

Artículo de investigación

Motivation for the selective attitude of students towards school subjects**МОТИВАЦИЯ ИЗБИРАТЕЛЬНОГО ОТНОШЕНИЯ ШКОЛЬНИКОВ К
УЧЕБНЫМ ПРЕДМЕТАМ**

Motivación por la actitud selectiva de los alumnos hacia las asignaturas escolares.

Recibido: 6 de junio del 2019

Aceptado: 6 de julio del 2019

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Abstract

This article analyses selective attitude of teenage students towards school subjects. Selectivity in the attitude to the World is found in any living or acting agent. We consider selectivity regarding school subjects to be a manifestation of the learning agent's position. Children were found to significantly differ in their attitudes regarding social value (importance for a present-day educated person), interestingness (ability to interest), and direct appeal (regarding as favorite) of subjects. Although, objectively, these criteria may be in harmony with each other, assessments of one and the same subject against them may show statistically significant fluctuations. The direct cognitive motive, i.e. interest in the subject, shows lower results than assessment of its social value, the direct appeal (regarding a subject as favorite) being even lower. As for the general attitude towards learning, the cognitive motive also demonstrates lower results in general. Selectivity regarding schools subjects in relation to age shows stagnancy from the 5th to 10th grade. A change is observed only in the final grade (11), when the motivational landscape for learning remarkably shrinks due to focus on career in the nearest future.

Keywords: Personality, position of the learning agent, teenage student, school subject, selective attitude, motives for learning, system of values.

Аннотация

В статье анализируется избирательное отношение школьников-подростков к учебным предметам. Избирательность в отношении к Миру – это одно из проявлений субъекта жизни и любой деятельности. Избирательность в отношении учебных предметов рассматривается нами как одно из проявлений позиции субъекта учения. Установлено, что у детей существенно расходятся оценки предметов по их социальной значимости (важности для современного образованного человека), интересности и непосредственной привлекательности (отнесенности предмета к числу любимых). Хотя объективно эти параметры могут находиться в гармоничном соотношении, оценки по ним одного и того же предмета в ряде случаев статистически значимо различаются. Непосредственный познавательный мотив - интерес к предмету - представлен более низкими показателями, чем оценка его социальной значимости, а непосредственная привлекательность (обозначение предмета как любимого) еще ниже. По общему отношению к учению познавательный мотив в целом также имеет невысокие показатели. Возрастная динамика избирательности в отношении учебных предметов характеризуется стагнацией с V по X класс. Определенный сдвиг наблюдается только в выпускном XI классе, когда мотивационный план учения заметно сужается в связи с профессиональной ориентацией на ближайшую перспективу.

Ключевые слова: Личность, позиция субъекта учения, школьник-подросток, учебный предмет, избирательное отношение, мотивы учения, ценностные ориентации.

Resumen

Este artículo analiza la actitud selectiva de los adolescentes hacia las asignaturas escolares. La selectividad en la actitud hacia el mundo se encuentra en cualquier agente vivo o actuante. Consideramos que la selectividad con respecto a las materias escolares es una manifestación de la posición del agente de aprendizaje. Se encontró que los niños diferían significativamente en sus actitudes con respecto al valor social (importancia para una persona educada en la actualidad), interés (capacidad de interés) y atractivo directo (como favorito) de los sujetos. Aunque, objetivamente, estos criterios pueden estar en armonía unos con otros, las evaluaciones de uno y el mismo tema en su contra pueden mostrar fluctuaciones estadísticamente significativas. El motivo cognitivo directo, es decir, el interés en el sujeto, muestra resultados más bajos que la evaluación de su valor social, siendo aún más bajo el atractivo directo (en relación con un sujeto como favorito). En cuanto a la actitud general hacia el aprendizaje, el motivo cognitivo también muestra resultados más bajos en general. La selectividad con respecto a las asignaturas escolares en relación con la edad muestra estancamiento desde el quinto al décimo grado. Solo se observa un cambio en la calificación final (11), cuando el panorama motivacional para el aprendizaje se reduce notablemente debido al enfoque en la carrera en el futuro más cercano.

Palabras clave: Personalidad, posición del agente de aprendizaje, estudiante adolescente, asignatura escolar, actitud selectiva, motivos para el aprendizaje, sistema de valores.

Introduction

First, let's briefly define the basic concepts used in this article.

