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General information

The journal "Pedagogy and Psychology" of Abai Kazakh National Pedagogical University is a republican scientific and methodological edition. The journal was founded in 2009.

The main thematic focus of the journal "Pedagogy and Psychology" is the problems of the current state of all education levels.

Research, analytical, scientific and methodological articles reflecting the results of fundamental and applied research corresponding to the subject of the journal, as well as review articles with a clear indication of the conceptual position of the author(s) are accepted for publication.

Thematic directions of the journal:

- Innovations and problems of development of modern education
- Psychological and pedagogical problems of training specialists
- Current problems of inclusive and special education.

The mission of the journal is to attract scientists and educators to an open discussion of current problems of education, science; to support creative initiatives in the field of educational policy, theory and practice, to promote the integration of the activities of domestic and foreign scientists and teachers to improve the system of higher, secondary, general, additional and vocational education.

The target audience of the journal: the teaching staff of universities; academic staff and experts in the field of preschool, secondary, vocational and higher, postgraduate education; doctoral students, postgraduates, applicants, undergraduates and students of Kazakhstani and foreign universities and scientific and educational institutions, school teachers, teachers of additional education, etc.

The journal is included in the List of leading peer-reviewed scientific journals recommended for publishing the main scientific results of dissertations for getting degree and academic title by The Committee for Quality Assurance in the Field of Science and Higher Education.

The journal is included in the republican system of the Scientific citation index – the Kazakhstan Citation Database (KazCD).

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INNOVATIONS AND PROBLEMS OF DEVELOPMENT OF MODERN EDUCATION

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NEURODIDACTICS AS A TECHNOLOGY FOR THE DEVELOPMENT OF MENTAL ACTIVITY OF PRIMARY SCHOOL STUDENTS

Abstract

The article is devoted to the development of the mental activity of primary school students through the development of neurodidactic content in the primary education system. Based on the study of scientific literature, an analysis of the current state of neuro pedagogy, and neurodidactics was made, and the experience of using neurodidactic content in the world and domestic educational programs and educational process was considered. Using neuro didactic content such as neuro-exercises, and neuro-tasks in the educational process of the primary school, the relevance of the problem of developing the mental activity of primary school students was determined. The results of the survey conducted with primary school teachers working in different regions of the republic showed that teachers' attitudes and attitudes towards neurodidactics are positive. According to them, neurodidactic content and brain-based teaching strategies and methods create an opportunity to increase the development and activity of students' mental activity.

Keywords: neuro pedagogy, neuro didactics, primary school teacher, primary school student, mental activity.

Introduction. According to the results of the PISA "National Project of Quality Education" educated nation of the state of the Republic of Kazakhstan, the ideas of reducing the gap in the results of Kazakhstani students in international studies are guided (Bilimdi ult, 2021). Based on these documents, in connection with the rapid growth of technogenic information civilization in modern primary education, the question "How to teach?" there is a need to find a solution to the question: "What?"

It is known that in the educational process, a decrease in the health of children, an increase in the amount of information learned from year to year, and a complication of the content of textbooks negatively affect the psychological and physiological development of primary school students. In addition, it can be noted that among primary school students, there are often cases of inability to fully fulfil the requirements set by the teacher, incorrectly developed psychomotor area, incorrectly formed motor and writing skills, and other learning difficulties arising from the peculiarities of the students' thinking System (Bezrukih, 2009).

To identify and study the causes and consequences of such identified important problems in the proposed article, we take as a basis «Neurodidactics», a branch of neuroscience that allows us to understand the ways of organizing the learning process in primary school as optimally as possible.

Conceptual background. Currently, in world practice, there are such interdisciplinary fields of science as neurosurgery, neurophysiology, neurobiology, neuropsychology, neurochemistry, neurodesign, etc., which study changes in the central nervous system and the entire body of people in connection with the functional activity of the brain.

Neurodidactics, originating from medical research and studying the human brain and nervous system (in particular, brain activity), originated at the intersection of such branches of science as didactics, pedagogy, and psychology, is also an interdisciplinary field of Science (Shirshov, 2017; Ligozat et al., 2023).

Neurodidactics is often used in English and German-speaking environments as Neuroeducation and brain-based learning. The goal of brain–based learning is to create a classroom environment that allows development for each student.

According to the Global Digital Humanity

Foundation, from the 1990s to the present day, scientists have conducted several studies on the brain, proving that brain-based learning methods improve students 'knowledge, academic performance and increase motivation, and help develop a reliable memory system (OECD, 2002).

At the same time, scientists are trying to understand to what extent pedagogical and didactic knowledge and principles are supported by modern data in the field of brain research. The ten-year conclusion of an international study called the Brain Decade, published in the United States at the turn of the XXI century, allowed scientists to take a new look at the mechanisms of the brain and ways to increase its performance. At the same time, the international project "Brain and Learning" tried to make the achievements of Neuroscience accessible to teachers. The project brought together scientists from many countries of the world and made it possible to exchange the latest new information about the neural connection of learning (OECD, 2007).

Work in this direction was studied in authoritative Russian scientific organizations (at the Russian Academy of Education (RAE), at the N. P. Bekhtereva Institute of the Human Brain (St. Petersburg), at the Institute of Higher Nervous Activity and Neurophysiology of the Russian Academy of Sciences, at the Institute of Cognitive Neuroscience at the modern humanitarian Academy (ICN), etc.) (Karpenko et al., 2019).

Through neurodidactics, it is possible to obtain answers to various questions that interest teachers, that is, contribute to a better understanding of the development of the brain, and consciousness, in studies in this area, the problem of using the cognitive functions of the brain and nerves in training and education, thereby increasing the cognitive (cognitive) and social activity of the student was considered.

Today, neuro didactics is considered a relatively young, interdisciplinary field of science that uses the results of studying the human brain and the laws of its functioning in organizing the educational process. Neurodidactics is a branch of Applied Science that consists of the fusion of three main areas about the human being, such as neurophysiology, cognitive science, and learning theory (Álvaro et al., 2022; Pérez Sánchez et al., 2022).

The following guidelines are recommended for the development of the mental activity of Primary School students through neuro experience:

Physical movement. Physical movements help train the student. Physical exercises and movements saturate the blood with oxygen, which "feeds" the brain. Students who move during learning learn to read easily and quickly.

Retail training. Primary school students perceive a certain amount of information as a whole, but if there is no connection between the two hemispheres of the brain, the student will not fully understand the information that has reached the brain. Therefore, educational materials must constantly consist of the interconnection of the whole and the part. The frequent use of methods of analysis and compilation, breaking down educational tasks into parts, makes learning easier.

Development of emotional connections. Emotional communication helps consolidate concepts in students ' brains. Emotional intelligence (EQ) plays an important role in the process of teaching primary school students. Emotions are based on different needs. The processing of impulses through the central nervous system leads to changes in the internal body from the organs of movement, that is, emotions arise. The information received by emotion is easily and for a long time stored in the student's memory.

The author of the book "Hormones of Happiness", a professor at the University of California, Breuning (2019) proved that hormones in humans affect the mechanisms of emotion formation and the action of various neurochemicals, as a result of which they help to form stable habits. Proposes to revise behavior patterns and learn how to activate the effects of serotonin, dopamine, endorphins, and oxytocin in the brain.

Teach stress management. Some stressors that motivate you to complete a task or perform an exam well are helpful. However, negative stress can disturb the student's mood and impair learning. The teacher needs to know what stress students are experiencing, so they need to be taught stress management (Hafeez et al., 2022). Stress partially or completely inhibits a person's mental activity, which, as a result, destroys neurons in the brain (Jeremy & Gregory 2021; Fynes-Clinton et al., 2022).

Brain development research. The teacher needs to know about the functioning of the brain, how it assimilates knowledge, and how to use neuroeducational strategies. Through the use of neurodidactics strategies, teachers help the intellectual development of students.

Literature review. In the field of science, such as neuro pedagogy, and neurodidactics, which uses new data on brain activity in the process of school education and creates technologies for the upbringing and development of the younger generation, there are quite a few domestic studies in Kazakhstan, only a few articles. In an article by teachers Mambetalina & Zhumagaliyeva (2019), they showed the importance of neuro pedagogic Science in the process of training and education, the possibilities of tasks for the development of the left and right hemispheres of the brain in the development of cognitive and broad-spectrum skills of the student.

In general, the theoretical foundations of neurodidactics are comprehensively considered in the work of Vygotsky (2019), and Luria (2013). The methodological basis of neurodidactics is guided by the theory of developmental learning in the studies of Vygotsky (2019) and the theories of Luria (2013) regarding mental functions. Vygotsky (2019) distinguished mental functions as "elementary" (natural) and "higher functions" (logical memory, logical thinking, voluntary attention, speech, etc.). It is believed that the coordinated and algorithmically organized work of the brain, which is provided with higher mental functions, contributes to the high-quality assimilation and processing of educational information, and intellectual development for primary school students (Vygotski, 2019).

Luria (2013) explains that complex types of mental activity (memory, perception, thinking, understanding, forecasting, etc.) in reflecting the essence of higher mental functions are regulated by signs and symbols (primarily speech). The two hemispheres of the human brain are closely interconnected and work together to process information in different ways (Luria, 2013; Reddy et al., 2022).

Russian scientist, Doctor of psychological sciences, and researcher in the field of neuropsychology Akhutina (2017) in the study "Method of neuropsychological care for children 6-9 years" found out that the learning difficulties of primary school students relate to neural connections in the brain and wrote several methodological manuals for children. The work of the scientist states that in a newborn, both hemispheres of the brain develop equally and use them in full, gradually one of the hemispheres develops more actively than the other, and the opposite side of the body is responsible for the work of the hemisphere for the development of two hemispherical connections of the brain (Akhutina, 2017).

By the middle of the 19th century, it became clear that the function of the hemispheres was not the same. The French physician, anthropologist P. Broca found that speech disorders and aphasia occur in patients with lesions of the left hemisphere of a person. P. Broca believes that what distinguishes humans from animals, some races from others, is the left hemisphere of the brain (Berker et al, 1986).

It turns out that the Viena Vadini School in Singrauli, Madhya Pradesh, India, teaches its students to write with two hands (ambidextrous) from the 1st grade. This unique school also aroused the interest of scientists around the world. Researchers from South Korea, Germany, and the United States conducted a study on the functional balance of the hemispheres to explain the phenomenon of duality (ambidextrous) in this school. It turns out that the students of this school are taught to write in six different languages: Hindi, English, Urdu, Sanskrit, Arabic, and Latin. At the same time, many students can write in two different languages at high speed. Yoga and physical education included in the school curriculum have been shown to help improve memory and concentration skills (Maheshwari, 2023).

If so, if we try to have the child perform movements with both hands at the same time, we can develop hemispherical connections. The «hemispherical board» allows it to be carried out. You can also perform simple exercises that activate the functional function of the brain by acting on reflex points. Because of the use of kinesiological and neuro-exercises, the child will be able to stay focused longer, concentrate, observe objects and phenomena, and draw conclusions. Thus, neuroexperience for the brain enhances the interaction between the right and left hemispheres, reduces emotional stress, improves perception, and, as a result, expands the intellectual capabilities of the student.

Japanese researchers conducted a study in the 1980s using the National counting tool "Soroban". The advantage of this account is

that during its use it leads to lateralization of the right hemisphere of the child's brain. As a result, the formation of brain systems according to the type of learning is influenced, and the parietal and premotor cortex of the right hemisphere work. Today, in elementary schools in Japan, the National counting tool "sorobon" is used to teach counting.

The synaptic connections between neurons are strengthened as a result of neuroexpersions and physical activity performed regularly and as a result of internal or external stimuli. As a result, by training the sensory perception of the brain, the child will be able to understand the observed phenomena and abstract concepts in the environment and gain experience.

It is known that the brain and body of primary school students develop very quickly, especially more susceptible to external influences. Therefore, a primary school teacher needs to know not only what a child can do at a certain age, but what is needed for further harmonious development.

Preschool and primary school age is the most favourable period for the development of brain structures, and therefore Intelligence, Inter – hemispherical connections, and mental processes (Kaluzeviciute et al., 2021).

Neurodidactics primarily provides personalization of the student's educational activities and is aimed at developing students ' personal qualities. The student's learning activity is focused on meta-subject results: social competence, the development of subject competencies (soft skills), and meta-skills (responsibility, reflexivity, communicativeness, etc.).

