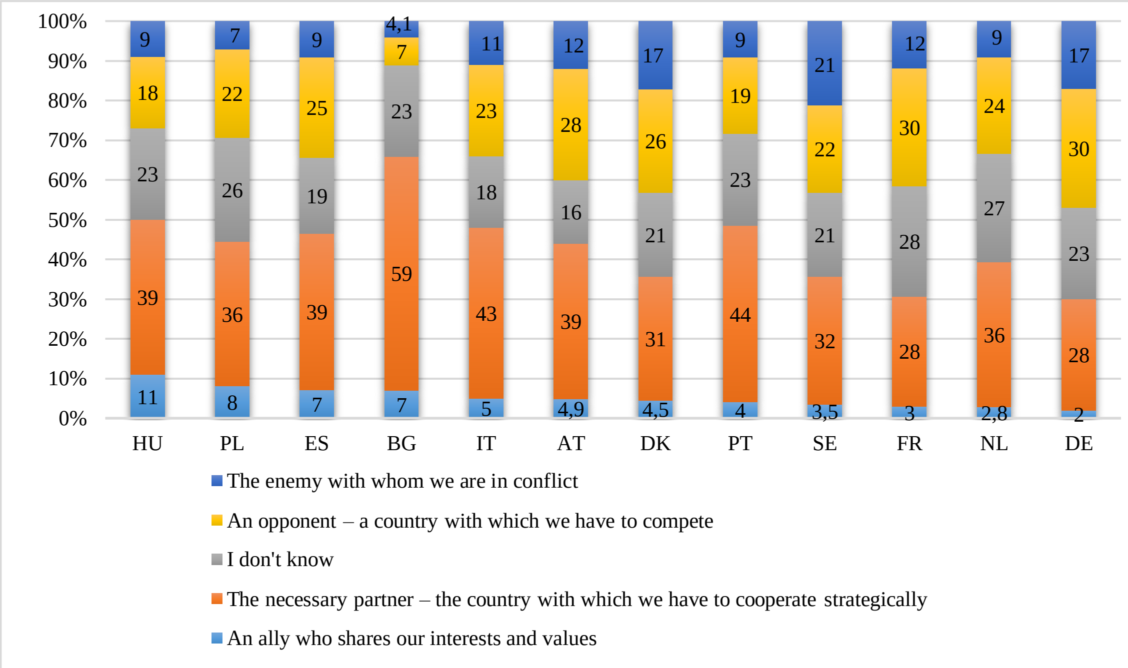

Figure 2. Respondents' views on China's role in their country in 2021, %
Source: (Oertel, 2021; Moldicz, 2021)

It is essential to understand specific trends that shape U.S.-China relations to determine the likely development of the geopolitical situation in ten years (Table 1). The respondents in the nine EU countries suggest that specific associations led by the U.S. and China will continue to compete in future. However, the respondents from 10 European countries showed different views on the development of the geopolitical situation. Almost every country demonstrates confidence in dividing the world into two spheres of influence (the average in the EU is 28%, Spain and Italy – 32%, and Romania – 24%). Another opinion – that the world will be multipolar – is widespread (average – 19%). At the same time, many respondents could not decide on their position (the average in 9 EU countries is 25%, with the highest result in France, Romania, the UK, Poland, and Denmark). This indicates uncertainty or a lack of relevant information among the surveyed Europeans (Krastev & Leonard, 2023).

Table 1.
Probable scenarios of the geopolitical situation in ten years, %

	EU (9 countries)	Spain	Romania	Portugal	Italy	Germany	France	Poland	Estonia	Denmark	United Kingdom
The division of global power between two rival blocs with the United States and China at the head	28	32	24	27	32	30	28	26	25	30	29
US global dominance	7	5	9	4	10	6	4	9	4	6	4
China's global dominance	9	9	8	8	15	10	7	9	5	9	11
More even distribution of global power between several countries	19	18	19	24	9	17	17	17	30	17	16
The global dominance of another country (not the U.S. or China)	4	4	5	3	6	4	3	3	2	3	2
I can't answer	25	22	25	23	23	22	33	29	20	31	30
Another option	8	9	10	9	4	10	8	7		4	9

Source: developed by authors based on Krastev and Leonard (2023)

The final analysis is to determine the attitude of German political forces towards China. The researchers have identified a critical position towards China based on violations of civil rights, existing geopolitical conflicts, and market competition (Reimers, 2021). The CDU/CSU calls for cooperation in the economic sphere, highlighting the external and security challenges posed by China. The political force of the Greens focuses on upholding human rights and addressing environmental protection through collective problem-solving. FDP criticises China for human rights violations and relations with Taiwan. The Left Party is trying to maintain equal relations with both U.S. and China. The AFD party supports Germany's partnership in economic projects, while being critical of China's external interference (Damm, 2020). All centrist parties (SPD, CDU/CSU, Alliance 90/The Greens FDP) support the EU's 2019 formulation of China as a partner, competitor and rival and promote a level playing field (Table 2) and support the growth of Europe's competitiveness, primarily in the technological sector and digitalization.