Attitude is understood, in Russian psychology, as a complex system of a person's relations with various aspects of reality. Attitude may be conscious or unconscious, biased or indifferent, purely individual or exhibited by groups or communities. In all cases, it will be selective, as it is about significance of an object to a person. If this significance is high, the attitude will become a personal matter (Leontyev, 1975; Myasishev, 2004, etc.). Even the indifferent attitude is selective, as it shows that an object has no significance for a person, let alone becoming his or her personal matter. However, selectivity of attitude is best shown by a positive or negative subjective bias towards the object.

The concept of selectivity in man's attitude to the World, his or her activities, and surroundings is closely connected with the concept of "agent". This concept is used in child psychology, educational psychology, and acmeology when dealing with topics of psycho-didactic theories based on the systematic approach to studies of child education, upbringing, and development (Kazarenkov, 2011; Panov, 2014; Bozhovich, 2013, etc.).

It should be noted, that Russian scientists use the terms "subject" in the sense of "active doer" and "subjectness" (*subyektnost*) in the sense of personal activity. In foreign pedagogy and educational psychology, the former refers to thematic content of an activity or a curriculum discipline to be mastered by students. However, some Russian sources mention words "agent" and "agency" as possible equivalents of "subject" and "subjectness" (Znakov, 2017; Leontyev, 2010, etc.). A detailed linguistic analysis of the words "activity" and "agency" by Selezneva (2015) demonstrated etymological and semantic proximity of these terms both at denotative and significative levels. In this article, we use terms "agent" and "agency" as English equivalents of "subject" and "subjectness" in Russian.

In some foreign studies, such topics as purposes of cognitive activity (e.g. learning), reflections on its implementation, moral development processes, and motivation of collaboration in study groups are viewed from both agent and personality development perspectives (Campbell, et al., 2002; Martin, 2004; Martin, et al. 2010; Perret-Clermont, 1980, and many others). These studies have good reasons to lay

special emphasis on factors of culture as broad environment around a personality-agent, including — needless to say — the education system.

Selectivity is found at the intersection of agential and personal qualities. As an agent, any individual differentiates objects of reality based on his or her attitude towards them. As a personality, he or she actualizes this differentiation based on his or her existing hierarchy of behavioral and activity motives. What is also essential is that the choice of objects normally allows for introspection, is conscious of, and, therefore, can be identified by observation, polling, or conversations.

One of the biggest questions in educational psychology and educational practice is: what determines a selective attitude of students towards school subjects?

In answering this question, we rely on our Learning Agent's Position Development Theory (Bozhovich, 2000, 2013).

Learning Agent is a school (university or college) student, who not only acquires (or even "appropriates", according to A. N. Leontyev, 1975) knowledge and skills, but also relates them to *parts of his or her own experience*, gained spontaneously during practical life and at previous learning stages. This not only results in differences regarding work with educational content, but also in its personal, individual interpretations, as well as in the selective attitude towards school subjects, tasks and types of learning activities, such attitude being an inseparable part of cognitive activities.

Personality, as understood in general psychology, is a complete *system*, consisting of several *subsystems*: hierarchical *structure of motives*, inner *self-presentation ("I")* in all of its aspects, experiencing oneself as a whole at each growing-up stage, given the nature of *activity* and *relations* with others.

Agency is a system of *methods (or strategies)* and individual practices, i.e. ways to realize one's personality, alter, and improve it.

When school begins, a child is already shaped as a personality and agent of cognitive activity. During subsequent development, including the teenage period, a special psychological feature — *learning agent's position* — emerges, determined by its components plus their external and internal links.

This position includes three correlated components: a) cognitive — subject-related knowledge, skills and meta-knowledge ("knowledge about knowledge"), acquired techniques, and learning methods "discovered" by students themselves; b) regulatory — reflections of students on the process and results of their learning, self-diagnostics of error causes, analysis of premises for successful learning; self-correction of one's learning activities; c) personal — orientation of values towards education, selectivity regarding school subjects and types of work; direct emotional appeal of various aspects associated with cognitive activity.

Problem Statement and Research Hypothesis

The following problem is under study: which psychological factors determine the selective attitude of teenage students towards school subjects?

It is obvious, that attitude of students towards school subjects may depend both on various personal factors (anxiety level and associated confidence/lack of confidence, response to success or failure, need for emotional comfort, etc.) and numerous developmental factors affecting them as learning agents (personal learning methods, ability to reflect and criticize one's cognitive activity, persistence in self-regulation, such as self-correction of one's learning activities, etc.). Although the list of such factors may be very extensive, some of them, presumably, are fundamental.