Low-achieving students are usually considered by teachers to be negligent children who are not able to perform certain actions correctly. Such children often experience difficulties in reading and counting, solving mathematical problems, and making minor mistakes. This indicates that the child does not develop attention, balance (balance). The reason for this usually lies not in laziness or unwillingness to learn but in the peculiarities of the structure and functioning of the brain. This negatively affects the development of logical thinking, speech, and writing (Fossa & Cortés-Rivera 2023).

Neurotraining is aimed at developing the child's spatial perception, small and large motor skills, coordination, attention, and perseverance. They also allow the interaction of the two hemispheres to be enhanced since doing exercises with both hands at the same time allows them to achieve synchronous work. This increases the work of the entire brain, thereby activating the learning process.

Turkish scientist Bilal Duman studied the impact of brain-based learning on students ' academic success in his article and proposed and tested an integrated learning model (Duman, 2010). The model shows three conditions for brain-based learning:

The first condition is to create a safe environment – the teacher must have confidence in the student, understand the specifics of the cognitive and intellectual level of each student, and create an opportunity for the student to perceive himself positively.

The second condition is that it is necessary to organize a planned educational activity on the personal experience of the student and a specific educational goal.

In our case, it is necessary to fill the student's learning environment with interesting didactic materials necessary for neurofeedback.

The third condition is the need to use active learning approaches. By actively acting among themselves, the student helps each other, performs the task together, evaluates the other and his actions, and reflects.

One of the scientists who studied the formation of the mind of children of preschool and primary school age, Russian psychologist Glozman (2014), believes that the mental activity of a student, like any other type of activity, is carried out through the neurodynamic activity of all mental functions.

The intelligence of a student is primarily determined by the high level of logical thinking, and not by the amount of knowledge that he has accumulated in his memory. In this regard, when working with children of preschool and primary school age, the teacher sets the task of teaching children to analyze, compare, and generalize information (Nakayama & Shimizu 2021).

The purpose of neurodidactics is to activate cognitive processes (perception, attention, memory, thinking) and provide emotional–volitional regulation of educational activities (Calzadilla-Pérez & Carvajal Donari 2022).

Purpose of study. The purpose of the research article is to determine the level of relevance of neurodidactics in the development of students 'mental activity in the process of primary education and to determine the general concepts of primary school teachers in the context of this problem.

Materials and methods.

Participants. The survey was conducted among primary school teachers working in general education primary schools in different regions of the Republic. Thirty-one (31) primary school teachers took part in the survey.

Data Collection Tools: A questionnaire was developed to determine the general understanding of primary school teachers about neurodidactics, and the level of relevance of this problem. Through the questionnaire, information was collected about the opinions of primary school teachers about the importance of neurodidactics and their views on it.

After verifying the validity and reliability of the data obtained in the study, the data that was distributed and collected among the subjects analysed using the SPSS software.

As a research methodology, we used quantitative and qualitative methods. In the quantitative part, the research survey approach was used, and in the qualitative part, the phenomenological approach was used.

Data Analysis: Data was analysed using statistical methods. Descriptive statistics were taken, and a chart was used to present the results.

The content of the questionnaire contains 8 important questions.

Results. The survey involved 31 primary school teachers aged 22-30 (16.1%), 31-40 (54.8%), 41-50 (6.5%), and over 50 (22.6%). Their work experience ranges from 1-38 years.

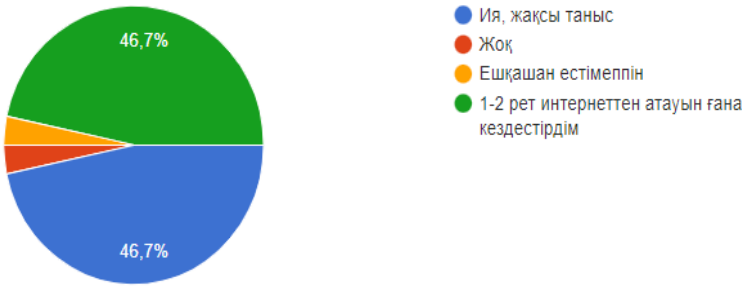

Figure 1. **Result on question 1 of the questionnaire**

«Are you familiar with the field of neuropedagogy science?» To question 1, 46.7% of respondents answered, «Yes, a good acquaintance. » This group of respondents is familiar with the scientific field of neuropedagogy and considers it generally known. This suggests that a significant part of the respondents are well aware of neuropedagogy and its relevance in the field of Education. 3.3% of respondents received the answer «no». 3.3% of respondents indicated that they had never heard of this branch of science. This group may not be practically familiar with the term or with the scientific field itself. They say that about half of the 46.7% of respondents who have "only encountered this industry 1-2 times on the internet" have encountered the term «neuropedagogy» on the internet, but may not have a deep understanding of this industry (Figure 1). This suggests that although they know the term, they may not be very familiar with its concepts and meanings.

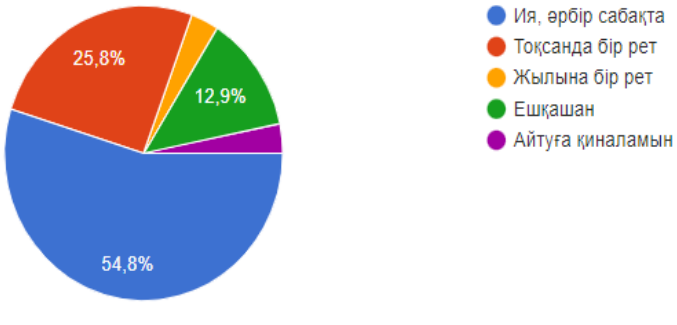

Figure 2. **Result on question 2 of the questionnaire**

«How often do you use neuroscience in class?» The results of question 2 (Figure 2) show that a significant percentage of respondents (54.8%) actively integrate neuroexperience into the learning experience, using it in each lesson. This shows a positive trend in the inclusion of brain function and exercise in the learning process as part of the ongoing learning and learning process. However, a significant part of the respondents (12.9%) reported that they never used neuroexperience in their classes. This highlights a potential area to improve the promotion of brain-based learning strategies and encourages educators to explore the benefits of incorporating neuroexperience into learning methods.

A small percentage of respondents who use neuroscience exercises quarterly or once a year indicate that some teachers recognize the value of such exercises, but may not fully integrate them into conventional training programs. The presence of respondents (3.2%) who are not sure about the use of neuroleptics in the learning process indicates the need for further awareness and training of the concept of neuroleptics, and its benefits for students in the classroom. 12.9% of respondents said they would never use neuroexperts in their classes. This group does not integrate exercises and activities based on brain function into the Learning Methodology. Another 3.2% of respondents are not sure how often they use neuroexperience, which indicates a lack of knowledge about the term or concept.

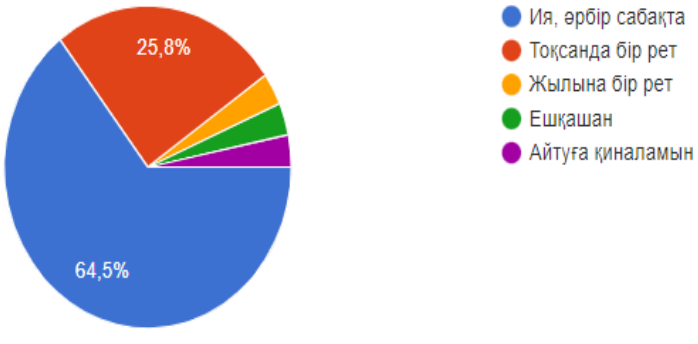

Figure 3. ***Result on question 3 of the questionnaire***

«How often do you use tasks aimed at developing the intellectual abilities of a student in the lesson? » The data obtained on Question 3 (Figure 3) show that the majority of respondents (64.5%) actively use tasks aimed at developing students ‘ intellectual abilities in their classes, including in each lesson. We can say that this is a positive result. Because many teachers prioritize intellectual development and constantly develop critical thinking and problem-solving skills in their students.

However, a significant proportion of respondents (32.4%) do not use the listed tasks in each lesson or use it only once a quarter or a year. This means that there is room for improvement in terms of consistently integrating tasks that contribute to intellectual growth into the daily learning and learning process.

The presence of respondents who never use tasks for intellectual development (3.2%) may indicate a potential opportunity to increase the professional development and knowledge of students about the importance and benefits of such tasks for the development of cognitive abilities.

A percentage of respondents (3.2%) who are not sure how they use tasks for intellectual development indicate that some teachers may need additional guidance or support to understand the concept and perform these tasks effectively.

«How often do you use tasks aimed at developing the intellectual abilities of a student in the lesson? » in Question 4 (Figure 4), the majority of respondents (71%) reported that they use «Yes, in each lesson» tasks aimed at developing students ‘ intellectual abilities.

This suggests that a significant number of respondents actively and consistently introduce tasks that stimulate critical thinking, problem-solving, and intellectual growth into the usual learning practice.

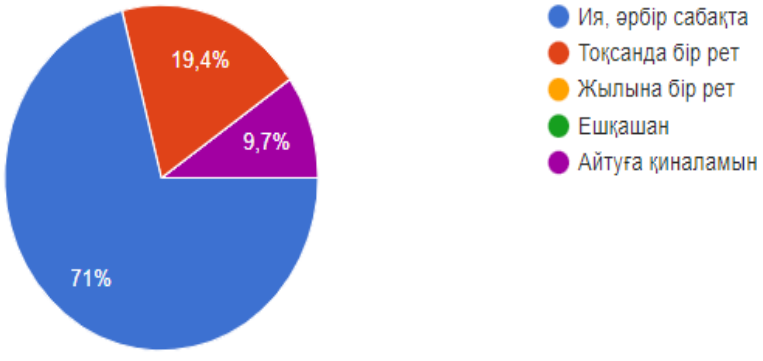

Figure 4. ***Result on question 4 of the questionnaire***

This is a positive result, as it shows that a significant number of teachers prioritize intellectual development and deliberately develop critical thinking and problem-solving skills in their students.

A significant part of the respondents (19.4%) showed that they use such tasks «once a quarter». This group periodically includes intellectual development tasks during the school year, possibly combining them with specific learning goals or evaluation cycles. 9.7% of respondents are not sure how often they use tasks for intellectual development, which indicates insufficient knowledge of the concept.

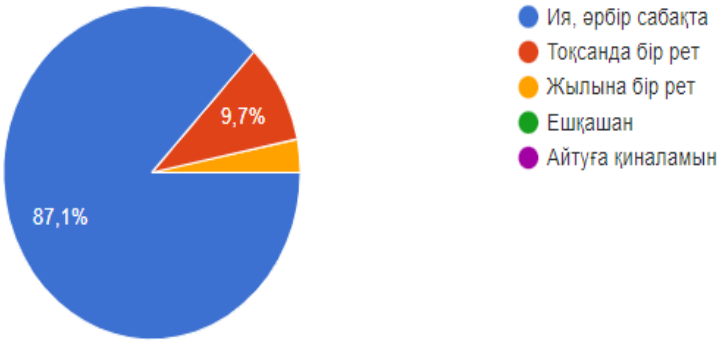

Figure 5. ***Result on Question 5 of the questionnaire***

«How often do you use interesting techniques in the lesson that make the student feel interesting and emotional?» the data obtained on Question 5 (Figure 5) show that the majority of respondents (87.1%) actively use interesting and emotionally stimulating techniques in each lesson. This is a positive result, as it assumes that a significant number of teachers prioritize the activity and well-being of students through the consistent implementation of positive and inspiring teaching methods.

The presence of respondents who use these methods once a quarter (9.7%) indicates that most of them use interesting methods from time to time, although they use them regularly. This suggests that some teachers recognize the value of such methods, but may not fully integrate them into everyday training programs.

The percentage of respondents (3.2%) who use methods that raise their emotional mood once a year indicates that they may not prioritize the regular use of these methods, which may miss the opportunity to create a pleasant and attractive class environment throughout the year.

«What are the obstacles to the intellectual development of students, that is the development of mental abilities? » on Question 6 (Figure 6), 25.8% of respondents thought that «there are few cases of tasks aimed at developing intellectual abilities in academic subjects (most often tasks are intended for memorization) » believe that one of the obstacles to the intellectual development of students is limited tasks aimed at developing high-level thinking, critical thinking, and problem-solving skills.

Figure 6. ***Result on question 6 of the questionnaire***

«What are the obstacles to the intellectual development of students, that is the development of mental abilities? » on Question 6 (Figure 6), 25.8% of respondents thought that «there are few cases of tasks aimed at developing intellectual abilities in academic subjects (most often tasks are intended for memorization) » believe that one of the obstacles to the intellectual development of students is limited tasks aimed at developing high-level thinking, critical thinking, and problem-solving skills.

