

DOI: <https://doi.org/10.34069/AI/2024.79.07.9>

How to Cite:

Svyrydiuk, O., Balokha, A., Myshkarova, S., Kulyk, N., & Vakulenko, S. (2024). Empowering independent learning: The key role of online platforms. *Amazonia Investiga*, 13(79), 107-122. <https://doi.org/10.34069/AI/2024.79.07.9>


Empowering independent learning: The key role of online platforms

Розширення можливостей незалежного навчання: ключова роль онлайн-платформ

Received: June 15, 2024

Accepted: July 28, 2024

Written by:


Olha Svyrydiuk¹ <https://orcid.org/0000-0003-3954-397X>**Alona Balokha²** <https://orcid.org/0000-0003-4256-5758>**Svitlana Myshkarova³** <https://orcid.org/0009-0002-5888-8703>**Nina Kulyk⁴** <https://orcid.org/0000-0001-7319-3753>**Svitlana Vakulenko⁵** <https://orcid.org/0000-0003-3293-1670>

Abstract


This article highlights the significance of online platforms in both classroom and extracurricular independent learning activities for higher education students, emphasizing the role of the synergistic paradigm of education. It explores independent student work in the context of distance learning, utilizing online platforms and Internet education. The article also delves into the content and periods of independent student work facilitated by online platforms in distance learning scenarios. It presents a classification of online platforms and their role in supporting independent student work within higher education. The study's findings confirm the hypothesis that the purposeful integration of online platforms in the educational process fosters independent learning, contributes to the development of informatics and general cultural foundations, and facilitates a deeper understanding of educational material and professional knowledge among higher education students.


Анотація


У цій статті висвітлюється значення онлайн-платформ як в аудиторній, так і в позааудиторній самостійної навчальної діяльності для студентів вищої освіти, наголошується на ролі синергетичної парадигми освіти. Досліджується самостійна робота студентів в контексті дистанційного навчання, використовуючи онлайн-платформи та Інтернет-освіту. У статті також розглядається зміст та періоди самостійної роботи студента за допомогою онлайн-платформ у сценаріях дистанційного навчання. Представлено класифікацію онлайн-платформ та їх роль у підтримці самостійної роботи студентів у вищій освіті. Результати дослідження підтверджують гіпотезу про те, що цілеспрямована інтеграція онлайн-платформ у навчальний процес сприяє самостійному навчанню, сприяє розвитку інформатики та загальнокультурних засад, сприяє глибшому розумінню навчального


¹ PhD in Education, Associate Professor, Associate Professor of Foreign Languages Department, Pavlo Tychyna Uman State Pedagogical University, Ukraine.  WoS Researcher ID: D-9608-2019

² PhD, Lecturer, Department of Theory and Method of Pre-School and Primary Education, Kherson State University, Ukraine.

 WoS Researcher ID: AAW-6713-2020

³ PhD in Pedagogical Sciences, Associate Professor of Mathematics with Methods of Teaching Department, Rivne State University of Humanities, Ukraine.  WoS Researcher ID: KUD-2327-2024

⁴ Candidate of Sciences in Physical Education and Sports, Associate Professor, Sumy State Pedagogical University named after A. S. Makarenko, Ukraine.  WoS Researcher ID: IQX-1647-2023

⁵ Candidate of Sociological Sciences, Docent, Associate Professor at the Department of Sociology of Management and Social Work, V. N. Karazin Kharkiv National University, Ukraine.  WoS Researcher ID: JAC-5513-2023

Keywords: online platforms, independent study of students, institutions of higher education, independent work, distance learning.

матеріалу та професійних знань студентами вищих навчальних закладів.

Ключові слова: онлайн-платформи, самостійне навчання студентів, заклади вищої освіти, самостійна робота, дистанційного навчання.

Introduction

One of the important modern realities is the digitalization of all spheres of life. The educational sector is no exception. Information and digital technologies create a new reality that constantly affects people. The influence of information and digital technologies created a new digital culture. The emergence of Internet technologies and computerization provided enormous new opportunities for the educational process on a global scale, in particular, the development of distance learning technologies (Kremen, 2023).

Modern education is transformed from a transmitter of social experience into a driver of individual human development and self-realization, which, in the conditions of the unstable 21st century, prepares a person for life thanks to the digitalization of the educational process, the use of ICT tools and, in particular, through the use of online platforms, promotes independent learning of students, because the information and digital environment is becoming a necessary condition for activity in all spheres of social life.

It is online education that has made it possible to have access to quality education for students of all levels of education from all over the world and has become a significant part of the educational process in the world. Thanks to this, the entire educational process takes place at its own pace and allows you to choose courses or materials through the use of online platforms that meet the interests and specific needs of students, regardless of the location of the student of education, his social status, and other circumstances. Online education provides an opportunity to engage in self-education and individualized learning. A key feature of online education is the availability of online platforms thanks to developed technical infrastructure, fast Internet, and access to smartphones and computers (Vasylieva & Kotenko, 2023).

The main purpose of using online platforms is to create conditions for the independent work of the student, ensuring his competitiveness, improving the quality of education and accessibility, and efficiency of the entire educational space (Vasylenko, 2022).

The value of online platforms for both classroom and non-classroom independent educational activities of higher education students is currently a relevant issue of the theory and methodology of learning in the educational process. Based on this, we considered the following questions in the article:

1. The importance of online platforms in classroom work and extracurricular independent activities of higher education students and the role of the synergistic paradigm of education in this.
2. Independent work of students in the conditions of distance learning through the use of online platforms and Internet education.
3. Online communication skills that can be easily acquired through online platforms while working independently.
4. Classification of online platforms and the role of online platforms for independent work of students in the educational space of a higher school.
5. Basic principles of building a modern innovative information and educational environment.
6. Tested experimentally the value of online platforms in educational activities of higher education students.

Literature Review

Scientists from different countries highlight the competitive advantages of students, investigate the qualitative aspects of online education, when studying academic disciplines, describe the features of the introduction of innovative technologies in institutions of higher education, show the role and point out the problems of digitalization in the integration of education, business, and science, which further research of an interdisciplinary and interdisciplinary nature.