The hypothesis of the research was that fundamental factors are those related to motivation in learning: a) cognitive interest in the discipline — this psychological feature accounts for particular activity aimed at extending knowledge in a particular field; b) social value of the discipline in the current historic period (existing demand for employees with knowledge of it, possibility and need to have this knowledge for further education and the associated career ladder, well-being, etc.); c) direct appeal of the subject, when a student regards it as favorite, enjoys it in the classroom, enjoys it as homework, etc.

It is obvious, that interest in the subject and its direct appeal are correlated. However, our observations and conversations with students suggest that they, subjectively, differentiate these things. Interest in the subject is broader than its direct appeal as it involves not only emotional,

but also rational assessment of the cognitive value present in a particular field of knowledge.

Research Objectives

Our research pursued the following objectives: a) determine, which subjects arouse cognitive interest in teenage students today; which subjects they consider socially important; which of them they consider directly appealing and favorite; b) perform a comparative analysis of the survey data; c) determine, how students themselves explain motivation regarding their choice of particular subjects as interesting and/or socially important.

Research Goal

Identify hierarchical relations between two fundamental motives behind cognitive activity of teenagers in the current educational environment.

Research Methods and Respondents

Our research used three survey methodologies, developed by E. D. Bozhovich, for finding out how teenage students assess their school subjects as socially important, interesting and favorite, i.e. enjoyable in the classroom and emotionally satisfying as homework. Students were asked about three subjects, which they considered most important for a present-day person, three most interesting subjects, and three subjects they could refer to as "favorite". In addition, the survey methodology, developed by G.N. Kazantseva (<https://www.psyoffice.ru/3-0-praktikum-00109.htm>), was used in order to determine the general attitude of respondents towards learning as a cognitive activity. The children were asked to answer the following question: "Why do you learn?" A list of answers was provided to choose from. The student selected only one answer he or she considered best. Some empty space was left for a student to write his or her own answer in case it was not mentioned in the list. After that, group sessions were held with participants to discuss their choice of subjects according to the questionnaires.

The research data was processed statistically per Pearson (level of differences) and Spearman (rank analysis).

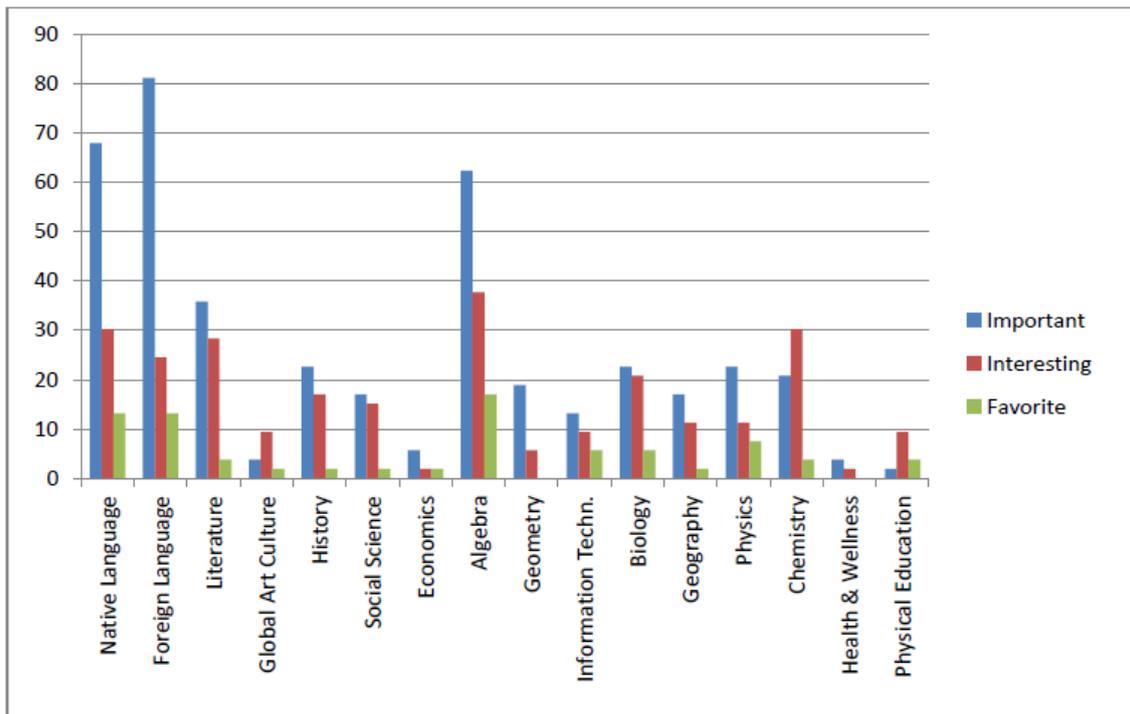
The research involved students from grades 5–11 of Moscow schools, including: regular schools (187 persons), specialist mathematical classes at a gymnasium (101 persons); schools of Nalchik — the capital of Kabardino Balkariya Republic (152 persons). The total number of respondents: N=440. All empirical studies at these schools were conducted in late 1990s and early 2000s.