38.7% indicate that a significant percentage of respondents believe that the large size of the classroom can interfere with the intellectual development of students. Because of the High student-teacher ratio, it can be difficult for teachers to provide personalized attention, personalized feedback, and an interesting learning experience that is important for intellectual growth.

16.1% of respondents believe that the lack of attention to specific goals for mental development within the framework of broader educational goals can be a hindrance. Without clear goals to develop critical thinking, problem-solving skills, and other cognitive abilities, schools may not prioritize these aspects in their learning practices.

A small percentage of 6.5% of respondents pointed to the lack of technical resources and special materials as possible barriers to the intellectual development of students. The recognition of the lack of technical means and specialized resources indicates the need to invest in educational technologies and educational materials that support the development of brain functions.

Some respondents (12.9%) believe that limited time can be an obstacle to the development of students ‘ intellectual abilities. Recognizing time limits in the curriculum implies the need for careful time management to devote enough time to interesting activities and tasks that contribute to intellectual development.

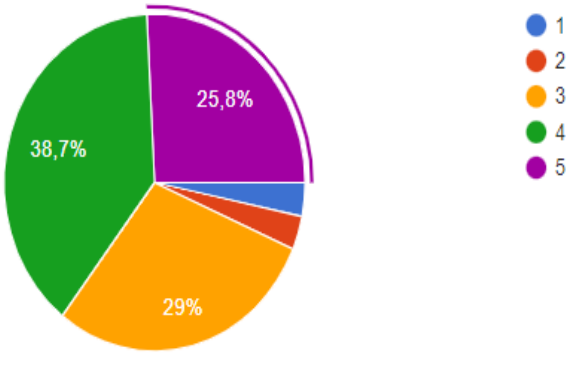

Figure 7. ***Result on question 8 of the questionnaire.***

«Why do you think neuropedagogy is an important branch of Science in teaching a child?» based on the qualitative analysis of Question 7 (Figure 7), we came to the following conclusions. The answers given by the respondents point to various reasons why neuropedagogy is considered important in a child's learning. They are:

Rapid development: several respondents believe that neuro pedagogy is very important because it contributes to the rapid development of the child's cognitive abilities and overall progress in learning.

Positive effects on the brain: many participants claimed that neuro pedagogy has a positive effect on the student's brain, suggesting that brain-based learning strategies can improve learning outcomes.

Development of thinking: respondents noted that neuro pedagogy develops the child's thinking, critical thinking, and problem-solving skills.

Memory and thinking skills: several participants noted that neuro pedagogy improves both the memory and thinking ability of students.

Access to relevant information: some respondents noted that neuropedagogy is important due to the large amount of relevant information, which indicates that brain-based learning is relevant in the modern era.

Participation and interest: several participants noted that neuroexperience and learning methods based on brain function are necessary to maintain the participation, interest, and motivation of students during classes.

Application of knowledge: several respondents said that neuropedagogy contributes to students ' practical application of the knowledge gained, practical application, and understanding of the real world.

Hemisphere development: some participants noted the importance of neuropedagogy for the simultaneous development of two cerebral hemispheres, including practical exercises and cognitive stimulation.

«On what scale do you assess your knowledge of the physiological changes that occur in the student? As a result of the answers given by the respondents on Question 8 « (from 1 to 5) », we made the following conclusions.

A small percentage of respondents (3.2%) rated their level of education on a "1" scale, indicating that they knew very little about the physiological changes that occur in students. Similarly, another 3.2% of respondents rated their knowledge as "2", which indicates students ' limited understanding of physiological changes. The largest group of respondents (29%) rated their level of knowledge as "3", which indicates the average level of knowledge about physiological changes in students. A significant percentage of respondents (38.7%) rated their knowledge as "4", which indicates a relatively high level of understanding of physiological changes in students. The rest of the respondents (25.8%) rated their level of education as "5", which indicates that they have a very high knowledge of the physiological changes that occur in students.

The results show a wide range of respondents 'self-assessment knowledge levels about physiological changes in students:

Low level of education: a small proportion of respondents (6.4% for «1» and «2») showed poor knowledge of physiological changes in students. These respondents can use additional educational resources and professional development opportunities to improve their understanding.

Average education: the largest group of respondents (29%) rated their knowledge as «3», which indicates an average level of understanding. These teachers may be familiar with the topic to some extent but still need to look for more information to deepen their knowledge.

Higher education: a significant percentage of respondents (38.7% on «4») rated their knowledge as high, which indicates that they have a significant understanding of the physiological changes occurring in students. These teachers can better understand how the brain and body work while studying.

Very high education: a significant proportion of respondents (25.8% on «5») rated their knowledge as very high, that is, they have a high level of knowledge in terms of physiological changes in students. These educators may be well informed about the latest research and best practices in teaching and learning based on the use of the brain.

In general, the data show that a significant number of respondents have an average or high level of knowledge about the physiological changes that occur in students. However, there is still a small percentage of teachers who benefit

from additional professional development and resources to improve their understanding of this important aspect of teaching and learning.

Discussion. The results of the survey show that a significant part of the respondents actively use neuroexperience, tasks for intellectual development, and interesting techniques in their classes. This suggests that there is a positive tendency to introduce brain-based learning strategies to enhance the cognitive abilities and activity of students. At the same time, some respondents do not know the field of science of neurodidactics. Only some teachers can use neuroexperience in the classroom at some time, especially during open lessons. Some respondents do not systematically use neurofeeds or tasks for intellectual development, which dictates the need for professional development in this direction.

The respondents also noted shortcomings that hinder the intellectual development of students, such as the lack of clear learning goals for mental development, large classes, limited resources, and time. These barriers highlight the importance of solving pedagogical tasks to promote optimal brain function and cognitive growth of students.

In general, the results of the survey emphasize the importance of using neuropedagogical principles and brain-based learning approaches to improve students 'optimal intellectual development and activity. Solving identified barriers and investing in continuous professional development will further enhance the ability of teachers to create an effective and supportive learning environment that contributes to the cognitive growth of students and overall academic success.

Conclusion. In conclusion, for the development of intellectual thinking and mental activity of a child, it is necessary to set new educational tasks for him, in the process of solving which he learns to use the previously acquired knowledge in connection with new situations. Therefore, we believe that to develop the child's mind and achieve the desired result, special neuro didactic content (neurodidactic exercises, neurodidactic games, learning resources) is needed, which activates mental operations and increases intellectual abilities.

The results of the survey show that in the development of neuro didactic content aimed at developing the intelligence of primary school students, it is necessary to provide the following opportunities:

- Organization of an advanced training course on the topic of research in the direction of training primary school teachers, which is 72 hours.
- Compilation of methodological guidelines «ways to develop the intelligence of primary school students through neuro didactic content» and presentation to teachers for guidance in the educational process;
- development and implementation in the process of primary school education of an elective training program «neurofeedback» for the development of intelligence of primary school students.
- development of a methodological complex for the development of intelligence of primary school students.

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FORMATION OF SUCCESSFUL TEACHING OF YOUNGER SCHOOLCHILDREN BASED ON THE NEUROPEDAGOGICAL APPROACH

Abstract

The article analyzes the possibilities of using a neuropedagogic approach for the formation of successful learning. Since neuropedagogy presently is at an early stage of its development, the attitude towards it may be different. Neuropedagogy offers a new perspective on the child's education, providing own teaching methods based on the features of the development of the brain and nervous system of a child. So, when working with primary school students, teachers are invited to apply methods of active learning, multisensory perception, consolidation of the practice of restoring cognitive resources of the brain, and learning based on the characteristics of the nervous system.

At the same time, neuropedagogy does not require the exclusion of traditional teaching methods. It perfectly complements them, allowing educators to make the learning process softer, more interesting and more accessible for the child. In addition to the advantages, there are also a number of difficulties that arise when using neuropedagogics: the lack of a scientific and methodological base and available methods. This is primarily due to the fact that the given branch of science is not fully formed and integrated in the system of education. Further investigation of the perspectives of using neuropedagogics for teaching primary school children is relevant since it can potentially introduce progressive methods and views into the learning process.

Except the theoretical analysis of realization of neuropedagogical approach in the educational process, the article evaluates the degree of primary school teachers' awareness of neuropedagogy as a science, as well as the neuropedagogical methods and techniques applicable in teaching children of junior school age. As a result, we may conclude that today's educators do not have enough knowledge and understanding of the theory and practice of neuropedagogy and, therefore, need special trainings and methodological recommendations on the implementation of the neuropedagogical approach.

Keywords: neuropedagogics, junior classes, children, school, training.

Introduction. *Relevance of the study.* Given the increase in stress and anxiety, often passive lifestyle and the development of dependence on gadgets and social networks among children, it is crucial for a modern teacher to understand the peculiarities of cognitive and psychophysiological processes of students, in our case, primary school students, and creatively approach the solution of pedagogical problems.

Considering the complication of life circumstances, constantly changing requirements of society to education, and the development of new technologies, teachers are encouraged discover and implement various scientific achievements to successfully organize the educational process. One of the innovative ways of improving the quality of training is the realization of principles and methods of neuropedagogy in teaching practice.

Neuropedagogy, also known as educational neuroscience, is a new interdisciplinary field of knowledge that explores the intersection of neuroscience and education. Neuropedagogy implies the application of the ideas of neuroscience to improve teaching methodology and learning procedure (Sorochinsky, 2022). Following the neuropedagogical approach, that agrees with the ideas of humanistic pedagogy, instructors can facilitate active learning and get better learning outcomes of their students.

From the perspective of neuropedagogy, it may be claimed that knowing how the brain learns can significantly assist teachers in creating learning strategies that will be more successful, engaging, and tailored to particular students. For example, understanding the impact of stress on learning can provide information about how teachers build their classrooms and interact with students. Similarly, understanding the role of emotions in learning can help teachers design lessons and activities that are more captivating and meaningful to students.

The discipline of neuropedagogy is fairly young, and there is still much to learn about how the brain works during learning, as well as how these concepts can be used to design effective teaching strategies. Neuropedagogy should be considered as one of the approaches in the broader field of pedagogy that offers valuable perspectives and methods. Nevertheless, it is important to approach the integration of neurology and education with caution and skepticism, since not all statements made in this area are supported by rigorous scientific data (Hodykina, 2020).

As such, the *purpose of the study* is to analyze the perspective of using the neuropedagogic approach as a scientific and methodological basis for the formation of successful teaching of younger schoolchildren and conduct a survey to get an idea of what the university teachers know and think about realizing the neuro-pedagogical approach in pedagogical activity.

Main part. *Research methodology.* Neuropedagogy, which is the application of neuroscience research in education, can provide valuable information about how the brain learns, and how this information can affect the pedagogical process. Relying on the most recent findings in different fields of neurology, neuropedagogy takes a scientific approach to understanding the educational process and suggests innovative methods and technologies of learning. It can provide insight into topics such as the impact of stress on learning, the role of emotions in learning, and how the brain processes information. Using this knowledge and realizing the neuropedagogical approach to teaching, educators can develop more effective, engaging, and student-specific instructions (M.Kh. Malsagova & A.A. Malsagov, 2018).

The neuropedagogic approach presumes using knowledge of general neurology, organization of mental mechanisms, as well as the findings of neuropsychological and psychophysiological sciences to create favourable conditions for the harmonious cognitive development of the learners. Neuropedagogy considers such questions as:

– How the child's brain develops and works?

– How the mentality of boys and girls differs?

– What are the features of thinking of the left-handed and right-handed?

– What happens in the brain of a child during schooling?

– What method of teaching language skills or mathematics is more suitable for the learner in terms of individual developmental characteristics, etc? (Moskvitin & Moskvitina, 2001).

Literature review. One of the great Soviet psychologists, A.Luria is a founder of neuropsychology, the development of which contributed to the emergence of neuropedagogical science. The researcher in his book "Fundamentals of Neuropsychology" provided a detailed explanation of psychic processes and bases of mental activity (Luria, 2013) . His model of three blocks of a human brain is helpful not only for neurologists and psychologists but also for inclusive teachers and neuropedagogues.

Let us get acquainted with the model of three sectors of a brain (see Fig. 1). The 1st sector, also called an energy unit, regulates the brain tone and wakefulness. It is mostly in charge of the emotional "reinforcement" of psychic activity (sense of success and failure). This brain block is involved in the organization of the individual's attention, memory and emotional state.