Features of the implementation of distance learning and the online education system are highlighted, prospects for the development of online platforms are analyzed, and methodical and theoretical-methodological approaches to solving the problems of online education on a global scale are considered by A. Vasylieva, & S. Kotenko (2023). The economic and social aspects of online education are revealed, thanks to the use of online education tools, the competitive advantages of students using innovativeness in education are described, the prospects and problems of training specialists through the prism of distance learning are described, the marketing aspect of the use of immersive technologies in online education is investigated.

V. Vasylenko (2022) considered the software and telecommunications environment, the information and educational environment of the institution of higher education, which makes it possible for the qualitative organization of education, to define scientific research as the only technological means of education, to ensure the processes of professional counseling of students and their informational support. With the use of distance education platforms, the main features of learning, in particular its personally oriented method, have been determined: accessibility, flexibility, social equality, profitability, coverage, mobility, and technology. The stages of making rational decisions were used to choose the appropriate online platform for distance education, which fully ensures the implementation of the entire set of functions: formulation of restrictions and criteria; diagnosis of the problem; evaluation of alternatives; definition of alternatives; choosing the optimal alternative. An analysis of the most popular distance learning platforms is presented and the main criteria for choosing online platforms in distance education are defined: availability of a demo version; closed or open source software; availability of instructions; availability of quality control of knowledge of higher education students; friendly interface. The principles of building information and educational environments are analyzed: adaptability; integrality; multicomponent; and distribution for distance education, an evaluation of the proposed educational options of the platforms was carried out and the Moodle system was singled out as the most popular and proposed for training.

M. Hebebcı et al., (2020) and I. Yakovleva (2022) focused attention on the creation of platformed learning and a unified educational environment, which they consider the main condition for achieving a new quality education. The researchers presented the results of student surveys on the identification of visualization tools and the most popular technologies that they use during distance learning, the use of online platforms, and the selection of priority criteria for educational services.

L. Horodnycha, M. Olkhovyk, & S. Herhul (2020) showed the possibility of distance learning in higher education, which significantly makes the educational process innovative thanks to the distribution of educational online platforms in various languages. The authors reveal the specific features and functional features of educational modern online platforms. During the educational process of future specialists, scientists described the features of using the Very Verified and My English Lab online courses.

N. Hrechanyk, O. Vasiuk, L. Matsenko, N. Folomieieva, O. Koriakin, & S. Vyhovska (2023) devoted their research to the problem of the development of higher education, the development and implementation of innovative methods in the educational process, the requirements of stakeholders for the personality of a specialist, the possibilities of integration into education digital technologies, digitization in the educational process, development of the educational industry, analysis of factors that stimulate the development of higher education.

Scientists focused attention on a unified educational environment, and the creation of platformized learning, which they consider the main condition for achieving a new quality education. The economic and social aspects of online education are revealed, thanks to the use of online education tools, the competitive advantages of students using innovativeness in education are described, the prospects and problems of training specialists through the prism of distance learning are described, the marketing aspect of the use of immersive technologies in online education is investigated.

At the same time, the criteria for choosing optimal online platforms in modern conditions, taking into account the needs of the target audience, which is directly involved in the implementation of the educational process, are not sufficiently defined in the mentioned studies.

The analysis of scientific sources and the study of the practical experience of teachers of higher education institutions made it possible to identify several contradictions regarding the role of online platforms in the educational process, in particular between:

- Public recognition of the importance of digital skills for all members of the digital society and the imperfection of regulatory and legal organizational and pedagogical mechanisms for their formation;
- High official goals regarding the role of online platforms in the education system and increasing the digital competence of future specialists and the obsolescence of the material and technical base of educational institutions;
- The rapid growth in the demand for digital knowledge, abilities, and skills of specialists for all branches of the domestic economy, state security, and the non-systematic nature of the digital transformation of domestic education and science.

Although there is significant scientific development in the field of research devoted to various aspects of the development of online platforms in the education system in Ukraine, the following remain relevant: generalization of the historical experience of the development of domestic IT education during the times of its independence, scientific analysis of problems, trends, and prospects for the development of this educational field in the conditions restoring the economy and reforming the education system of Ukraine, clarifying its place and role in the market of the global IT industry.

So, the relevance and, at the same time, insufficient theoretical and practical development of the scientific problem of clarifying the trends in the development of online platforms in the education system of Ukraine, as well as the need to resolve the identified and characterized contradictions determined the choice of the topic of the article.

The purpose of the article is to determine the possibilities of use and the main characteristics of online platforms that contribute to the independent learning of students in the modern conditions of the functioning of higher education institutions.

Methodology

To solve the experimental verification and achieve the goal, the research used a set of methods:

- Theoretical methods: method of systematic analysis of psychological, didactic, philosophical, and pedagogical works on the research problem; to substantiate and highlight the principles and features of innovative education in higher education; clarifying the characteristics and essence of basic research concepts;
- Empirical: conducting cross-sections of students' abilities, knowledge, and skills, observing the educational process of a higher school; observations, group, and individual conversations, analysis of the results of educational activities of higher education applicants to determine the state and prospects of the methodology of using online platforms in the educational process of higher education;
- Statistical: qualitative and quantitative analysis of experimental data to confirm the effectiveness of the proposed methodology in the educational process of a higher school, generalization of research results.

The purpose of the study is to clarify the role of online platforms in promoting independent learning of students.

To confirm or refute the effectiveness of the implementation of online platforms in promoting independent learning of higher education students institutions, the results of the study were analyzed at the beginning and after its completion.

At the beginning of the experiment, the first group of samples was considered regarding the quality of students' knowledge regarding the use of online platforms in facilitating their independent learning of the control and experimental groups. The Pearson χ^2 test was used to test the alternative and null hypotheses. Based on the results of statistical processing, it was assumed that the equality of conditions in experimental (EG) groups and control (CG) groups before conducting the formative stage of the experiment and that they received a higher level of awareness in experimental groups (compared to control groups) is explained by the result of the implementation of the proposed method of using online platforms, which contribute to the independent learning of students.