The research process was assisted by school psychologists N.N. Attaeva (1999), I.A. Malaeva (2000), and A.V. Serova (2009).

Results: motivational factors behind the selective attitude of students towards school subjects

First, we will look at the data obtained at regular Moscow schools. Then we will briefly outline the results obtained at specialist mathematical classes of the gymnasium and Nalchik schools. Differentiated analysis was used due specific features of respondents in specialist gymnasium classes and provincial schools, though no crucial differences between them were found in our data. Let's start with the way children assess their subjects against the three above criteria. It is quite natural that quantitative data (percentage) is different in different grades, though the correlation between the children's ratings is surprisingly similar. In most cases, the importance of a subject is recognized by a much larger number of students than its interestingness, while direct appeal is rated even lower than interest. There are very few cases when results for importance vs. interestingness, or interestingness vs. direct appeal are close.

The pic.1 below shows rating of school subjects by 8-graders against these criteria.



Pic. 1. Rating of school subjects by 8-graders against social value, interestingness, and direct emotional appeal criteria

According to this table, the most important subjects, as rated by the students, are Native Language, Foreign Language, and Algebra ($\approx 62\text{--}81\%$). This can be easily explained: language and math courses have always been considered "core" ones in the Russian system of education, and knowledge of these largely determines the possibility of higher education in the future, regardless of requirements for enrolling in a university—the Unified State Examination (USE) score or results of routine entrance exams. In addition, knowledge of and skills in the native language and mathematics (e.g. algebra) are rigorously monitored at school, as learning these subjects is key to studying many other disciplines. A foreign language, especially English, is needed for contacts with people from other countries, the students being also aware of its importance for tourism and their future jobs.

The conversations showed 5th graders to be still helpless in explaining the social value of subjects. They consider the subjects important, because "there are many of them in the timetable, and we have these classes almost every day". Eighth graders and senior students provide a lot more arguments to justify importance of subjects: "... language influences our world view, and different nations have a different one. Everyone should know this", "You won't enter

anywhere without math — whether it's for studying or for working. Though, I'm into humanities. Languages are very important for me". "You can speak you mind during these classes. You learn to think".

Much (approx. 1.5–3 times) fewer students consider the subjects in question interesting. Direct appeal of these subjects compared with their interestingness is about 2 times lower. Opinions of the children are: "Classes are boring", "We have to memorize a lot", "I don't know, it's just not interesting for me, and that's it".

In summary, the students' choice of school subjects which are important for a present-day person is based (starting with the 8th grade) on both purely pragmatic arguments and motives for self-development. Most respondents still prioritize the practical value of education (for more information about this see: T.G. Rayevskaya, 2000, 2013).

It should be noted, that the least difference in importance and interestingness is demonstrated by Literature, History, Social Science, Information Technology, Biology, and Geography. However, their interestingness is, again, 2–7 % lower than their importance. Their

direct appeal is, in any case, weaker than interestingness.

Surprising are responses regarding Global Art Culture, Chemistry, and Physical Education. These subjects are positively assessed against each of the three criteria by a small number of students. However, there are more students who consider these subjects interesting than those who consider them important. Moreover, these differences are quite big — 1.5 to 4 times. Direct appeal of these subjects is again lower than their interestingness (except for Economics, which is regarded as equally interesting and appealing, but its score against all criteria is so low, that this fact is negligible).

Similar data was obtained in the 5th, 10th, and 11th grades. However, only the 5th and 8th grades provided almost identical results, while senior students demonstrated lower percentage regarding so-called core subjects ($\approx 31\text{--}59\%$). These subjects are now "in competition" with those required for future work in politics, economics, and programming: Social Science, Economics, and Information technology ($\approx 31\text{--}43\%$). However, correlation of the data is the same: all these subjects have a 1.5–2 times lower score of interestingness compared to importance. The number of students who consider other subjects important varies within ranges $\approx 2\text{--}33\%$ in the 5th grade, $\approx 2\text{--}22\%$ in the 8th grade, and $\approx 2\text{--}24\%$ in the 10th and 11th grades. Correlations between ratings regarding importance, interestingness, and direct emotional appeal of the subjects are less similar.