The 2nd one is about receiving, processing and storing information from the external environment. It comprises primary, secondary and tertiary cortical zones of the cerebrum. The lesion of these zones respectively leads to difficulties in perception and analysis of information, disorders of single (agnosia, aphasia) and complex synthesis of stimuli (spatial apraxia).

The last sector is responsible for programming, regulation and control of psychic activity. It includes the frontal lobe of the brain, responsible for the expediency of behavior in general by means of accumulation of rules and algorithms. The development of this part of a brain which starts in the age of 7-8 is critical for personality's self-control and self-discipline (Luria, 2013).

The American scientist O'Dell is credited with coining the term "neuroeducation" in 1981. He is the author of the first significant publication on the discipline – "Neuroeducation: Learning Strategies Compatible with the Brain". After him the term was used by L. Hart in "Human brain, human learning." The author supposes that creating an educational experience without understanding the structure and functioning of the brain is like creating a glove without

understanding the architecture and properties of the human hand (Dudko, 2020). This suggests that purely pedagogical and specialized knowledge is not sufficient to form a successful training.

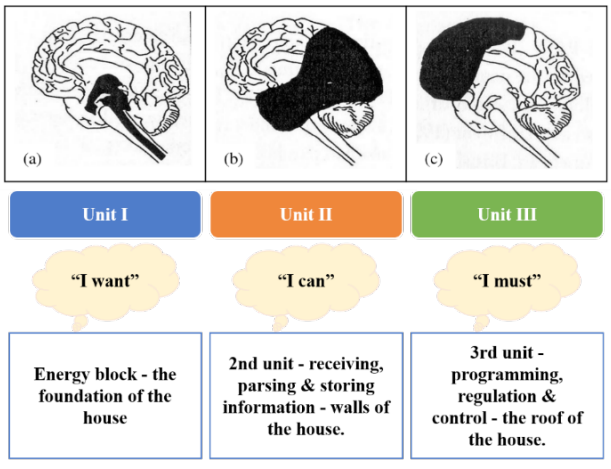

Figure 1. ***Three functional units of a human brain according to A.Luria***

In the work "Neuropedagogy as an Applied Direction of Pedagogy and Differential Psychology", V.A. Moskvitin and N.V. Moskvitina outlined the aims and objectives, essential provisions and instruments of the new direction of pedagogy. The United States, in turn, suggested their own views of neuropedagogy, which resulted in the formation of the greatest worldwide initiative, "Brain and Learning." This project brings together researchers from 30 different nations, and aims to increase teachers' awareness of how the brain works (Glushchenko, 2017).

In the years 2005 and 2016, psychologists, neurobiologists and educators in the conference in Delphi reviewed the contemporary findings in the sciences they represent and together came up with the name for the new discipline of interdisciplinary research - the Mind, Brain and Education Science (MBE). The new interdisciplinary field of study can be viewed as a more complete and relevant collaboration of sciences being an intersection of neuropsychology, educational psychology and neuropedagogy (Chojak, 2019).

M.J. Hermida and his collaborators emphasized the significance of investigating teachers' conceptions and misconceptions about neuroscience which may greatly influence the decision of the educators to integrate the achievements in neuroscience into the pedagogical process. The authors found out that the study participants had a lack of understanding of features of memory, plasticity and the potential of brain usage capacity (Hermida, 2016).

Promoting a multidimensional approach to treating brain disorders, Joseph Taylor and his colleagues compared the neurological and psychiatric classification of brain disorders to cubism in art, denoting it the Neural Cubism. They believe that it does not give in-depth understanding of neuroscience, since all brain disorders are complex and multifaceted, with psychopharmacological effects as alterations in behavior, affect, mood, or cognition of patients (Taylor et al, 2015). Complete knowledge of types and causes of brain dysfunctions may clarify circumstances of a child with mental disorders, and help in developinng an appropriate individual learning trajectory.

Research materials and methods. In order to achieve the aim of the study the following methods were used by the authors:

1) The theoretical analysis of literature on the problem of implementation of neuropedagogical approach to teaching students of primary school;

2) A survey dedicated to the elementary school teachers for indicating their awareness of neuropedagogy and its methodology.

The survey "The evaluation of primary school teachers' awareness of neuropedagogy and neuropedagogical methods" was conducted among 40 teachers of junior school students from Gymnasiums №12 and №159 in Almaty. It consists of 40 questions of different types (single and multiple choice, close and open questions, and a scale)

Results and Discussion.

I. Theoretical Study. Learning implies a complex activity of several parts of the

brain. It should be noted that the processes of learning and cognition naturally accompany the brain development. A human brain relies on the previous experience of a person to build connections with the new information. Memorization and comprehension occur when the mind finds support in previously learned material and updates the system of knowledge and concepts to the last version.

Aware of that, the well-known scientists, Jean Piaget and Lev Vygotsky proposed the theory of constructive learning, each from their own viewpoint but based on the common fact that learners are not empty minds and build new knowledge on the previously received one (S.Mcleod). Their approaches to the learning process, called cognitive and social constructivism, contributed to the development of neuropedagogy and keep fulfilling a significant role in education and encouraging teachers to consider psychological peculiarities of the students.

The critique of the «full absorption» paradigm in the perspective of psychophysiology is one of the most intriguing investigations of ICE SGA. Today's educational programs and curricula are made in line with the indicator «time of mastering the learning material,» which assumes that the learner will fully absorb a particular subject in a definite amount of time. The problem of certain participants' incapacity to completely absorb was revealed in a series of tests where subjects were instructed to memorize 20 pairs of words after spending a limited period of time. A detailed psychophysiological investigation of these individuals revealed intriguing health characteristics, including flat or low-amplitude EEG and alteration of alpha rhythm depression (Karpenko,2018).

A common neurobiological "denominator" among these EEG characteristics was poor activating brain system function. Such dysfunction may be brought on by physical illnesses, functional abnormalities, or peculiarities of the higher nervous activity. However, it always leads to an increase in anxiety, which is accompanied with cognitive activity abnormalities. As a result, the breach of complete memory is an outward expression of an intricate process (Karpenko, 2018). This phenomenon may be one of the possible factors of learning failure of pupils.

Regarding applying the neuropedagogic approach to teaching primary schoolchildren, it starts with the understanding of typological characteristics of the learners at this age and peculiarities of their mental development, in particular. For instance, neuropedagogue is a specialist who can identify the cause of learning failure and difficulties (frequently due to the incorrect functioning of a certain area of the brain or its immaturity) and develop an individual correction program for the learner that contains the suitable subject matter (Mambetalina et al, 2019). Analysis of the cognitive theories of learning would help teachers dive in the bases of neuropedagogy.

Swiss psychologist J. Piaget has developed a model of cognitive development that covers four stages corresponding to the maturation period of cognitive schemata. According to the author, children at this age range (7-11) are usually at a concrete operational stage of cognitive development. This means that they are able to think logically and solve problems, but their thinking is still based on specific, tangible experience, and not on abstract concepts [(Börnert-Ringleb & Wilbert, 2018).Important characteristics of the development of young children include the following:

1. Concrete operational thinking. Junior schoolchildren often struggle with abstract thinking and understanding complex processes and phenomena. They tend to perceive information in actual, literal terms, and may not be able to imagine hypothetical situations and draw conclusions of what is said by the teacher without a vivid example. Therefore, visualization of the learning material is highly recommended in junior classes.

2. Regarding problem-solving skills, learners in the concrete operational stage, may encounter with the difficulty of systematic and consistent solution of problems. They find it challenging to plan out all the steps necessary for completing the task and execute them in the most efficient order. Still, young learners demonstrate improvement in problem-solving and can apply their knowledge and experience in new situations. They are also more able to reason logically and be critical of the world around them.

3. Enhancing inductive reasoning. Furthermore, juniors show the ability to use inductive logical thinking in real life situations.

They can recall a specific experience and come to a generalized conclusion. For instance, a child notices that his or her father does not eat an ice cream even when they have extra one, and based on this regular observation, concludes that he is not attracted to sweets.

4. Formation of conservation skills. Kids start to understand the fundamentals of logical thinking and demonstrate various abilities of conservation like reversibility (understanding that the position of numbers or objects can be manipulated) and decentration (simultaneous consideration of diverse properties of an object or problem aspects). However, conservation of volume may be quite troublesome compared to conservation of number and mass.

5. Doing arithmetical operations. Pupils of junior school learn the basics of mathematics and are able to solve simple computational tasks. Also, they are good at sorting and classifying objects, identifying classes and subclasses. Thus, solving mathematical problems with different people and items does not provide children with special difficulties.

6. Adopting a viewpoint. For children of primary school age, it is easier to perceive the point of view of other people than before, which can be regarded an important social and emotional skill. They become more able to understand and accept the thoughts, feelings and opinions of others, which helps them develop empathy and form positive relationships with peers and adults. Analyzing a given situation from another perspective can be envisaged in some tasks on literature and so on.

7. Dealing with contradictions. It should be noted that kids at the age of 7-11 may feel confused and stuck when they observe something that contradicts with their understanding of the world. The reconciliation of these contradictions takes a long time. Also, if the primary schoolchildren are asked to think from another person or character's perspective, it may be normal for simple tasks but not for complex ones.

So, these are major facts about cognitive development of children, studying at elementary school, according to Piaget's theory. The awareness of these characteristics allows teachers to understand the general trajectory of cognitive development in this age range and direct them to selecting appropriate activities. Nevertheless, the fact that every kid is unique and develops at their own rate should not be overlooked. There may be noticeable individual variances in the development of the cognitive mechanisms among children of the same age.

Besides, there are other significant factors of intellectual and emotional development of primary schoolchildren that should be considered:

– *Increasing amount of memory.* Notably, in this age range, children's memorization capacity gets better, while the volume of memory of their brain gets wider. They are better at comprehending and retaining what they have learnt since they can remember more information and organize it in more meaningful ways. Apparently, teachers should offer learning activities that ease the process of memorization using pictures, cards, associations, etc.

– *Metacognition.* Children begin to develop metacognitive skills, which include the ability to reflect and regulate their own thought processes. This includes skills such as self-control, self-assessment, and planning. Nevertheless, these tendencies may be false in case of individual students, since progression through the stages of cognitive development may take place at different rates.

– *Increasing independence.* Children in this age range are becoming more independent and can take on more responsibility. This includes making decisions, taking care of themselves, going out, as well as managing the time and resources more effectively.

To enhance teaching and learning strategies in primary schools, neuropedagogy can provide insightful information and practical techniques. Among them we would like to mention the strategies of structuring the educational process that allow children use their cognitive resources as efficiently as possible:

• *Active learning.* Incorporating active learning strategies such as project-based learning and inquiry-based learning can engage students in their own learning and activate different areas of the brain. These approaches provide students with opportunities to collaborate, create, and solve problems, which can improve their understanding and retention of information. The use of active learning methods will allow schoolchildren not only to get familiar with theoretical material, but also, if possible, to directly interact with it and develop social interaction skills (active listening, storytelling, etc.).

Active learning for younger grades is an accessible means due to the nature of their educational program. The study material is adequately graphic, giving educators several opportunities to visualize the learning process. Children of primary school age enjoy taking part in a range of group activities and can show growth in their ability to explore their environment through such activities.

Neuropedagogy emphasizes the importance of active learning, which involves engaging students in hands-on activities that help them connect new information with their previous knowledge and experience. For children with special educational needs, active learning can be especially useful, as it can promote engagement and make learning more meaningful and memorable (Melnyk et al, 2022).

–*Multisensory learning.* The use of multi-sensory learning, which involves the use of multiple senses (such as sight, hearing and touch), can help consolidate learning and make it more memorable for students. For instance, using visual aids such as videos, images, and diagrams along with oral instructions can help students better understand and memorize concepts.

The neuropedagogic approach considers multisensory learning as one of the key methods of effective learning. Stimulation of several associative zones at the same time does not cause discomfort in children, which is a significant neurophysiological advantage of this age. Neural plasticity makes it possible to organize multisensory learning with greater efficiency for children of primary school age compared to more mature ages.

– *Resource recovery practices.* Pupils' stress levels can be reduced and their ability to regulate their emotions can be enhanced by the use of relaxation techniques including breathing exercises, physical activity, and cognitive games. This can create a more positive learning environment and help students focus better on their studies. Moreover, the organization of such activities does not take long.

– Resource recovery and relaxation are relevant in conditions of overload of the cognitive sphere of primary school students. Changing the focus of attention will allow the attention of children to get the necessary respite for further education. Exercises aimed at restoring resources take only 1-5 minutes, while significantly stimulating the cognitive activity of the child.