After the formative stage of the experiment, the experimental sample and the control sample have statistically significant differences. This was the reason for accepting the alternative H1 and the reason for rejecting the null hypothesis H0. The results of the experiment in the experimental group showed a

significant increase in the use of online platforms in promoting independent learning of students, and the level of awareness of computer web-oriented systems. We state based on statistical results that the main goal of the study has been achieved, and the effectiveness of the use of online platforms in promoting independent learning of students has been proven.

The analysis of the results of the conducted experiment fully confirmed the hypothesis that the purposeful use of online platforms in the educational process is scientifically based and contributes to the independent learning of students, contributes to the formation of the foundations of informatics and general culture, meaningful and in-depth assimilation of educational material, professional knowledge of higher education students.

When determining the sample of subjects, the general specificity of the subject of the study was taken into account. The total volume of the sample is 62 subjects. When forming the sample, the criteria of meaningfulness, representativeness, and equivalence were taken into account. The sample was formed by random selection using the technical procedure for calculating the selection step.

The experiment was conducted in Pavlo Tychna Uman State Pedagogical University, Kherson State University, Rivne State University of Humanities, and V. N. Karazin Kharkiv National University. The conduct of the experiment is permitted by the scientific councils of the universities in order not to violate ethical considerations in institutions of higher education.

To assess the homogeneity of experimental and control data, statistical processing was performed using MS Excel and SPSS (Statistical Package for Social Science).

Research relies heavily on the accuracy and reliability of the data. In the framework of research work, the quality of data collection and analysis not only adds weight to the research but also contributes to the formation of sound conclusions, which is the key to academic success.

The following digital data collection tools were useful in the study:

- Google Forms – a simple tool for creating surveys that allows you to collect data from respondents, create different types of questions, and collect answers in spreadsheets.
- SurveyMonkey – a modern survey tool that offers a wide range of customization options and analytical tools for analyzing the collected data.
- JSTOR, Google Scholar, and other academic search engines provide access to scholarly articles, books, and other academic resources that may be useful for literature review and theoretical data collection.
- Zotero or Mendeley – bibliography management programs that help organize research materials, store references, and format bibliographies and citations according to different citation styles.
- Microsoft Excel or Google Sheets – spreadsheets are useful for organizing and analyzing collected data when working with quantitative data.
- SPSS, R, or Python for more advanced data analysis, statistical analysis, and processing of volumes of data.

Results and Discussion

The importance of online platforms in classroom work and extracurricular independent activities of higher education students and the role of the synergistic paradigm of education in this.

The modern educational industry combines the classical form of education and e-learning, which allows the use of numerous Internet applications, online platforms, and services to improve the process of training competitive specialists. The use of multimedia technologies and Internet technologies increases the interest of higher education students in learning and diversifies the educational process, making it innovative.

Online platforms under the guidance of a teacher (in classroom work) and in extracurricular independent activities of higher education students have unlimited potential. Online platforms create conditions under which higher education students find tasks themselves, apply educational materials in practical activities, and perform them, which contributes to success in mastering professional knowledge. Offline and online resources enable students to activate the necessary material, independently check the correctness of

completed exercises, individualize learning, use reference and encyclopedic resources to search for information, etc. (Karpushyna & Shumylo, 2018).

To understand the educational process as a process of self-organization of the individual, to change the view on the educational process allows taking into account the categories and principles of synergy. The synergetic paradigm claims to reveal the principles of self-organization of the education system and socio-economic systems. The synergistic paradigm is based on the concepts of open systems, small resonance effects, nonlinearity, self-organization, chaos, understanding the importance of randomness, etc.

The development, taking into account the principles of synergy, modern teaching methods, and technologies of the educational process will make it possible to transfer the externally organized process of online education into a process of self-organization and create such an educational environment in which the personality of the student of higher education, as the subject of education, is in the center of attention.

Conducting online courses in developed countries and using digital technologies in higher education is carried out on a par with traditional teaching methods. Appropriate conditions were created for both types of education. Applicants of higher education are allowed to choose the format of education (Vasylyeva & Kotenko, 2023).

Independent work of students in the conditions of distance learning through the use of online platforms and Internet education.

Independent work of students in the conditions of distance learning through the use of online platforms and Internet education has its characteristics.

Independent educational work of students in the innovative environment of higher education is the integration of the activities of students and teachers in the conditions of an informational educational environment, which is one of the forms of active educational and cognitive activity.

Independent work of students under the conditions of distance learning through the use of online platforms and Internet education is considered as:

- Work that, to acquire skills and new knowledge, is carried out according to the task and under the guidance of the teacher, but without his participation;
- A means of activating knowledge, consolidating educational material, and developing cognitive activity;
- A set of educational actions aimed at independent deepening and consolidation of previously acquired skills, abilities, and knowledge, as well as mastering new knowledge, skills, and abilities.

Independent work of students under the guidance of a teacher in the conditions of distance learning through the use of online platforms and Internet education is carried out with the aim of:

- Assistance in preparing for practical classes, seminar classes, and writing scientific student papers;
- Assistance in choosing the necessary information and orientation in information sources and streams, in compiling a bibliography on the research topic chosen by the student, which is being studied or experimented with.

In the basis of training, during the independent individual work of the student, the teacher establishes a virtual connection between him and the teacher, which is determined by the defined tasks for the independent work of various forms of the educational process (correspondence form, full-time form), based on which:

- 1) Study of educational-methodical and educational-research literature, processing of monographs, articles, dictionaries, primary sources, and encyclopedias using Internet-educational platforms and writing based on the reference summaries, abstracts, essays, scientific theses;
- 2) Performance of practical tasks and creative exercises, presentation of diagrams, tables, schemes, and graphs through the use of online platforms, which are the result of generalization, systematization, analysis of scientific and educational information of different content, compilation of questionnaires and interviews for writing essays, articles, conducting sociological research, social programs and social

projects, analysis of the client's individual case and life situations, development of mediation technologies, training methods, social support, etc.;

- 3) Writing scientific research works using online platforms: tests, essays, term papers, qualifying master's theses, short scientific reviews, articles, reports, etc.