For instance, Arts in the 5th grade is clearly at odds with the overall trend. This subject was considered important by only 6.6 % and interesting by 20.8 % of 5th graders, however only 5.2 % considered it their favorite. Information Technology is almost identical in importance and interestingness (23.3 and 27.3 % respectively), but only 2.6 % consider it their favorite subject. Physical Education is important for 19.5 % and interesting for 37.7 % of students, though only 5.2 % deem it their favorite. Besides, interestingness of this subject is rated by children higher than social value and direct appeal. This, as it turned out, results from the thrill of sport and its challenge, i.e. ability to tolerate physical exertions, "serve the ball the right way" in good time, etc.

The 10th and 11th grades demonstrate similar attitudes regarding certain subjects. Literature is considered important by 8.8 %, interesting by three times as many (22.8 %), and favorite only

by 1.8 %. Biology, Chemistry, and Physical Education have almost identical correlations, but emotional appeal is always the lowest. We found History to be the only exception from these correlations. 5.3 % of respondents from the 10th and 11th grades considered History important for a present-day person, with 14 % in each grade regarding it as interesting and favorite. Children think that all these subjects are important only for those who will become professionals in these fields. As for the others: "These classes are for general knowledge", "Our whole history is in literature, only it is described artistically, not scientifically", "Biology is nature, and man, and all processes. It's interesting". "They extend our outlook. But there's no time, and it's boring, to study them".

The difference in assessment of interestingness and direct emotional appeal may seem strange at first sight, as interest in a subject always implies emotion, i.e. a subject is not expected to score so differently against these criteria. However, this can be easily explained. Firstly, interest includes a rational component as well, because students consider content to be interesting objectively, to reveal new things, process patterns, and trends.

This is where the teacher comes into play, being able to endow his or her subject with scientific value, explain a particular fact, or show how to make experiments. However, not every teacher and not every topic can extend interest beyond the classroom. Moreover, direct emotional appeal of the subject cannot be limited to involvement in team-work of the class and the teacher. If a subject is favorite, the student is able and willing to learn it not only in the classroom, but also in hobby groups, extramural training centers, and libraries, as well as collect his or her own library in a particular field of knowledge. Such children are often called "young physicists", "young chemists", "young engineers", "young biologists", etc. A particular field of knowledge becomes a personal matter for them. As such children are few in number, they show low quantitative results.

Why are they few? This question can be answered only hypothetically, so far. Research work is fostered not only at school. It originates and progresses as a result of family support, extramural training programs, popular science literature, etc., i.e. broader social environment. Some 8th graders and senior students said they attended a preparatory school affiliated with Moscow State University (MSU): "I was first taken there by my parents. But now I can't live without it". There should be other unexplored

personal factors which make cognitive needs dominant in a particular field.

Statistical Analysis of Results

Although the overall trend in the selective attitude towards school subjects is understood

from our numerical data, we needed to find out how this was corroborated statistically.

The results of our statistical analysis are shown in the table below. The tab.1 lists only those subjects which demonstrate significant differences against particular criteria.

Tab.1. Statistical analysis of school subjects assessed by students against the social value, interestingness, and direct appeal criteria (per Pearson)⁷⁴

Subjects	Social Value — Interestingness			Interestingness — Direct Appeal		
	5	8	10–11	5	8	10–11
Native Language	17.58**	6.94**	4.32*	7.56**		4.0*
Foreign Language	5.82*	15.01**	4.0*	12.04**		
Literature				5.5*	8.47**	8.64**
Arts		-	-	3.84*	-	-
Mathematics	12.37**	-	-	12.12**	-	-
Algebra	-			-		5.06*
Information Technology			3.89*	14.08**		
Social Science	-			-	4.0*	5.63*
Economics	-	-	6.26*	-		
Chemistry	-			-	9.38**	4.0*

According to this table, the most marked differences in the students' assessment of social value and interestingness are shown, at all levels, by two linguistic disciplines. As for other subjects, only Mathematics exhibits major differences in assessment against these criteria, with the 10th and 11th grades demonstrating but slight differences with respect to Information Technology and Economics. It has already been said, that social value of a subject always prevails over its interestingness.

Similar but more explicit results are shown by students assessing their school subjects for interestingness and direct appeal. Firstly, there are more items showing significant differences in assessment of school subjects, which means the subjects are more varied. Secondly, the age of students matters more in their selective attitude towards the subject. The largest number of items showing differences in interest and direct appeal of the subjects is in the 5th grade. Moreover, this is not only the case with linguistic disciplines and

Mathematics, which children consider socially important but not interesting, but also with subjects not showing any significant difference against these criteria (Literature, Arts, and Information Technology).