–*Differentiated learning.* Adapting learning strategies to meet students' diverse learning needs can be an effective way to promote successful learning. Neuropedagogy assumes that the brain of each primary school student processes information differently, and therefore learning strategies must be adapted to different learning styles. For example, in one classroom may be present audial, visual and kinesthetic learners. There are a number of tests and educational games that allow to identify the preferable learning style.

At the same time, considering the neuro-physiological features of the brain of 6-10 years old, it is worth to mention the significance of maintaining a balance between the educational load on the child and his cognitive abilities. This indicator is essential in the development of individual training programs. If the chosen learning strategy does not match the child's capabilities, then his learning abilities will decrease along with the degree of assimilation of the material. Violation of the motivational component of teaching a junior is one of the most serious issues in traditional pedagogy. Nonetheless, neuropedagogy offers a solution to this problem in the form of specialized learning models based on the strength of the child's nervous processes and the plasticity of his brain (Avdeeva & Leonova, 2019).

• *Individual learning.* One of the basic principles of neuropedagogy is that each child is unique, with their own set of strengths, challenges and learning styles. This way of learning involves adapting instructions to the needs and interests of each individual child. Using techniques such as adaptive learning software and customized lesson plans can help students learn at their own pace and in the most effective way (Gejdoš, 2019) .

In terms of inclusive education, personalized learning is a key method of supporting children with special educational needs. This may include customized learning programs, adaptations such as extra time or a quiet workplace, or other strategies tailored to this or that category of students. There are many neuropedagogical teachniques and neurogames that can be used to support children with disabilities and added to the individual learning trajectory.

– *Scaffolding.* Another key method of supporting children with special educational needs is scaffolding, which involves breaking down complex concepts into smaller, more manageable chunks of knowledge. This can help ensure a clear understanding of the material by children with SEN and the opportunity to make progress in learning. Applying this technique, the teacher offers progressively less assistance as the pupils pick up new ideas and develop new skills.

The realization of scaffolding in the classroom can be clarified by the phrase "I do, we do, you do," when the instructor demonstrates, guides, then hands the responsibility for the task completion to the students. The theory was first introduced by a psychologist J.Bruner in the 1950s. Some scholars also distinguish Vygotsky's scaffolding that is based on the zone of proximal development Vorotyntseva et al.

–*Positive Reinforcement.* This psychological strategy entails the introduction of gratifying or enjoyable stimuli following the accomplishment of a particular activity (certain behavior). It is based on the theory of operant conditioning of B.F Skinner, according to which useful habits and patterns of conduct can be developed through regular encouragement (Koc' & Yatchuk, 2018). The use of positive reinforcement for teaching children can facilitate the formation of necessary skills in the learners and growth of motivation to study.

Neuropedagogy emphasizes the importance of positive reinforcement, which includes providing feedback and encouraging students to reinforce positive behaviors and achievements. For children with special educational needs, the given teaching strategy can be especially beneficious, because it can help build confidence and motivation and make the learning process more rewarding.

Thus, the given teaching strategies were brought into the field of education thanks to the integration of scientific knowledge and achievements in psychology, neurology and physiology. The neuropedagogical approach considers the features of students' cognitive and psychophysiological development and suggests optimal methods and techniques that suit different categories of learners.

Despite the prospects for the development of neuropedagogics for the formation of successful teaching of primary school students, there are also a number of scientific and methodological problems that currently need to be solved. Although neuropedagogy can offer valuable information about how the brain learns, there are some issues and limitations associated with this approach, such as oversimplification of brain processes, lack of clear evidence for some practices and limited availability (Zhurat & Lipshyts, 2020) .

To sum up, the problems associated with the use of neuropedagogics to improve the effectiveness of training do exist, although they can be solved by means of a thorough study of the evidences of favorable effects of the neuropedagogical methods and activities, as well as the procedure of their implementation. By taking a critical and cautious approach to the use of neuropedagogy methodology, teachers can achieve higher learning results of their students.

II Empirical Study. In order to analyze the results of the survey carried out among primary school teachers we highlighted several categories of questions as criteria of awareness and comprehending of neuropedagogy and its methodology:

1. Knowledge and understanding of neuropedagogy and neuropedagogical approach;
2. Awareness of psycholologists' contribution to neuropedagogy;
3. Understanding the mechanisms of learning and cognition;
4. Knowledge of structural and functional parts of the brain;
5. Knowledge and understanding of cognitive or psychic processes;
6. Awareness of neuropedagogical methods and techniques;
7. Awareness of types of mental disorders and dysfunctions;
8. Knowledge of teaching strategies that agree with neuropedagogy;
9. Realization of significance of implementing neuropedagogical approach.

The given criteria comprise from 4 to 5 questions and allow us to identify the aspects of neuropedagogical awareness. The comparative analysis of the survey results according to 9 factors is provided below.

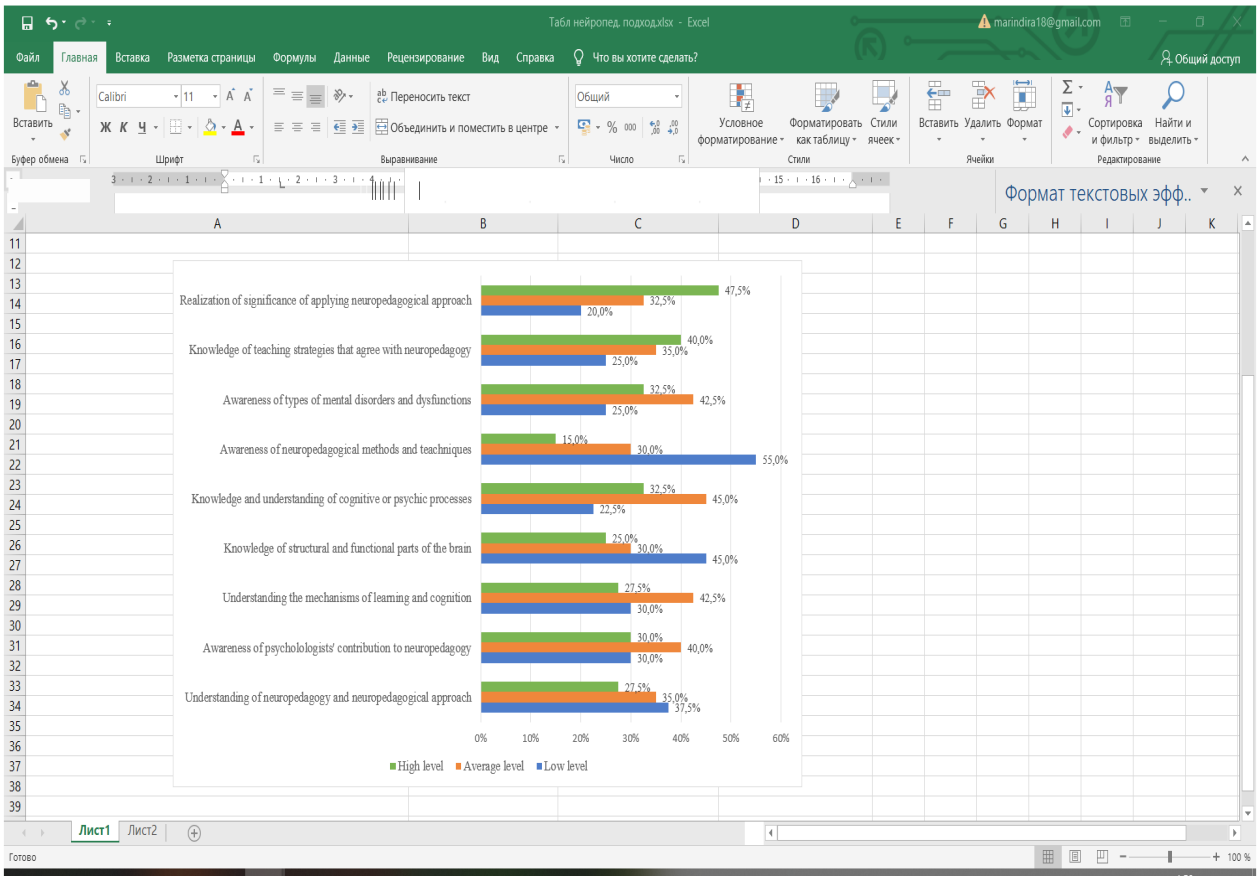

Figure 2. ***Level of neuropedagogical awareness according to the criteria***

The analysis of responses on these categories of questions shows that a few teachers have heard of neuropedagogy, and few can say for sure what a neuropedagogical approach implies. 35% of survey participants have average level of understanding neuropedagogy and its connection with other sciences. 15 persons have less idea of what neuropedagogy is, mostly because it is a relative new field of interdisciplinary research and was not taught in higher educational institutions before.

Considering the awareness of authors of cognitive and psychophysiological theories integrated into neuropedagogy, 30% of educators have shown a high level of knowledge. On the other hand, the same percentage of people could not give a correct answer to most questions. 16 primary school teachers recalled the basic theories that are close to educational psychology but got confused in the details.

In terms of understanding the processes of learning and cognition, the majority of respondents have a general idea of how brain learns and accumulates knowledge. The number of teachers with highest and lowest indicators is nearly the same. For instance, 11 individuals responded correctly to the multiple-choice question "… how does a human brain learn?", whereas 12 persons chose wrong variants of answer.

Analysing the results on the category "Knowledge of structural and functional parts of the brain", ¼ of the survey participants are well aware of the cerebrum structure and functions of different parts of the human brain. Almost the half of the school teachers do not know about three blocks of the human brain according to A. Luria and do not remember the brain lobes. 30% of the surveyed individuals have demonstrated an average level of knowledge on this topic.

Regarding knowledge and understanding of cognitive processes, 13 elementary school teachers know well what processes are considered psychic and can tell which one simple or complex. A few people have shown a low level of awareness of mental processes, while 45% of the surveyed educators have satisfactory results, being able to differentiate between lower and higher psychic functions.

However, considering the methodology of neuroeducation, the majority of primary school teachers are not familiar with neuropedagogical methods and techniques at all. Only 6 individuals out of four chose existing neuropedagogical techniques. 12 persons could logically respond to the questions and identify what methods recommended by neuropedagogy can help improve the learning process in this or that cases.

In terms of the seventh criterion, 32.5% of the surveyed instructors demonstrated a high level of awareness of types of mental disorders and dysfunctions, such as aphasia, apraxia, and autism. 42,5% of the respondents know the causes of some types of mental dysfunctions, whereas only 9 individuals are not informed about possible neurological problems of children.

The data analysis of the eighth factor are comparatively better than those of the previous criteria: 40% of the teachers of younger schoolchildren were able to distinguish teaching strategies that agree with the ideas of neuropedagogy, 35% and 25% of the surveyed educators demonstrated an average and low levels of understanding the interconnection of neuropedagogical approach and the given teaching strategies.

Regarding the last factor of neuropedagogical awareness, most teachers of junior classes realize the benefits of applying the neuropedagogical approach. Only 8 persons deem using this approach in the educational process unnecessary, since they are not inclusive or special educators. Some people are not sure whether to use neuropedagogical techniques or not, because they lack knowledge of their procedure, and neuropedagogy, in general.

Conclusion. Neuropedagogy is a relatively new approach to teaching compared to the traditional ones. Traditional approaches usually focus on the teacher as an authoritative figure, with an emphasis on accumulating knowledge, mechanical memorization and repetition of the learning material. On the contrary, neuropedagogy is a relevant strategy that adapts the teaching methodology to the most recent findings in the field of neurosciences. Promoting active learning, engagement, and individual learning, this approach aims to create a learning environment that is more student-oriented.

To sum up the results of the empirical study, it is clear that current teachers lack knowledge and understanding of neuropedagogy, its methods and techniques. Since the given branch of science is yet to be completely developed and a few numbers of educators are familiar with it, there should be organized the special trainings on the realization of the neuropedagogical approach in teaching practice. As for higher educational institutions, they may introduce a new discipline to the future teachers, providing basic knowledge about neurosciences integrated in pedagogy.

Teachers should always consider the needs of their students and use proven methods to provide a supportive and engaging learning environment. Neuropedagogy can be an effective approach to educating both healthy children and children with mental disorders. Considering recent studies on brain activity during learning, neuropedagogy can help educators develop more effective learning strategies tailored to the specific needs of each individual child. As such, it can be considered a broader and deeper view of learning theory and practice.