Let's consider the periods of independent work of students using online platforms in the conditions of distance learning:

- 1) Preparatory stage: familiarization with the structure and program of the educational discipline and registration for the educational discipline of the MOODLE educational platform;
- 2) Organizational stage: informational, technical, methodical, ensuring the independent work of the student of higher education through the use of online platforms in the conditions of distance learning;
- 3) Completion by the student of the task proposed by the teacher and placement on the MOODLE platform;
- 4) According to the agreed (teacher-student) system of points – assessment by the teacher of the task (Bazylenko et al., 2020).

When organizing independent work in the online platform system, various interactive elements are used. Let's reveal their content:

- **Forum** – between all participants of the educational process – serves for information exchange;
- **Task** – the element requires the student of higher education to electronically prepare an answer in any format that allows setting a task and uploading it to the server;
- **Chat** – allows higher education students to exchange text messages in real time;
- **Personal messages** – organization of exchange between the teacher and students by text messages;
- **Web consultation** – can be used in Zoom-on-line mode for joint consultations between students and teachers;
- **SCORM / AICC** – an element containing flash animation, graphics, web pages, and programs (Javascript), makes it possible to use training courses developed in third-party programs in the system;
- **Tests** – the element enables the teacher to present himself in the form of matching questions, to formulate answers (multiple choice) in a closed form, to create a set of test questions with a choice of "false" or "true" options, to assume a numerical answer option or a short text answer. At the same time, the questions can later be used again in the same course, because they are stored in the database.

Online communication skills that can be easily acquired through online platforms while working independently.

From the list of necessary skills for a competitive specialist, we will single out effective communication skills in the "online" mode, which can be easily acquired with the help of online platforms in the process of independent work while studying at institutions of higher education:

- 1) **Tact** – a quality that, during the independent work of students under the guidance of a teacher in the conditions of distance learning through the use of online platforms, compliance with the rules of conduct, minimization of possible conflicts, the ability to understand the current situation, and the presence of students in business communication skills. The online format of learning and independent work involves large volumes of communication in work chats, in e-mail, in messengers, and in the format of video communication. Mastering communication skills in the mode of using online platforms during independent work under the guidance of a teacher, students learn tact in video conferences, tactful correspondence, because in "online" there is more time to formulate their thoughts and the online format allows the student to prepare in advance for dialogue;
- 2) **Responsibility** – in modern conditions, occupies the first place in the rating of professional qualities of a specialist, is a key skill of a specialist. 80% of all vacancies in 2023, which mention the necessary soft skills possessed by specialists, require them to be responsible. Employers give preference in employment to those people who will perform the assigned tasks within the specified time and will perform them innovatively. To develop responsibility when using online platforms during independent work, it can be argued that all online courses are based on specific deadlines for the completion of any tasks, there is a clear schedule for their completion. The Bologna system of the educational process stimulates students in higher education institutions to take a responsible attitude, and the online format helps in this – it provides the necessary target and time limits;

- 3) **Self-organization** – this allows the student of higher education to organize his educational activities in such a way that he not only fulfills the tasks but also fully realizes his professional potential. In today's society, potential employees need to organize their work and adapt to the situation in such a way as to perform the assigned tasks with maximum productivity. Online education, with the help of the principles of self-management, and the use of online platforms during the independent work of students, stimulates the development of each professional skill and contributes to its further improvement;
- 4) **Analytical abilities** – in our dynamic environment, a person's ability to critically evaluate and analyze the situation is a rather important trait and is necessary today. Online education through the use of online platforms during independent work enables the student to use methodical tools and additional software tools to work with a large amount of data and analyze the obtained data;
- 5) **Multitasking** is one of the important skills for employers. Being a multi-tasking employee is a necessity today, so employers are looking for job candidates who can do several tasks at the same time. In turn, online education and the use of online platforms help a person to obtain several specialties at the same time and to be a multitasking worker.

Among the qualities that are now valued in vacancies by employers are the following: mobility, flexibility, and adaptability. It is through the use of online learning tools that the development of these human characteristics can be accelerated.

However, some skills have been "suffered" by online education and the distance learning system. For example, this is:

- 1) **Sociability** – manifests in a person through openness and easily finding a common language with other people. In the case of remote work and distance learning format, employees and students (potential candidates for professional life) lose this skill, because the lack of live communication makes the employee less socialized and communicative;
- 2) **Teamwork skills** are the key to the successful performance of tasks set by the team. Coordinated work of the team and the presence of good professional relations in the team is a guarantee of the flexibility of all team members and high efficiency of the work done (Vasylieva & Kotenko, 2023).

Classification of online platforms and the role of online platforms for independent work of students in the educational space of a higher school.

In remote conditions, E-learning allows independent work to maximally diversify relevant technologies and forms of mastering professional skills, which can be explored visually, using the example of modern educational online platforms (Correa Cruz et al., 2017).

The choice of online platforms for independent work in the educational space of a higher school should develop professional features of educational basic components and meet certain criteria of innovative modern education. we talk about the importance of strengthening educational motivation; the need for didactic features of education; the development of skills of reflection, self-analysis, and self-education; and stimulation of students' intellectual activity.

We present a universal classification of online platforms necessary for the independent work of students in the educational space of a higher school:

- Training management and content management systems;
- Online courses;
- Applications or "applications";
- Software for video conferences;
- Social media;
- Modern multimedia laboratories (Ikonnikova & Komochkova, 2019).

Let's consider educational online platforms as pedagogical software tools (educational and monitoring). Such innovative modern tools are designed for the acquisition of knowledge by students and their skills, abilities, and knowledge (using distance learning technologies) under the guidance of a teacher or during independent work. These include distance courses posted on teachers' websites – electronic manuals,

computer programs, multimedia training courses, and electronic simulators located on a personal computer or located on the Internet (Kuchai et al., 2017).