8th graders differ in their assessment of interestingness and direct appeal regarding even those subjects, which lacked significant differences when assessed against the previous criteria (Literature, Social Science, and Chemistry). And, conversely, we found no significant differences regarding linguistic disciplines, which had them when assessed against the previous criteria.

Lastly, the number of subjects with different assessments against interestingness and direct appeal criteria increases among senior students. Moreover, as with 8th graders, differences in these assessments are limited to the subjects, which did not significantly differ against social value and interestingness criteria (with the

⁷⁴ The (**) sign marks items with importance level $P \leq 0.01$ ($X^2_{cr} - 6.635$), the (*) sign marks the items with importance level $P \leq 0.05$ ($X^2_{cr} - 3.841$). If differences were insignificant, cells were left empty. Dashes mean that the subject is not included in the curriculum of this grade.

exception of Native Language). And one more important observation: only Literature amounts to one-percent significance of differences regarding interestingness and direct appeal. Other subjects show only slight differences.

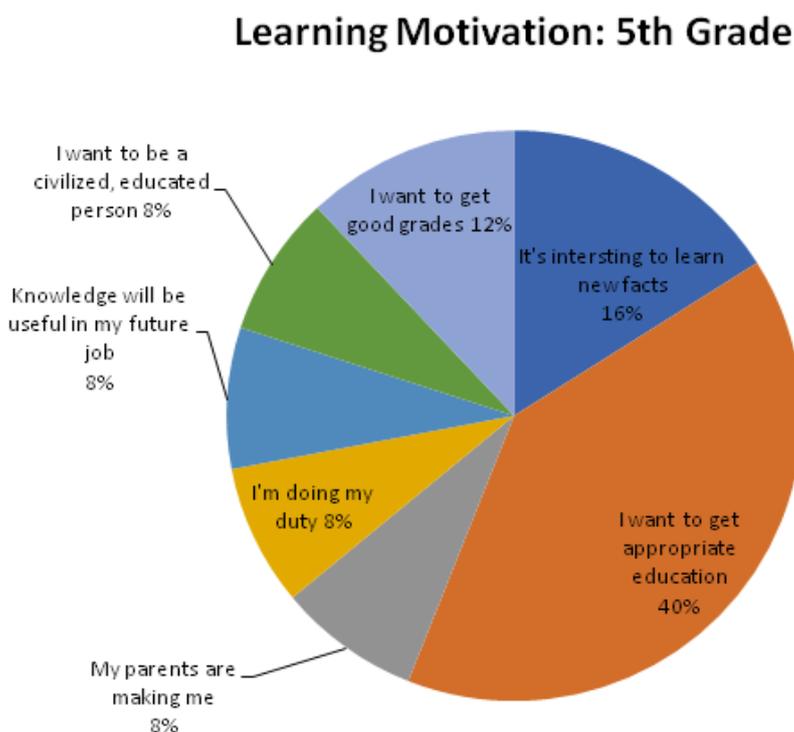
In general, the study of students' selective attitude towards school subjects shows a certain reduction in the number of subjects with different assessment of social value, interestingness, and direct appeal from the 5th to 8th grade. In the 8th grade, fewer subjects demonstrate statistically significant differences in their assessment against selected criteria. And, again, back to the teacher's role. Many teachers may succeed not only in getting their teenage students interested in their subject, but also involved in it. The 10th and 11th grades show a certain increase in the number of subjects having different assessments against selected criteria. Presumably, this is the

result of limitation on the number of career-important subjects.

General Factors of Learning Motivation

Selective attitude towards school subjects is always integrated into general motivation for learning, and is found "at the intersection" of some personal and environmental factors. Any activity is known to be poly-motivated, being represented by a large number of widely scattered motives or narrowing of the "volume" of its motivational factors.

Let's compare learning motivation in two marginal age groups, the 5th grade and the 11th grade. The data in pic. 2 and 3 was obtained using the survey method developed by G.N. Kazantseva (<https://www.psyoffice.ru/3-0-praktikum-00109.htm>).



Pic.2. Learning motivation: 5th grade.

As we can see, the motivational palette of 5th graders is not very diverse, though there were other answers to the question, e.g. "I like the class as process", "I like the teacher's delivery", or "My friends like to study".