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INNOVATIVE PEDAGOGICAL STRATEGIES FOR EFFECTIVE DIGITALIZATION OF EDUCATION IN THE UNIVERSITIES

Abstract

The article discusses the pedagogical possibilities and tasks of creating favorable conditions for the organization of part-time education in higher education institutions in the context of digitalization of education. The article examines the close relationship between the concepts of "distance learning", "full-time learning" and "part-time learning".

The features of distance learning in vocational education in various countries are analyzed, as well as the transformation of this concept in modern realities. The article examines pedagogical research to identify the difficulties of part-time learning, both on the part of students and on the part of teachers. In addition, the study formulated pedagogical conditions for the implementation of part-time learning using digital technologies in higher educational institutions of Kazakhstan.

The study shows opportunities for students to improve their professional knowledge or obtain an academic degree without interrupting their work. It was concluded that part-time education can be implemented on the basis of distance learning technologies, open online courses and online communication.

Keywords: digitalization of education, distance learning, part-time study, online education, time management.

Introduction. The daily increase in the capabilities of computer network services is likely to influence all spheres of society. To be precise, new concepts and terms such as part-time/full-time study, distance learning, online education, short-term study, etc. appeared in the education system as a result of digital capabilities advances most especially during and post-COVID era

(Portugal et al., 2023; Bergene et al., 2023; Grynyuk et al., 2022; Slykerman et al., 2022; Alismail 2023). These terms seem to gain rapid popularity in mass use. For instance, the term "correspondence education" has disappeared in many countries and has been replaced by new terms: "part-time education" in Russia, "full-time distance learning" in Kazakhstan, "part-time study" in Great Britain, "distance learning" in Germany, etc.

By the Law " On introducing changes and additions to some legislative acts of the Republic of Kazakhstan on the issues of expanding the academic and management independence of higher educational institutions", higher educational institutions may design and offer flexible and integrated educational programs that allow obtaining a bachelor's degree in an accelerated mode. Moreover, the educational institution sets the tuition fee itself. One of the measures aimed at improving the quality of higher education is the transition to distance learning as a full-time study base (Law, 2018).

Starting from January 1, 2019, the admission of students to correspondence education in higher educational institutions in Kazakhstan has been suspended. As a result, the option of correspondence education at higher educational institutions has become unavailable entailing some issues for people pursuing higher education degrees after obtaining vocational (technical and special professional) education as well as for those willing to improve their knowledge and skills or to change their profession by the principle of "lifelong learning". To solve the issue, it was proposed to introduce "distance learning" for full-time study mode. This phenomenon was a usual practice worldwide. For instance, in the USA the International Council on Correspondence Education was changed to the International Council on Distance Education in 1982 since distance education is considered as a continuation of correspondence education (Keegan, 1996).

Distance learning is designed for applicants who already have higher education but still want to get another degree in a similar specialty in a shortened study period as well as "persons with technical and professional or post-secondary education" (Law, 2015). In other words, distance learning students are currently over 20 years people, who consciously choose a professional direction, who want to study while working, mothers with young children, conscripts, disabled persons capable of working, elders, returnees, and foreign citizens. The dynamic development of society arises from the need to improve the education of "elder" citizens in the context of life-long learning (Anastas, 2022). However, such measures cause inconvenience for distance learning students. In particular:

1) there are no opportunities to participate in classes (direct communication with the teacher) while working at the same time;

2) lack of opportunity for mothers with young children to go to higher education institutions;

3) full-time tuition is more expensive than correspondence education tuition;

4) difficulty in getting a job after graduation and lack of experience.

These problems are a serious challenge not only in Kazakhstan but in many countries. The literature review showed that many scientists studied the concepts of distance learning and part-time study and revealed their meaning and practical use. Precisely, Bervell, et al. (2021) studied distance learning; Salonen et al., (2021) discussed online learning; Butcher & Rose-Adams (2015); Rokicka (2014) researched part-time study; Boelens, et al., (2018), Hofmann (2018) wrote about blended learning; Gohberg, et al., (2022) researched a part-time study in full-time mode.

Although a lot of research is being conducted, there are still aspects of the problem that need resolution because it is intended to introduce changes in the country's existing education system without destroying it. In addition, each country may choose to switch to a different form of education. In European countries, part-time study is common for master's and PhD programs. The goal of solving the mentioned problem is to determine the pedagogical possibilities of part-time study for obtaining a bachelor's academic degree in the context of the digitalization of education. The main task of the study is to explore the pedagogical conditions necessary for the realization of part-time study implementation via open online courses and online communication.

Conceptual background. The analysis of regulatory documents of Kazakhstan concerning the organization of the educational process in universities and previous studies on the topic of this research was carried out. To reveal

the meaning of the main concepts and terms Kazakhstani documents were analyzed since the research is focused on the adapted use of part-time study in Kazakhstani higher educational institutions. Studying and analyzing the previous research of foreign scientists in the latest decade allows for adapting part-time study programs to the Kazakhstani education system and determining its advantages.

Part-time study is based on distance learning. "Distance learning is a study process carried out during the interaction of the teacher and students at a distance using information and communication technologies and telecommunication tools".

Higher education institutions use distance learning technology based on the full-time study form ("full-time-distance learning") as an alternative to the "correspondence" study form for students studying in a shortened form of education (Law, 2018a; Shadiev & Huang 2020).

At least 20% of the educational program courses are taught online (online learning is part of "full-time-distance learning"). The rest of the study is conducted in offline mode, that is, in full-time form (Law, 2015).

Salonen et al., (2021) consider the online activity of students specializing in teaching (pedagogical education) in the context of blended learning, which includes online classes and face-to-face classes. According to their research, a meta-analysis of teaching analytics in higher education shows that the potential of determined teaching analytics to improve the quality of teaching is high. The same authors claim that distance learning and online learning should be increased. Therefore, it is necessary to find tools that increase the efficiency of the educational process.

Another comparative study acknowledges that there is no difference in the academic performance of the students who work full-time and part-time jobs (Kamp, 2021). Moreover, O'Connor & Cordova (2010) assume that often the aim of elder people who intend to enroll in part-time study is to obtain a diploma or certificate necessary to keep a job in their professional field or to get a job of their desire and that part-time students have the motivation to study.

Pedagogically, it is determined that the vast majority of students studying part-time develop their main professional skills during their part-time study and that university courses are effectively based on the learning experience (Wylie and Cummins, 2013).

According to Bob (2021), although there is no difference in the academic progress of students studying in the full-time and part-time systems, there are noteworthy points in the general organizational features. Moreover, to analyze the advantages and disadvantages of full-time and part-time studies several practitioners' reviews such as Consultant Accepted, Former Admissions Dean/Director Michigan (Ross), Cornell (Johnson), ASU (Carey) were compared.

As for full-time study, it has the following advantages: full-time study allows students to fully master the curriculum, and they may be awarded a scholarship. Furthermore, while studying full-time, students may undergo mandatory internships as a part of their study in an organization and/or institution with high potential.

However, the authors mention (Bob 2021), that the disadvantages of full-time study are (1) overloaded study programs, (2) very low possibilities to work at the same time with studies, and (3) expensive tuition fees . Another disadvantage is that there is a risk of losing a scholarship which may be the main source of funding for some students.

As for the part-time study, the main advantage might be that there is an opportunity for a student who works and studies simultaneously to apply the knowledge from the part-time study in practice at work (Begin, 2022; Wang et al., 2022). Also, it might be easier to find a new job considering the prior work experience while studying part-time (Lucky, 2021).

However, part-time study might have disadvantages as well. For instance, a part-time student might not be qualified enough to undergo an internship at an advanced institution. Also, there might be a discrepancy in the teaching experience of teachers in part-time study (Lucky, 2021).

The analysis of teachers' opinions on the effectiveness of digital educational platforms depending on gender, work experience, age, level of education, class of study, type of school, and variables related to on-the-job training revealed significant differences between the assessments of various platforms. (Yazici et al., 2022).

Purpose of study. The article deals the pedagogical possibilities and tasks of creating

favorable conditions for the organization of part-time education in higher education institutions in the context of digitalization of education.

Materials and methods. A qualitative research design was used to get primary data since it aims to explore the pedagogical features of the organizational process of part-time study in the context of the digitalization of education. It is appropriate to use a qualitative approach for the study since it is utilized to understand experiences and concepts which is in line with the purpose of the research.

Data collection tool. The qualitative survey, interviews, and analyses of educational platforms were selected as research methods for this empirical research. A qualitative survey was chosen to find out the experiences of part-time students. It might be usually argued that surveys are used for quantitative study when questionnaires with scalable answers are collected to obtain quantitative data. However, in this study, the survey consisted of descriptive questions with open-ended answers about the students' experiences of part-time study. Therefore, it is rational to use a survey for this study to explore students' experiences of part-time study in the context of the digitalization of education in Kazakhstan. The collected data from the survey was further explored in interviews.

The next research method used for this study was an interview. An interview is helpful to explore opinions and experiences in qualitative research. Specifically, the interview was utilized in this study to further explore the students' experience of part-time study in Kazakhstan by crossing with teachers' opinions and experiences.

The third research method was the analysis of online educational platforms such as Coursera, Lektorium, Stepik, etc. This analysis is essential to be used as a research method since the collected data are to be used for exploring the pedagogical features of part-time study.

The research site was several universities in Kazakhstan. Two universities were in the west, another university was in the south, and the other two universities were in the central part of Kazakhstan. Personal networking was used to find a gatekeeper for each university.

*Participants. I*n 2022, 41 distance learning students, majoring in "physics" and "informatics" educational programs, were surveyed from one university in south Kazakhstan and one university in west Kazakhstan. The sample consisted of two groups. The first one was 41 university students who study physics and informatics in part-time mode from a university in west Kazakhstan and a university in south Kazakhstan. In terms of ages, they were 19-53 students: 25-53 years - 2.6%, 21-25 years - 89.7%, and 19-21 years - 7.7%. The first sampling group was employed to explore students' experiences of studying part-time in the context of the digitalization of education. It was determined that the participants of the survey received their first professional education in the form of full-time education at the college level - 7.3%, and at the university level - 90.2%.

The second sampling group consisted of 3 teachers of physics and informatics: 1 professor, 1 PhD, and 1 with a master's degree from each university. These sampling criteria for teachers was used to explore the opinions of experienced teachers, teachers who conduct research, and teachers at the very beginning of their career.

Results. Looking at the answers to the question "Why did you consider it necessary to study a second time to develop your skills?", it was found that 43.9% of the respondents studied at the university to change their jobs. For instance, a specialist with a qualification in "Radio electronics and Telecommunications" wants to become a "physics teacher" or "information systems teacher" in the future. That is, it aims to change the direction of the educational program (for example, from technical direction to education, etc.).

According to the survey, 34.1% of the respondents want to change their major because their educational programs do not correspond to the work they are doing, that is, despite having a bachelor's teaching. For example, although a participant previously studied and graduated as a biology teacher, he/she wants to become a physics teacher rather than a biology teacher.

Among the participants, the percentage of students studying part-time in physics and informatics to obtain a bachelor's academic degree is 12.2%.

It was determined that the rest of the participants who took part in the survey studied to solve social and financial problems because they were unemployed.

Most participants, i.e.,38, said that studying part-time while working is effective, whereas only a small number, i.e., 3, of participants said

it is not effective. Part-time study is helpful because the participants want to keep their jobs while studying, a student-mother who takes care of a child wants to continue her studies at home, and a student with health issues considers it better to study during her free time after receiving treatment. In addition, they paid attention to the fact that the tuition fee for part-time study is cheaper than for full-time study. 3 participants who preferred a full-time system to part-time study believe that full-time study is suitable for in-depth learning of educational content, formation of professional skills, and effective for future employment.

The next question of the survey was "If you were offered the following part-time study option, would you accept it? The student conducts training (lecture, practice, seminar, etc.) remotely on their own, and communication with the teacher (weekly, thematic consultation) is online with a special schedule (after working hours or on Saturday). The exam can be in a mixed form (online proctoring or offline at the university)," all respondents unanimously supported the proposed part-time study option.