Modern educational platforms for independent work in the educational space of a higher school consist of a large number of multidisciplinary online courses and most of them are taught in different languages.

For the process of distance learning, online platforms in the context of learning English become methodically interesting, which provide a wide range of methodical opportunities for distance training and, by the level of language proficiency, offer students innovative training, taking into account various specializations, professional preferences, creative (in line with soft skills) technological findings.

MyEnglishLab online platform – in the English language learning system is a new and interesting step in the education of the new generation. The leading role when working with this technology belongs to the teacher, who creates an optimal environment for language learning and becomes the leader of the student's independent work. The teacher has the opportunity to allow higher education students to supplement and check their knowledge at different levels, and to work with different tasks. In the process of work, the student gets access to all possible auxiliary resources: video materials, audio recordings, etc. The interactive activity of students and the teacher is the main factor of effective work with the MyEnglishLab online platform, which allows you to use and reveal all the student's capabilities. Its use makes it possible to implement all types of feedback: decisive; educational; informative; and effective. Working on the online platform disciplines the student thanks to the system of tests for which you can choose the number of attempts and the duration of execution, the system of deadlines for individual tasks.

Important during the educational process is the self-monitoring function, which allows the student to analyze his own mistakes and instantly see the results in percentages. The platform contains tasks to consolidate the material, which provides an opportunity for the student to repeat the material that was discussed during the classes.

When using the MyEnglishLab online platform, higher education students develop critical thinking, demonstrate creativity, teamwork, the ability to present information concisely orally or in writing, research ability, communication skills, etc. (Rashkevich, 2016). You can link the MyEnglishLab platform to the student's e-mail to receive notifications about new tasks opened by the teacher and about the time of completing tasks. The block of tasks for improving phonetic skills is an important feature of this online platform, which allows you to train pronunciation, and accents, allows the teacher, to add private comments, to correct students' mistakes at the same time.

It is possible to use MyEnglishLab as an additional tool to consolidate the studied material or to use it as an element of student independent work because the online platform is linked to the basic textbook.

Special online courses, which are taught in different languages and which update the professional competencies of the future specialist, are of great importance in promoting the independent learning of students. For example, "developed by the International Research and Exchange Council of IREX in partnership with the online education studio EdEra and is part of the project "Study and Discern Info-Media Literacy", implemented by IREX with the support of the US Embassy and the Embassy of Great Britain" online course Very Verified: media literacy course.

The course is available in several languages, which made it possible to reach a large number of students and use an online platform for media literacy, and critical thinking, for the formation and general competence of future specialists. The Very Verified online course is a component of students' independent work, after successive study of the relevant educational module in English, the student receives points for independent work and a certificate. For distance learning, the Very Verified online course is very convenient, because learning takes place at a time convenient for the student, using modern gadgets (phone, netbook, tablet, computer, etc.), in various educational formats: informative images, short articles, educational videos, interactive tasks, interviews, tests, and additional materials. One of the features of the Very Verified online course is the ability to set up subtitled videos and choose your own comfortable playback pace (Horodnycha et al., 2020).

The Socrative online platform is used in higher education institutions to test the acquired knowledge. The Socrative online platform offers task templates and various tests that must be filled with relevant material.

A ready-made test provides an instant opportunity to remotely check the results of students' performance of tasks. The Socrative online platform automatically sends a test result report to the teacher's e-mail, which significantly reduces the time for evaluating test tasks and checking completed tasks; the teacher has the opportunity to monitor the student's progress, control the time allotted for the test, analyze the mistakes made by the student. The program is available for computers, smartphones, and laptops.

The LiveMocha online platform allows students to communicate with speakers of English culture and language. Learning takes place through the exchange of conversations, texts, and online chats in oral and written form. The LiveMocha online platform provides users with motivational tools, methodical materials, communication tools, and exercises, and provides an opportunity to track the progress of higher education applicants.

The Englishbaby online platform was created for independent learning of a foreign language, it is a social network with developed lesson plans for learning a foreign language by correspondence with other students on forums, correspondence with other network participants in personal messages; solving grammatical puzzles; listening to audio recordings and news, etc. The Englishbaby online platform provides an individual approach to learning and enables the student to independently choose the sequence of exercises (Karpushyna & Shumylo, 2018).

The Prometheus online platform provides access to knowledge, regardless of the wealth of higher education seekers or their place of residence, and includes several courses in various specialties.

The online platform It Labs launched online training based on video conferences, and launched several offline courses with subsequent certification. Among the teachers are employees of the world's largest IT companies.

The online platform "Teleportus" makes the process of involving students in various educational initiatives more convenient and accessible and is aimed at holding conferences and educational events, online broadcasts of lectures, etc.

The Webpromo experts online platform is an internet marketing platform that regularly hosts seminars and webinars, and publishes educational videos on its YouTube channel.

The online platform Coursera is a foreign project of public, widely available, open online distance courses offered by a technology company working in the field of education (winner of the Webby Award in the field of education, the best startup according to the Tech-Crunch website). The Coursera online platform offers its users hundreds of free online courses in various disciplines, where the student receives a course completion certificate upon successful completion. The Coursera online platform cooperates to teach innovative modern online courses with universities from different countries of the world in the following fields: computer science, humanities, engineering, biology, medicine, mathematics, social sciences, business, and others.

The Khan Academy online platform is a non-profit educational organization created to provide high-quality education anywhere and for anyone. Micro-lectures and lectures in the form of YouTube videos have been developed, the web page has methodical materials and practical exercises for teachers. All resources are free and available worldwide for everyone. The lectures are presented in English, but there is a project to translate the lectures into other languages.

Online platform Duolingo, a free crowdsourced translation and language learning platform (English, German, Swedish, French, Spanish); as the classes progress, users help translate articles, websites, and other documents in parallel.

The eFront online platform is available in several versions, implemented by the main functions of LMS / LCMS (Learning Management System / Learning Content Management System), the basis of which is the eFront Core and it is intended to help educators create distance learning and offers tools for creating tests, management tasks, content, formation of an extended reporting system, holding forums, internal exchange of messages, surveys, chats, etc.