Table 2.
Positions of different political forces in Germany on China policy

	AFD	Left	FDP	Green	SPD	CDU/CSU
Enhancement of European Competitiveness, with a Focus on Technological and Digital Sectors	–	–	+	+	+	+
The continuation of the EU-China interaction	–	–	+	+	+	+
The defense against China in terms of communication means, innovative technologies, and data	–	–	–	+	–	+
Faire conomic relations	+	–	+	+	+	+
Creating European alternatives to the BRI	x	–	+	+	–	
Strengthening transatlantic cooperation (a), explicit vis-à-vis China (b).	–	x	+	++	+	++
China's Involvement in Disarmament Processes	–	+	+	+	+	–
Cooperation with China in the Climate Sphere	–	–	–	+	+	–
Enhancing Cooperation in the Indo-Pacific Region	–	–	+	+	–	+
Intolerance towards human rights violations	–	–	+	+	+	–
Support for Hong Kong's Right to Autonomy	–	–	+	+	+	–
Support for Taiwan's independence	–	–	+	–	–	–
Support for the Independence of Confucius Institutes	+	–	+	–	–	–

Note: + the issue was paid attention to; – was not mentioned; x – takes the opposite position.
Source: developed by authors based on Reimers (2021) and Damm, (2020)

These political forces are critical of China and its geostrategic challenges, market interaction, and human rights violations. The Social Democratic Party of Germany considers dialogue with China appropriate but cannot ignore the issue of Hong Kong's autonomy or the Xinjiang Problem. The FDP has clearly expressed its position on the unacceptability of human rights violations and the need for cooperation with Taiwan. Most political forces consider it appropriate to cooperate with China at various levels. The Green Party does not object to the U.S. proposal to confront China and its democratic allies jointly. This is the position of the CDU/CSU and the Greens within the framework of transatlantic cooperation. Future approaches to Germany's economic cooperation with China may move towards a reduction, given the growing need for security, the use of technology, and the need for active support from Western partners in countering the Russian invasion of Ukraine.

Discussion

The study of the importance of U.S.-China relations for global politics, the identification of the main factors influencing their dynamics, and the analysis of the consequences of this influence on the geopolitical structure of the world have certain limitations and caveats. The respondents' perceptions of the countries used in the study are based on their own understanding, which may not be related to political, economic or military analysis. Thus, a certain percentage of subjective results may be expected. In addition, the available data contains only a limited number of countries (12 in one case and 9 in the other), which does not reveal the complete picture of different regional groups and individual countries. The analysis of responses related to China was based on the public position in 2021. At the same time, German political forces' assessment of China shows a much more robust level of professionalism in declaring the consequences of the geopolitical situation.

Some researchers suggest that continued U.S. cooperation with China is unlikely to soften the latter's position on specific global issues, and individual countries will face the problem of choosing allies. These results are confirmed, for example, by a study of South Korea's foreign relations, where a complex process of choosing individual strategic actions towards the U.S. and China is underway. This requires a complex foreign policy programme, considering polarised opinions on relations with the U.S. and China (Heiduk, 2022).

The competition for power between the U.S. and China in Southeast Asia and the South China Sea also considers developing countries (Singapore, Indonesia, Vietnam, the Philippines, Malaysia). Specific diplomatic isolation should localise China's actions to minimise its recent military actions (Vo et al., 2023). This may indicate that the U.S.-China rivalry intensifies regional conflicts, stimulating ties between other countries and their attempts to gain support from global rivals, thuswise changing the nature of regional problems (Schindler & DiCarlo, 2022).

China has to confront the growing military, diplomatic and technological coordination between democratic countries in the Eastern part of the world that are allies of the U.S. (Japan, India, Australia, and South Korea). In case of increased mutual confrontation, this will force both the U.S. and China to seek approaches to these countries to continue influencing players in the region (Wyne, 2022).

We have different situational solutions based on the analysed impact of U.S.-China relations on the geopolitical situation and, consequently, the movement of certain countries in support of each party's position. For example, one of China's partners, Serbia, has stated that the Russian-occupied Crimea and Donbas belong to Ukrainian territories. For the U.S., it is critical that China and Russia strengthen their cooperation, which would harm both its economic interests and the war's end in Ukraine. Another area is the U.S. effort to preserve the status quo in Taiwan, which China seeks to take control of even by military means. Although China does not intend to launch a forceful scenario, considering the excessive economic risks. On the other hand, the possibility of ending the war in Ukraine, if Ukraine achieves its goals, will help improve relations between the U.S. and China. In the absence of Ukraine's military success, U.S.-China relations may further deteriorate, manifesting as a strengthening of the anti-Western coalition (Zhang, 2023).

The U.S. should demonstrate readiness to change relations depending on the actions of the Chinese side and recognise China's contribution to the agenda in case of its positive steps. Establishing optimal U.S.-China relations will help to strengthen the resolution of the global recession, mass migration, environmental issues, the Russian invasion of Ukraine, food security, and nuclear threats posed by North Korea. In the short term, the U.S. and China will be political and economic rivals, while the priority should be to solve global and domestic problems rather than a global confrontation between the two countries.

Conclusions

The study emphasizes the significant role of the U.S.-China rivalry in shaping the global geopolitical situation, which requires developing and implementing strategies to maintain stability, finding standard solutions to global problems, cooperation and peaceful coexistence between the U.S. and China. Such strategies should consider political, economic, climate, security, socio-cultural and technological dimensions of relations between the two countries.

At the same time, the study identified potential risks and challenges associated with U.S.-China relations. Disagreements in trade, cybersecurity, human rights, and other areas could lead to increased tension and uncertainty in the international arena, as evidenced by the role and place of the two global players for individual countries (adversary, rival, partner, ally). To ensure stability and peace, it is essential that the U.S. and China focus on maintaining an open and constructive dialogue, using the mechanisms of international organisations to address problems jointly.

Understanding each party's main motivations and goals for U.S.-China relations will help determine possible prospects for cooperation or conflict. Consideration of the impact of their relationship on regional stability, the balance of power and interaction with other states in Asia and the Pacific will provide a complete picture of its geostrategic significance. Taking into account trade ties, investment flows, and competition in the economic sphere will improve the understanding of the impact of these relations on the global economy and the formation of new economic blocs. Analysing the two countries' participation in international conflicts and security will help identify possible ways to manage threats and ensure stability jointly.

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