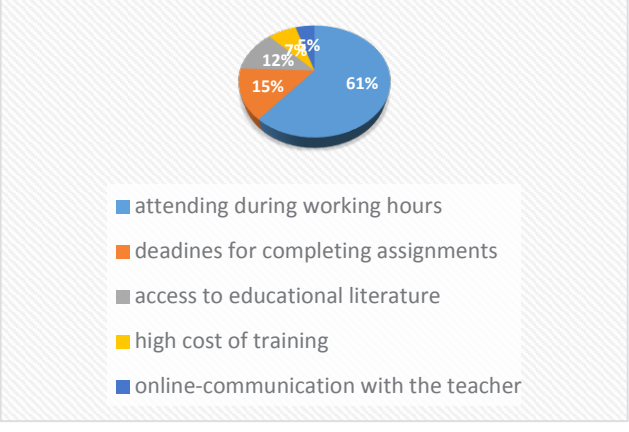

Figure 1. ***Difficulties for distance learning students***

There are some difficulties for distance learning students who have to attend remote classes daily, often during working hours. 61% of the participants find attending classes during working hours difficult, while 14.6% of the participants are challenged by deadlines, 12.2% of the participants have difficulties in remote access to educational literature, 7.3% of the participants consider the high cost of tuition as an issue, and 4.9% of participants experience the difficulty of online communication with the teacher (Figure 1).

To the question "Which distance learning platforms did you use when teaching", the majority of respondents, both teachers and students, indicated ZOOM (50%) and Google Meet (39%), Moodle LMS (25%), and Google Classroom (18%) platforms.

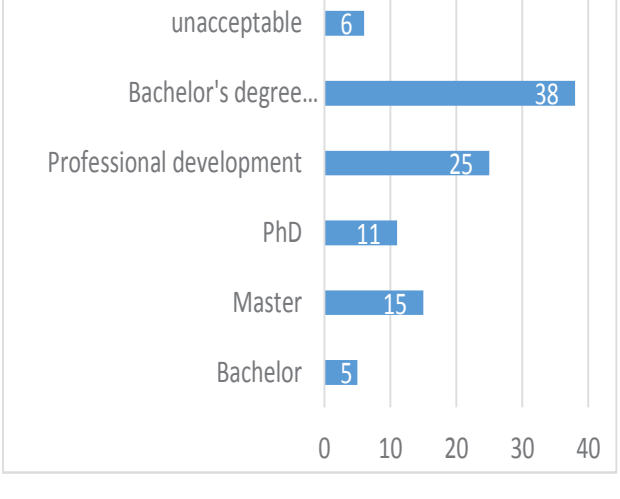

Figure 2. ***Degree of education that more effective for part-time study***

Also, the survey of teachers found out which degree of education is more effective for part-time study, the majority of respondents chose to obtain a bachelor's degree (based on existing secondary specialized or higher education) - 38%, for professional development– 25%, a master's degree – 15%, PhD -11%, a bachelor's degree (first education) – 5%, unacceptable -6% (Figure 2).

The data collected by the survey were also triangulated by interviews conducted with teachers of 2 universities in the west of Kazakhstan, 2 universities in the central part of Kazakhstan, and a university in the south of Kazakhstan. As a result, the interviews revealed the teachers' opinions about the need for part-time study and ways to organize it effectively. In particular, suggestions were made about conducting teachers' consultation hours on training courses in the evening of working days and on weekends to be conducted in online mode in a synchronous format, presenting the lecture in video and text forms, and having tests on each topic.

The analysis of online educational platforms revealed that Coursera, Lektorium, and Stepik educational platforms offer courses in English and Russian, but it is difficult to find courses in the native language, i.e., in Kazakh.

As a result of collected theoretical and empirical data, a comparative analysis of the full-time and part-time study in a higher educational institution was done. Full-time study is suitable for first-time undergraduate students because they can consult with a teacher, share ideas with other students face-to-face, and devote free time to their personal lives. Part-time studies are suitable for students with previous professional education and for students who study while working because they can study without interrupting work, it is easy to find a job in the educational program, time management skills might be improved, and there is an opportunity for inclusive education.

Part-time study opens new opportunities through distance learning technology in full-time mode. It modernizes the system of digital education in the era of digitalization. However, part-time study and distance learning in full-time mode also have similarities and differences. Table 1 summarises the similarities and differences between distance learning in full-time mode and part-time study

Table 1. ***Similarities and differences between distance learning in full-time mode and part-time study***

Distance learning in full-time mode (during working hours)	Part-time study
At least 20% of the educational program is conducted remotely	Most of the educational program (90-95%) is conducted remotely
Students must attend classes	There is no obligation to attend the class. Students learn educational materials at their convenient time.
Textbooks are available	Not all textbooks are available
Regular communication with the teacher is carried out through face-to-face meetings	Communication with the teacher is arranged through the weekly online consultation hour
Tuition fees are high	Tuition fees are likely to be reduced
Open online courses provide additional learning opportunities for the student	Open online courses are the main source of information for the student
Internships are scheduled according to the educational program	Internships take place by adjusting the individual study trajectory or at the student's workplace if the workplace corresponds to the educational program

Discussion. Currently, there are different views on distance learning in the literature. For instance, distance learning is used as "educational technology," "educational form," and "educational system." Bervell, et al., (2021) define distance learning as a technology that provides two-way interaction between "teacher-to-student" and "student-to-teacher". This work

clarifies the definition given in the Law (2007) of the Republic of Kazakhstan "On Education" and shows the correctness of the term "distance learning technology" in our study.

John Butcher claims that part-time studies are convenient for students to get a job. Having studied the service of an Open University in Great Britain, he suggests that part-time study should be implemented by creating an open university (Butcher & Rose-Adams, 2015).

Rokicka (2014) states that part-time work of 16-17-year-old children while studying might lead to lower academic performance. The age range of part-time study, i.e., 16-17 years old, is not in alignment with our study because part-time study requires a student to complete college or higher education. In this case, the age of the student should be not less than 20 years. By the Kazakhstani rules, a student studying part-time is eligible to obtain a second or further bachelor's degree only after completing at least one bachelor's degree (Law, 2018b). In many foreign educational institutions, part-time studies are usually acceptable to obtain a master's degree.

According to Callender & Thomson (2018), the number of student body has been changing notably in the last decade, and since 2010 the number of full-time students in England has begun to decrease. Precisely, in 2015 the number of full-time students decreased by 51% and in the open university by 63% (Callender & Thompson, 2018).

In Russia, at the beginning of the 2010-2011 academic year, the percentage of part-time students was 52.1% of the total number of graduate school students, at the beginning of the 2016-2017 academic year it was 42.2%, and at the beginning of the 2018-2019 academic year, 39.3%respectively. Moreover, compared to full-time students, part-time students have a higher proportion of women from villages who are married and have children. This might mean that many students need to study part-time due to their family situations (Gokhberg, et al., 2022). These studies show that the number of part-time students has been decreasing. However, part-time studies are still of vital importance.

According to Davies (1999), a part-time study model guided by the principle of "lifelong learning" is an effective, high-potential resource for higher education institutions, but the individual might not receive the full amount of education. Therefore, in many countries, it is preferable to transfer correspondence education to part-time study based on distance learning.

The American Society for Learning and Development found in a series of studies that 36% of all training programs in organizations are delivered through computers. However, it is concluded that the effectiveness of digital learning depends on each teacher and the specifics of each subject (Brookshire, et al., 2019; Kovacs 2020).

On the contrary, Medeshova (2022) states that distance learning could be actively implemented, and it is possible to teach through open online courses. The author considers open online courses as a resource. It is possible to create favorable conditions for distance learning for the student, and effective planning of study time, that is, the designing of individual learning trajectory depends on the student (Medeshova, et al., 2022).

- Face-to-face learning is considered appropriate by authors who envision blended learning as a technical and software support (operation of the electronic library 24/7, continuous operation of the educational platform of the higher educational institution, stability of the network connection),

- content (creation of open online courses, access to video lectures, textual, tabular, graphic materials, tasks, control tools, literature),

- methodical support (teachers' preparation for teaching part-time students and organizing online consultations),

- professional development of teachers: combining the roles of a traditional teacher, coach, mentor, and managing adviser in the start-time learning system and creating a teaching and tutoring environment that is a resource for continuous learning and teacher development.

- time management (capability to use time rationally, getting rid of psychological stress due to lack of time, solving social problems).

Sequence of content blocks that are sequenced to create individual learning trajectories and learning modes. Digital communication and digital resources should be used in blended learning (Salonen, et al., 2021; Bervell & Arkorful 2020).

Part-time study might be more suitable for inclusive education than blended learning (Jackson, 2012). In the article about the support of adults studying part-time or part-time students,

Jackson (2012) considered part-time study as the pedagogical method for solving the problem of inclusive education.

According to Anastas (2022), online learning has been growing rapidly since the 2010s. Some colleges, universities, and social work programs are being moved entirely to online learning.

It is intended to provide online education in higher education through mobile devices in Bangladesh (Khan, et al., 2019).

According to our research, full-time and part-time study have their features. In today's digital society, it is quite possible to integrate the advantages of online education with full-time and part-time study within the framework of the digitization of education. It is possible to organize study with a flexible schedule according to the student's convenience and capabilities. If the learner is a student with a disability, a working student, or a student with a young child, then they are more likely to choose to study part-time.

If the technical, programmatic, content, methodical, and time-management aspects of part-time study are covered, online communication and open online courses might replace correspondence education. An open online course includes content and feedback. These strengthen relations with peers and teachers. A student can plan research work or professional internships for a suitable period based on the individual learning trajectory.

Conclusion. As a result of the research, the conditions that must be provided to change "daytime distance learning" into part-time study at a higher educational institution were formulated as follows:

If the above-mentioned pedagogical features are provided, the part-time study is likely to be organized so that the student can fully learn the chosen educational program. In particular, part-time study is conducted in a blended mode (online and offline) so that working students can study without interrupting their work. Analysis of students' questions and lectures is carried out on working days evenings (after working hours) and weekends according to the changing schedule of the teaching council. Part-time study might be more beneficial for a part-time working student than face-to-face in the classroom.

By achieving the intended goal, it was determined that it is possible to design an educational platform with an open online course and online communication as the core by fulfilling the necessary pedagogical conditions for it. The creation of an educational platform is the next important phase of research.

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ON THE WAY TO DIVERSITY, EQUALITY, AND INCLUSIVENESS IN HIGHER EDUCATION: SHOWCASE OF NAZARBAYEV UNIVERSITY GRADUATE SCHOOL OF EDUCATION

Abstract

The paper delves into the essential role of universities in providing all students with equal access and opportunities, focusing on their specific responsibilities towards this goal. It scrutinizes the Diversity, Equality, and Inclusivity (DEI) policy at Nazarbayev University (NU), highlighting its dedication to an inclusive academic atmosphere. Evaluating NU's DEI practices is crucial, reflecting the university's commitment to an inclusive educational environment. The paper emphasizes the critical need for practical, effective implementation of DEI policies, moving beyond mere theoretical discourse. It examines various strategies and initiatives to ensure diversity, equity, and inclusion are genuinely embedded in the university's culture, curriculum, and community life.

Furthermore, it identifies persistent challenges to achieving real inclusivity in higher education and proposes solutions through innovative and consistent university leadership efforts. Concluding with a forward-looking discussion, the paper suggests potential improvements and strategies for NU's leadership to refine DEI policies. These recommendations encompass policy modifications, program development, and community engagement to establish a more inclusive and equitable educational environment.

Keywords: equality, access, inclusivity, responsibility of educational institutions, the concept of DEI – Diversity, Equity, and Inclusion, Nazarbayev University experience.

Introduction. This paper discusses the institution's responsibility to ensure access and choice for all. It concludes with a discussion of opportunities the NU leadership can consider to enhance DEI policies on the institutional level and some brief concluding remarks. One more important discussion point in this paper is that the concept of inclusivity may vary across the universities. The purpose of this paper is to encourage other Kazakhstani educational institutions to start by asking a question about what inclusion means and how it could be represented in a particular academic community in a particular social context, to share practical examples "in the vicinity" of how a selective institution can ensure access and choice for all.

Main part. The paper mainly draws on relevant literature and document sources, emphasizing the university's responsibility to ensure access and choice for all. It provides examples from the case-study institution, NU.

Among the valuable for study and reasoning, in our opinion, we would like to highlight the experience and research of experts in higher and graduate education, who:

– discuss strategies and approaches to create a more inclusive and supportive environment for students of different racial and ethnic groups on the University campus (Hurtado, 2002; Hurtado et al., 2012; Council of Graduate Schools, 2003, vol. 2);

– note the importance of genuine interest, action, and commitment to campus diversity, residents on student recruitment and retention of a diverse contingent and diversity issues (Anyaso, 2008; Council of Graduate Schools, 2003, vol.1);

– conclude that individual university services and units can create an environment that empowers community members and nurtures a sense of belonging, and "building a community helps" the support system extended to the underrepresented members of the university community in every discipline and academic level from the newly admitted students to postdoctoral scholars (Council of Graduate Schools, 2003, vol.3);

– indicate mistakes that well-known universities made in an attempt to preserve their academic excellence and prestige.