Based on a modular dynamic object-oriented learning environment, an online platform called Moodle has found wide application in the world.

Moodle is an open-source e-learning platform. Moodle is a system (open source code and GPL license) of site content management (Content Management System, CMS), specially designed for creating online courses, has free access, flexibility, high performance, functionality, etc. (Snigur, 2022); with the Moodle system contains more than 100 thousand active sites, more than 16 million distance courses, more than 136 million users (Shetelya et al., 2023). "Moodle is an LMS (Learning Management Systems) technology, a software package designed to help educators create quality online courses" (Zongliang et al., 2010). The online distance-learning platform Moodle works as a typical asynchronous e-learning service (Plakhotnik et al., 2023). Moodle is an open-source e-learning platform.

The Moodle online platform, an information space for interactive interaction between the learner and the teacher, scored the highest number of points based on the results of the assessment of the role of online platforms in promoting the independent learning of students and the proposed options of platforms for distance education. The software of the online platform provides an opportunity to place educational materials on the course in any format: text documents, graphics, drawings, video files, audio files, and presentations, as well as create lecture-practical courses equipped with interactive elements and multimedia tools with non-linear navigation (Silenko & Kruk, 2022).

New trends towards the virtualization of education and its democratization are outlined – the online platforms analyzed above, which are freely available and as motivational and educational platforms, can serve as a model for the education of the entire planet (Budnyk et al., 2022).

Online educational content, as well as innovative tools for its creation, are presented in a modern educational environment in such a technological variation that significantly helped us to ensure independent learning of students by implementing the set tasks of distance learning. This is Byju's application with large repositories of educational content for independent work, learning of different levels of learning; Discovery Education, which contains free educational resources about viruses and diseases; Khan Academy contains a wide range of free information, represented by online courses and lessons, suitable for independent work; LabXchange, is educational digital content hosted on an online platform that provides research and educational experiences; Mindspark, an adaptive system for independent work, learning mathematics through online learning; Quizlet (link is external), an online service for independent work, learning through games and educational tools; YouTube, a repository of educational channels and videos; Dingtalk, an online communication platform that allows you to exchange instant messages, conduct video conferences, monitor student attendance, provides independent work; Lark, a set of tools for content creation, collaboration, independent work, cloud storage; Hangouts Meet, an instant messaging and collaboration software from Google; Teams, a platform for chat, collaboration, online meetings, integrated with Microsoft Office software; Skype, a program for voice and video communication; Zoom, a cloud platform for webinars, audio and video conferences (Bazylenko et al., 2020).

With the help of educational online platforms that serve as an innovative tool for student's independent work, we have discovered many different opportunities for the implementation of the educational program. This is also related to the meaningful content of innovative distance learning in language learning, technical capabilities found in the "student-teacher-specialist" coordinate system when skills are formed, and actualization of general competencies demanded by the modern labor market.

One of the characteristic features of the modern educational environment is the ability to communicate at any time, the ability of applicants to work independently at a convenient time, to receive consultations in online or offline modes, the ability to refer to educational and methodical structured materials of the public educational space in any place, to form an individual educational trajectory during the mastering of a specific educational component (Silenko & Kruk, 2022).

The question of choosing a platform for online education is an organizational and economic, multidimensional task, which is solved at the stage of local e-learning or distance learning technology design. The problem covers the assessment of expected costs, medium and long-term consequences, etc. (Snigur, 2022).

As practice proves, for the organization of online training in any company, only 20% of the functions that graduates of higher education institutions receive today are needed, while the remaining 80% they never use in practical activities (Shubalyi et al., 2018).

Basic principles of building a modern innovative information and educational environment.

The analysis of available online learning platforms makes it possible to indicate the main principles of building a modern innovative information and educational environment:

- **Adaptability** (the possibility of flexible modification of online platforms to promote independent learning of students, the information core of a higher education institution, taking into account the purpose and needs of the target audience);
- **Multicomponentity** (training systems, various software, a set of educational and methodological materials, information and reference systems, knowledge control systems, etc. during the independent study of students);
- **Distribution** (taking into account the limitations and requirements of economic efficiency and modern technical means);
- **Integrity** (taking into account interdisciplinary connections, this is the possibility of providing independent training of students in various fields of science and technology – a complex of basic knowledge with access to global resources for various profiles of training future specialists) (Vasylenko, 2022).

So, at the current stage of the global development of society, the problem of determining and analyzing the possibilities of using online platforms for teaching students, taking into account the needs of teachers and students of the educational space and their adaptation to the specifics of providing educational services, is actualized.

Experimental research.

The purpose of the study is to clarify the role of online platforms in promoting independent learning of students.

To confirm or refute the effectiveness of the implementation of online platforms in promoting independent learning of higher education students institutions, the results of the study were analyzed at the beginning and after its completion.

At the beginning of the experiment, the first group of samples was considered regarding the quality of students' knowledge regarding the use of online platforms in facilitating their independent learning of the control and experimental groups. The Pearson χ^2 test was used to test the alternative and null hypotheses. Based on the results of statistical processing, it was assumed that the equality of conditions in experimental (EG) groups and control (CG) groups before conducting the formative stage of the experiment and that they received a higher level of awareness in experimental groups (compared to control groups) is explained by the result of the implementation of the proposed method of using online platforms, which contribute to the independent learning of students.

After the formative stage of the experiment, the experimental sample and the control sample have statistically significant differences. This was the reason for accepting the alternative H1 and the reason for rejecting the null hypothesis H0. The results of the experiment in the experimental group showed a significant increase in the use of online platforms in promoting independent student learning. We state based on statistical results that the main goal of the study has been achieved, and the effectiveness of the use of online platforms in promoting independent learning of students has been proven.

The analysis of the results of the conducted experiment fully confirmed the hypothesis that the purposeful use of online platforms in the educational process is scientifically based and contributes to the independent learning of students, contributes to the formation of the foundations of informatics and general culture, meaningful and in-depth assimilation of educational material, professional knowledge of higher education students.