The most popular answer is the most general one: "I want to get appropriate education" (40 %). However, this looks more like an argument — formal and clichéd — rather than a motive. During face-to-face conversations none of the students remembered choosing this answer. When a school psychologist asked "What is appropriate education?" children had some problem giving the answer. They explained the phrase "appropriate education" in the following ways: "It means to learn well", "To finish a good school", "To have good results at the Unified State Exam", "To enter a university", "To earn good money later". This means that there are different motives — quite definite and, often, practical — behind this argument. There is another, similarly general, argument: "I want to be a civilized, educated person". However, it is represented by much lower figures (8 %). This argument is also given an oversimplified explanation by the children: "To be polite and well-mannered", "To know foreign languages", "To understand art". Children may suppose that these two answers — about appropriate education and a civilized, educated person — are sophisticated and respectable. However, students can explain what they mean only in a very limited and superficial manner.

As for usefulness of knowledge in their future job (8 %), this answer was, most likely, chosen by those who are already making career plans, i.e. the above mentioned young engineers, young biologists, etc. However, the number of such children in the 5th grade cannot be large, as they are ahead of their age, so the results look optimistic.

The answers "I'm doing my duty" and "My parents are making me" (16 % combined) suggest that cognitive activity may be forced, internally or externally. "Have to", "Must", and "Required" prevail over "Want", "Like", and "Interesting".

The same figure represents the cognitive motive "to learn new things" itself (16 %). Its rating among overall learning motives is low.

Lastly, an extra answer "I want to get good grades" (12 %) was suggested by students. This and similar answers are sometimes referred to as "grade chasing" in educational psychology. It

occurs if focus on external assessment prevails over focus on self-assessment. Though true on the one hand, it is inaccurate and incomplete on the other. 5th graders are junior teenagers with their self-assessment, as part of their personality only starting to shape with regard to cognitive activity. External assessment, even if it does not totally govern self-assessment, contributes to shaping it. A child who is, naturally, unaware of these psychological mechanisms, looks for external support of his or her self-assessment. In addition, grades are a sign of success at school, this success being *pers se* a powerful motivating factor in any activity, including learning.

And one last point. One of the suggested survey answers was "Getting higher education is chic and on-trend". To our students' credit, no one took this primitive point of view.

The motivational landscape in the 8th and 10th grades is very similar to that we presented for the 5th grade. Again, the most popular answers are "appropriate education" and "to be a civilized, educated person" (36 % and 22 % respectively). Interestingly, a spontaneous motive "I want to be smarter" was added. It was not on the suggested list.

Some difference was shown by 10th graders, 28 % of them choosing the cognitive motive "to learn new things" (vs. 16 % in the 5th and 8th grades). Some answers are also explicated with extra phrases: "I want to know the laws which control the world", "I want to know how everything works in this world". For the first time, importance of knowledge for the future job is mentioned (19 %). Sometimes details are added ("I want to teach others in the future", i.e. a student wants to become a teacher).

10 % of tenth graders learn because it is their duty or their parents' demand (vs. 16 % of 5th and 8th graders). However, 4 % mentioned higher education as being "chic" and "on trend", because fashion is a strong incentive in early youth.

All these differences cannot be regarded as significant either by quantity or content. It means, unfortunately, that development of motivation in learning from the 5th to 10th grade is stagnant, rather than upward-trended and focused on future needs, and is based on the "here and now" attitude.

The situation changes dramatically in the 11th grade.

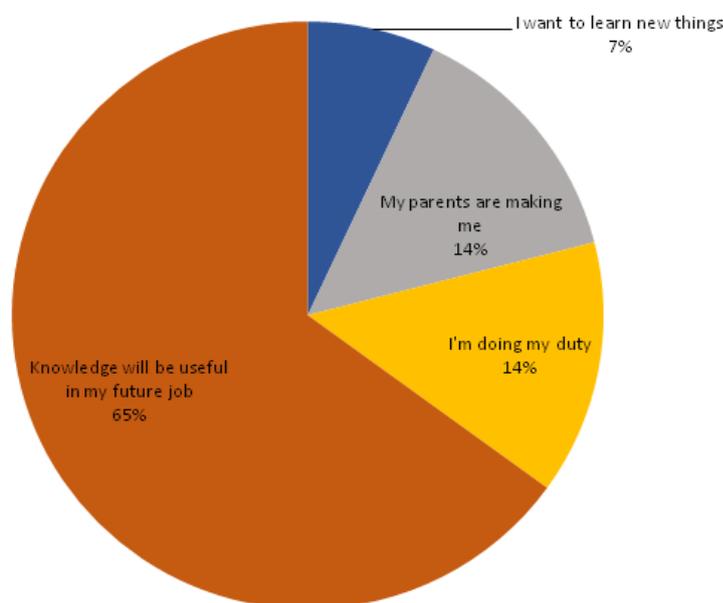
Chart 2 shows a decrease in the number of learning motives. While students of the 5th, 8th, and 10th grades chose 7–10 items answering the question "Why do you learn?", only 5 items were chosen in the 11th grade. Formal and pretentious motives, such as getting appropriate education, becoming a civilized, educated person, completely disappeared.