The survey of students who participated in the experiment concerned the use of online platforms that students use in the educational process and that contribute to students' independent learning.

The experimental group examined the most popular online platforms that were constantly and purposefully used in the educational profession of the students of the experimental group.

Investigating the online platforms that students used during distance learning in the experimental group, we obtained the following progressive results (respondents were allowed to choose several options):

- 83.2% of respondents used the Moodle online platform;
- 84.8% of respondents used the Meet online platform for communication and training;
- 67.8% of respondents used the Zoom online platform for self-study classes;
- 45.8% of respondents used the MyEnglishLab online platform for self-study classes;
- 37.2% of respondents used the Socrative online platform for communication and learning;
- 36.9% of respondents used the LiveMocha online platform;
- 36.1% of respondents used the Englishbaby online platform for self-study classes;
- 30.7% of respondents used the Webpromo experts online platform for training;
- 28.8% of respondents used the Coursera online platform for communication and learning;
- 27.5% of respondents used the eFront online platform.

The results of the survey indicate that the introduction of new information and communication technologies and the expansion of the use of online digital access platforms for communication and learning are the main trends that will determine the processes of innovative transformations in the educational space in 2024-2028 to train competitive specialists.

We agree with the opinion of T. Vasylieva, & S. Kotenko that "over the next five years, more than 75% of companies plan to introduce cloud technologies, artificial intelligence technologies, 86% of companies plan to introduce digital platforms and applications, more than 75% of companies – e-commerce and digital trade" (Vasylieva & Kotenko, 2023).

As part of the research work, the quality of data collection and analysis not only adds weight to the research but also contributes to the formation of valid conclusions, which is the key to academic success. The following digital tools for data collection were useful in the research: Google Forms, SurveyMonkey, JSTOR, Google Scholar, Zotero or Mendeley, Microsoft Excel or Google Sheets, SPSS, R or Python.

The practical significance of the research results is: in the application of theoretical provisions and conclusions to promising ways of using technological innovations in the process of studying various online platforms; in the implementation of several measures related to the implementation of the organizational and motivational component system, aimed at stimulating the respondents' interest in the formation of students' competencies and in the practical significance of innovative learning technologies; in the implementation of various components that contributed to providing future specialists with a knowledge system and revealed the essence of innovative learning technologies, their types, didactic possibilities, etc. The results can be used in the process of professional training of specialists in higher educational institutions, for the preparation of scientific and methodological support for the use of online platforms by students of various specialties of higher educational institutions, in the self-educational activities of students, and teachers of higher educational institutions

Conclusions

The importance of online platforms in classroom work and extracurricular independent activities of higher education applicants is proven, and the role of the synergistic paradigm of education in this is revealed. The independent work of students is considered in the conditions of distance learning through the use of online platforms and Internet education.

The content of independent work of students in the conditions of distance learning through the use of online platforms and Internet education is disclosed.

Periods of students' independent work through the use of online platforms in the conditions of distance learning are considered.

The classification of online platforms and the role of online platforms for the independent work of students in the educational space of a higher school are shown. The main principles of building a modern innovative informational and educational environment are substantiated.

A study was conducted to clarify the role of online platforms in promoting independent learning of students.

The results of the experiment in the experimental group showed a significant increase in the use of online platforms in promoting students' independent learning.

We state based on statistical results that the main goal of the study has been achieved, and the effectiveness of the use of online platforms in promoting independent learning of students has been proven.

The analysis of the results of the conducted experiment fully confirmed the hypothesis that the purposeful use of online platforms in the educational process is scientifically based and contributes to the independent learning of students, contributes to the formation of the foundations of informatics and general culture, meaningful and in-depth assimilation of educational material, professional knowledge of higher education students.

The obtained results can be the basis for some areas of further research: thorough substantiation of ways of introducing cloud technologies, and artificial intelligence technologies into the educational process, and creation of new educational courses of web-oriented computer systems with more thorough training.

For the effective organization of training of specialists of higher education institutions in the conditions of the educational process, it is worth using the following recommendations.

1. The task of the head of the educational institution is to organize the information space to ensure the efficiency and continuity of the educational process. The remote platform should contain all the necessary means for communication, processing, processing, and evaluation of the educational achievements of students. The structure of the platform must be agreed between the head of the institution and the system administrator who is responsible for its operation. The platform must be accessible and secure at the same time.
2. To organize distance learning, it is necessary to create a platform for two-way communication between the participants of the educational process (through the official website of the educational institution)
3. To identify users, it is necessary to create a single database of accounts, with the help of which all participants of the educational process will be authorized during education.
4. To prevent unauthorized entry during online conferences of users who are not members of the group, it is necessary to provide invitation links only to closed communication groups.
5. To join the participants of video conferences, and conduct various types of surveys and testing, it is recommended to send links to events by e-mail.
6. An educational institution should use one of the online services that will allow you to create an internal environment of an educational institution using such platforms as Google G Suite, Microsoft Office 365, etc.
7. When registering on various online resources, participants of distance education should enter the minimum amount of personal data, or indicate inaccurate data. For this purpose, it will not hurt to create a separate e-mail box that can be used during registration.
8. You should not use resources that do not support data encryption, for example, through the https protocol.

The proposed recommendations can complement the work and ensure more successful implementation of activities in the conditions of distance and mixed learning. Although outreach has its challenges, it is considered a very effective form of learning that promotes active student engagement and skill development. Therefore, with the right approach and support, the advantages of using online platforms outweigh the positive aspects, and their use can be an important step in developing students' skills and increasing their interest in learning.