The motives of duty and parents' demands are chosen by even a larger number of 11th graders than 5th graders. Apparently, families become more anxious about the future of their children during this transitory period, and this is passed on to children. We do not know if there is actually more pressure from the adults, but students do

realize some changes in their lives. This may also account for the mentioning of duty, such statements being present in parents' rhetoric. That is why the number of students, who mention duty and parents' demands, in the 11th grade is twice as high as in the 5th grade.

At the same time, percentage of the cognitive need "I want to learn new things" is twice as low compared to the above motives. However, this should not be directly interpreted as reduced interest in knowledge. It is more likely, that the concept of "new" itself becomes narrower and more specific, semantically approaching the concept of "necessary for career".

Learning Motivation: 11th Grade



Pic.3. Learning motivation: 11th Grade.

This is confirmed by the motive "Knowledge will be useful in my future job" (65%), which is important for school-leavers. Interestingly, this motive and these numbers are observed only in the 11th grade. Only 8% of 5th and 8th grade students chose it, as career is only a remote prospect for them. In the 10th grade, it also stays within 10%. It means that this motive is accountable for selectivity regarding a school subject when the problem of future career is not just important, but close at hand in the 11th grade.

We have mentioned at the beginning, that our data is based on regular schools. Let's now briefly look at the data obtained in specialist mathematical classes at a gymnasium and a provincial school (the city of Nalchik).

The results for social value and interestingness at the specialist mathematical school were high with respect only to principal subjects — Algebra and Geometry — and only in the 8th to 11th grades (R range is 0.49–0.54, where P is 0.05–0.01, per Spearman). The assessment of

other subjects against the same criteria varies, but less roughly than at regular schools. Statistical significance of differences at $P = 0.05$ is observed only in assessment of Health and Wellness, this subject having poor methodological base, as well as Physics and Chemistry, taught by less experienced instructors. This data suggests that poor interest in the subject combined with high assessment of its social value results not only from pragmatism of today's students, but also from proficiency of the teacher.

And, lastly, let's focus on the Nalchik school. Schools in regions of Russia are different in that they are, figuratively speaking, "chamber"-type schools, i.e. not too many (20–25) students in a class, established and experienced faculty, with one and the same instructor teaching his or her subject from the 5th to 11th grade. It is here, at such school, that we observed almost identically high results regarding social value of and interest in some subjects, including mathematical and linguistic disciplines, Biology, and Physical Education. According to Spearman, difference in their ranking is negligible, being just 1–1.5. As for other subjects, a certain difference in assessment of their social value and interestingness does exist, but its statistical significance per Pearson does not exceed 0.05

Conclusions

Our data shows students, as learning agents, to exhibit selectivity regarding school subjects as early as from the 5th grade. In doing so they use, figuratively speaking, two "yardsticks": social value and interestingness of the subject in question.

Social value of most subjects was assessed as being much higher than their interestingness. This is accounted for by prevalence of utilitarian attitude among today's students on the one hand, and by their generally low cognitive need on the other.

Interestingness of a subject does not assume its direct appeal, as the number of children considering a particular subject their favorite is even smaller than the number of those considering it interesting. It means that interestingness is assessed in two ways: emotional and rational. This cannot be explained only by pragmatism of today's students, but also by insufficient skills of teachers, who may be proficient in their subject and its methodology, but are not always able to get their students involved.

Generally speaking, motivation in learning is stagnated for several years, from the 5th to 10th grade, to be exact. A major change in motivational landscape of learning is exhibited only in the last 11th grade. Highly generalized arguments expressing a wish to get "appropriate education" and become a "civilized, educated person" are off the agenda, the primary motive being to get career-important knowledge. However, the cognitive motive "to learn new things" itself is low.

The motive of duty and fulfillment of parents' demands not only persists from the 5th to 11th grade, but shows an upward trend. Infantilism and pragmatism peacefully coexist in present-day students.

Acknowledgments

My special thanks to school psychologists N. Attaeva, I. Malaeva, and A. Serova, who helped in the observational part of our research.

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