Bibliographic References

- Bazylenko, A. K., Ivanova, I. B., Kyrylenko, V. H., & Kondukotsova, N. V. (2020). *Recommendations for students regarding active learning in online education: teaching method manual*. Kyiv: "Ukraine" University.
https://vo.uu.edu.ua/pluginfile.php/443948/mod_resource/content/1/Рекомендації%20студентам%20щодо%20активного%20навчання%20в%20умовах%20онлайн-освіти.pdf
- Budnyk, O., Rembierz, M., Arbeláez-Encarnación, T. F., Rojas-Bahamón, M. J., Arbeláez-Campillo, D. F., Chinchoy, A., & Matveieva, N. (2022). Formation of tolerance in the inclusive environment of an educational institution. *Amazonia Investiga*, 11(56), 305-319.
<https://doi.org/10.34069/AI/2022.56.08.29>
- Correa Cruz, L., López de Parra, L., Rojas Bahamón, M. J., & Arbeláez Campillo, D. (2017). Normatividad y estrategias de formación de profesores en tecnologías de la información y comunicación. *Academia Y Virtualidad*, 10(1). <https://doi.org/10.18359/ravi.2199>
- Hebeci, M. T., Bertiz, Y., & Alan, S. (2020). Investigation of views of students and teachers on distance education practices during the Coronavirus (COVID-19) pandemic. *International Journal of Technology in Education and Science*, 4(4), 267-282. <https://eric.ed.gov/?id=EJ1271267>
- Horodnycha, L. V., Olkhovyk, M. V., & Herhul, S. M. (2020). Experience of using online platforms during distance training of future philologists. *ISCIENCE "Actual scientific studies in the modern world"*, 4(60) part 7, 67-71.
<https://epub.chnpu.edu.ua/jspui/bitstream/123456789/6609/1/Досвід%20використання%20онлайн%20платформ%20під%20час%20дистанційної%20підготовки%20майбутніх%20філологів.pdf>
- Hrechanyk, N., Vasiuk, O., Matsenko, L., Folomieieva, N., Koriakin, O., & Vyhovska, S. (2023). Development of higher education of the XXI century in the world context in the face of global challenges. *Journal of Curriculum and Teaching*, 12(5), 96-111. <https://doi.org/10.5430/jct.v12n5p96>
- Ikonnikova, M. V., & Komochkova, O. O. (2019). Modern online platforms and digital technologies in teaching linguistics in the US higher education practice. *Information Technologies and Learning Tools*, 73(5), 125-134. <https://doi.org/10.33407/itlt.v73i5.2548>
- Karpushyna, M., & Shumylo, I. (2018). Use of educational Internet platforms in learning a foreign language. *Lviv Polytechnic National University Institutional Repository*, 81-87.
<https://ena.lpnu.ua:8443/server/api/core/bitstreams/d27b4789-1142-43f4-9faf-6922c672b230/content>
- Kremen, V. (2023). Teacher training: Challenges and responses: According to the results of the scientific report at the meeting of the Strategic Session of the Heads of Higher Education Institutions, March 1, 2023. *Herald of the National Academy of Educational Sciences of Ukraine*, 5(1), 1-6.
<https://doi.org/10.37472/v.naes.2023.5104>
- Kuchai, O., Kuchai, T., & Pyrzyk, I. (2017). Studying the peculiarities of education development in Japan (in terms of primary education). *Science and Education*, 25(5), 34-40. <https://doi.org/10.24195/2414-4665-2017-5-7>
- Plakhotnik, O., Zlatnikov, V., Strazhnikova, I., Bidyuk, N., Shkodyn, A., & Kuchai, O. (2023). Use of information technologies for quality training of future specialists. *Amazonia Investiga*, 12(65), 49-58.
<https://doi.org/10.34069/AI/2023.65.05.5>
- Rashkevich, Y. M. (2016). *Methodological recommendations for the development of degree program profiles, including program competencies and program learning outcomes*. Kyiv: Polygraph Plus LLC.
<https://acortar.link/1B4pYE>
- Shetelya, N., Oseredchuk, O., Cherkasov, V., Kravchuk, O., Yarova, L., & Kuchai, O. (2023). Competency approach in preparing professionals in an innovative educational environment in higher education. *Revista Conrado*, 19(S3), 298-307. <https://conrado.ucf.edu.cu/index.php/conrado/article/view/3512>
- Shubalyi, O. M., Rud, N. T., Hordiichuk, A. I., Shubala, I. V., Dziamulych, M. I., Potiomkina, O. V., & Sereda, O. V. (2018). *Personnel management: A textbook*. Lutsk: IVV Lutsk NTU.
<https://lib.lntu.edu.ua/sites/default/files/2021-03/Управління%20персоналом%20підручник%202018.pdf>
- Silenko, A. O., & Kruk, N. V. (2022). Distance education: An alternative or additional possibilities of traditional education? *Actual Problems of Politics*, 69, 94-100.
<https://dspace.onua.edu.ua/items/06e372a6-4910-497e-bba9-f760c88757d1>
- Snigur, O. M. (2022). Alternative applications and platforms for the organization of students' educational activities under the conditions of distance learning (pp. 72-76). In *Formation of innovative pedagogical technologies in today's conditions: Materials of the scientific and practical conference (Poltava, June 17-18, 2022)*. Odesa: Young scientist.
<https://molodyivchenyi.ua/omp/index.php/conference/catalog/download/7/73/157-1>

- Vasylenko, V. (2022). Distance learning platforms: Main characteristics and possibilities of use. *Bulletin of the Book Chamber*, 11, 35-40. [https://doi.org/10.36273/2076-9555.2022.11\(316\).35-40](https://doi.org/10.36273/2076-9555.2022.11(316).35-40)
- Vasylieva, T. A., & Kotenko, S. I. (2023). *Problems and prospects of the development of online education: a monograph*. Sumy: Sumy State University. <https://acortar.link/LKEZo7>
- Yakovleva, I. (2022). The use of educational platforms in the educational environment. *Ukrainian Pedagogical Journal*, 3, 137-148. <https://doi.org/10.32405/2411-1317-2022-3-137-148>
- Zongliang, B., Wei, S., & Qunyi, Z. (2010, April). Research on teaching method of WEB-based process management in engineering practice. In *2010 International Conference on E-Health Networking Digital Ecosystems and Technologies (EDT)* (Vol. 2, pp. 554-557). IEEE. <https://doi.org/10.1109/EDT.2010.5496457>