– explore and discuss concerns and barriers related to college students with special needs and utilizing disability services and accommodations in the universities (Marshak et al., 2010).

We believe that the focus on the university's responsibility to ensure access and choice for all starts with a review of the processes and situational analysis. It is essential because inclusion and diversity do not mean the same to all universities. After all, students, faculty members, and programs can be different from university to university from school to school. Every institution must reflect on inclusion and diversity (Tomas, 2020). Inclusion could have similarities at a particular academic institution in a specific social context. For institutional change and embracing racial justice and equity as essential components of higher education, the institution leadership and the policymakers must consider what should be done to reduce racial inequality and create diverse and equitable campuses (Byrd, 2021).

Established in 2010, NU was built to become a world-class university that offers everyone affordable, high-quality education. NU embraces cultural diversity that is "integrated into every aspect of education, research, and community" and" vouches for equal access to education – regardless of race, religion, gender, physical capacity, or socioeconomic status" (NU, 2022). For example, 70% of the NU faculty are international. Our diverse faculty hails from 58 countries (NU, 2022). NU pursues an articulate strategy for attracting international students. For example, international students hail from 12 countries (NU, 2022). A meritocracy is a key principle for NU admission. NU maintains its responsibility of ensuring access and choice for all despite its strong emphasis on student selection. While NU adopted a strategy of selecting the best and brightest students regardless of race, sex, gender identification, sexual orientation, national origin, native language, religion, and cultural background, the University has to align its equity and diversity policies with the principle of talent concentration and student selection. NU needs to avoid the errors and mistakes of some elite colleges (compromising diversity and inclusivity) as they try to maintain only their academic excellence and prestige as the top priority (Lesesne, 2008). NU offers generous scholarships to both local and international students and considers the needs of low-income students (NU, 2022), grants a preparatory year foundation course for undergraduate and graduate bright candidates, and even arranges the entry examination in the regions at the institution's expense to ensure equal access to all from step one.

Materials and methods. The methodological layout of this paper is a case study research method, "a common research method in psychology, sociology, political science, anthropology, social work, business, education, nursing, and community planning" (Yin, 2014) and, in this case, it is a relevel approach for explanation of NU DEI case as it is aimed to illustrate and interpret achievements of the University and its examination contributes to the knowledge of Kazakhstan higher educational organizations and the other experts in leaders in higher education. The case study is accompanied by the narrative literature review, providing a qualitative interpretation of the existing studies and practices related to the questions raised by this paper. In selecting literature for our research, a deliberate choice has been made to limit the focus to US researchers, experts, and practitioners. This approach allows for the

facilitation of comparative analyses. By honing in on US literature, we can effectively compare DEI initiatives, successes, and challenges within the US with those in other countries, including Kazakhstan. This offers a basis for understanding the potential transferability of DEI strategies to diverse global contexts.

NU's long-term experience and strategic partnerships with top US universities further bolstered the decision to emphasize US literature. This strategic collaboration signifies a deep-rooted connection and mutual exchange of knowledge and resources in the field of DEI. However, the review inclusion is extended to the wide range of sources (research papers, newsletters, books, reports, and publications of the agencies, organizations, and associations) referenced throughout the paper's central part.

Results and discussion. The Role of University Leadership and *Faculty in Ensuring Inclusion, Equity, and Access on Campus.* To respond effectively to the question posed in this paper within the context of NU, it is crucial to have a clear conceptualization of inclusion, equity, and diversity because these phenomena could differ from institution to institution. At the NU level, we articulate these three concepts in our public documents on the institutional, school, and classroom levels. For example, on the institutional level, the NU 2018-2030 Strategy (a publicly available document) clearly states that "NU functions as a social lift for poor but talented young people" (NU, 2018, p. 16). In this regard, our leaders and student affairs units must engage in complex conversation to "create change: self-knowledge, knowledge of and experiences with others, understanding historical and institutional contexts, understanding how to change the status quo and transformative action" (Watt, 2012). The institution shall revise the faculty hiring process toward more inclusive hiring and a more diverse faculty (O'Meara, 2020).

Furthermore, Anyaso (2008), based on the perspectives of the three university presidents on recruiting and retaining diverse populations and diversity challenges, notes the importance of genuine interest, actions, and commitment to campus diversity, starting from even the stage of crafting the public diversity statement (Carnes, 2019)

Part of the NU's commitment to campus diversity is the recognition of various types of student categories from the perspective of cultural and racial diversity, socio-economic status, and disabilities (Hurtado et al., 1998; Marshak et al., 2010). For instance, all the schools and faculties at NU recognize the following student categories and maintain headcount statistics of these student categories on the school level: (1) Orphan students who lost both of their parents; (2) Students from single-parent families; (3) Students from large families (with more than four children); (4) Students whose parents have disabilities; (5) Students who were born with disabilities. This categorization of various student groups strengthens NU's inclusion approach and the policy's view.

Enacting DEI Policies into Practice. Academic institutions should be held publicly accountable in determining their institutional priorities by considering where to begin with DEI policies and practices. This involves conducting a comprehensive assessment of factors such as the individuals present, the resources at our disposal, and the optimal timing for initiation. Inclusion cannot start after some time. Institutions must implement the process to become an "ideal" inclusive university. Then institutions need a mission statement - What should happen daily, every week, to make us achieve the vision? For example, from Day 1, NU developed its vision and mission of providing everyone with an affordable, high-quality education. Part of the core values reflected in its mission is "equal access to education – regardless of race, religion, gender, physical capacity, or socioeconomic status" (NU, 2018, p. 24).

DEI policy implementation is another important element of providing access and choice to everyone. Universities are expected to implement the policy, which should be developed concerning all aspects of DEI. The policies should be monitored and controlled. University leaders need help developing policies and putting them on the shelf. They must monitor processes to see what has been achieved and identify context-specific challenges. In this respect, Anyaso (2008) indicates the value of defining explicit purposes and timely reporting "on results, including failures" (p. 20). This means that university leaders, deans, and heads of academic departments should be guided by the principle of transparency in their DEI policies and practices, fostering an environment of trust

and accountability within their institutions. The NU 2018-2030 Strategy notes "transparency and openness, public access to all aspects of university operations" (NU, 2018, p. 24). So, this principle puts much emphasis on the university leadership and faculty to be transparent when it comes to the decisions regarding applications, admissions, and enrollment.

Regarding the transparency of operations and processes related to DEI, university leaders are advised to conduct a situation analysis and institutional readiness. For example, the Index of Inclusion is an appropriate strategy to introduce in higher education institutions. In this respect, (Losada Puente et al., 2022) point out that promoting inclusivity in a global context is gaining momentum, emphasizing the need for reforms that address the diverse needs of all individuals.

In the case of NU, academic deans and program directors sit down and ask the following question: "How do we do situational analysis?". There are three dimensions: (1) Producing inclusive policies: looking at the policies if the policies are taken into consideration, if all aspects of DEI are respected, and have been implemented; (2) Evolving inclusive practices: what practices are we engaged in and are they effective?, and (3) Creating inclusive cultures: what cultures of inclusion have we created at the institution? Have we created a culture of enablement or a culture of barriers? These NU experiences can be adapted and adopted as some, if not most, Kazakhstan Universities might share attitudes toward the approach and priority. NU is a missionary willing to translate the knowledge, policies, and insights (Sagintayeva, 2023).

Opportunities to Enhance DEI Policies on the Institutional Level. Defining opportunities to enhance DEI policies is an important aspect of campus diversity and ensuring access to all. DEI is a never-ending process that always has room for improvement. Finding the gaps between an institution's intentions/efforts and students' expectations is key, and it is the institution's responsibility to include students in the process of diversity-aimed initiatives to effectively address the needs and challenges of underrepresented groups of students (Ovink, 2022). Spotting out the conditions that "undermine performance-related outcomes for individuals at the intersections of race and gender" that affect academic success (Willson, 2015) is another critical task at the institutional level. "Students indicated they want to be challenged by their instructors, but they also want to feel supported and feel faculty care about their well-being. They want to be seen as a whole person - their potential, their challenges, their goals," as Cuenca-Carlino reflects on the task force analysis of students and faculty where "input from students offered insights about their experiences in the classroom, how they felt engaged in learning, and barriers they faced as students." (Hatch, 2020).

As part of the response to the question posed in the study, the whole institutional approach is an effective way to enhance campus diversity and access to high-quality education. The entire institutional approach is based on (1) the review of policies, (2) the review of practices, and (3) the analysis of factors that explicitly or implicitly serve as barriers to ensuring access and choice for everyone.

So, for instance, the review of policies can be structured in the following way: admission, screening, identification, assessment, and support. First, the review of admission policies is essential. Regarding a university's admission policy, academic administrators need to consider various factors. Should we prioritize promoting diversity among our student population or focus solely on admitting academically exceptional students? Are we selecting students based on race, age, or ability? Our admission policies must reflect our commitment to promoting diversity and ensuring access to everyone. We should ensure we have measures to assess if we successfully foster a diverse student body. Second, the screening process is crucial after the admissions process. Once students are admitted, it becomes essential to have a robust screening process in place. This process enables us to identify and understand their individual educational needs. It is of utmost importance to be aware of these needs to provide appropriate support and resources. Third, it is identification. We must have effective methods to identify students with special needs, disabilities, social challenges, learning difficulties, or those facing migratory-related issues. We need to be mindful not to limit access for students with disabilities and ensure that our institution remains inclusive for all. Fourth, it is assessment. A well-defined assessment policy is vital. It should not

compromise academic standards to accommodate students with disabilities. Maintaining the integrity of our assessment processes is crucial. We can still provide necessary support while upholding the rigorous standards of our university.

Finally, providing adequate and relevant support to each student category is important. Our focus should be on providing ample support to students with special educational needs. This support can come in various forms, such as tailored educational resources, counseling services, or accommodations to create an inclusive learning environment (Douglass, 2020; Freadman, 2021). By addressing these areas – admission, screening, identification, assessment, and support – we can create an inclusive institution that promotes diversity, recognizes individual educational needs, maintains academic standards, and offers appropriate support to students throughout their academic journey.

Conclusion. This paper posed the question about the institution's responsibility to ensure access and choice for all. The paper attempted to ask this question by discussing NU's case. The paper drew on relevant literature and provided some key examples from the case-study institution. The paper mainly argued about the importance of implementing DEI policies rather than only examining them on policy rhetoric. The paper concluded with a discussion of opportunities that the NU leadership could consider enhancing DEI policies on the institutional level. As an academic institution that aspires to become a world-class institution, NU has to align its DEI policies with its goal of cultivating a culture of academic excellence. Thus, NU makes an interesting case of how to be a university that is accessible and selective at the same time.

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THEORETICAL AND PRACTICAL ASPECTS OF EARLY CAREER GUIDANCE FOR PRESCHOOL CHILDREN

Abstract

The article discusses such an urgent problem as professional work, it was at this stage that the theoretical foundations of vocational education were prepared in the world of professionals, which is known from individual labor activity. The author presented theoretical aspects traditional, practical and modern determined the level of professional development. Developed a set of ways and means to provide students with information about the concept of a profession. Conducting work to improve the quality of individual practical activities improving the professional competence of children of the older generation. Organizes special calls for personnel on the labor market as practitioners. Experienced work was carried out on the position of labor in nurseries, the competence of the profession. Comparative diagnostics were carried out with the two groups and the final results were obtained. There is a high demand for social, humanitarian, military, and Natural Sciences, which work in several directions.

Keywords: profession, social, humanitarian, natural science, society, child, nursery

Introduction. Direction of work to an urgent relevance of the concept of the profession students in the nursery slowly innovate and it will be possible to get acquainted with new concepts of work. Forms students with theoretical knowledge.The author presents theoretical aspects of early career guidance for preschool children, defines both traditional practical and modern approaches to methodological support of teachers in the implementation of early career guidance programs. it is necessary to make it clear that each business is treated with great love work of students in education with images, figurative representations, didactic materials, sound tools. The pedagogical design of early career guidance with preschool children consists in preparing the basis for choosing a profession, analyzing the needs of students and their parents; building the educational process taking into account the needs; forming a communication space for teachers with children, parents and partners.

Main part. It was not up to either of them to become a true professional in their field. To do this, first of all, you need love for your profession. Love for the profession and being a careerist are two different things in our opinion. Only work done with love will bring results. In other words, it is necessary that your profession becomes your favorite. In this case, a person gets down to work with special zeal and enjoys his work. Finding a profession that is close to your soul is also the most difficult task. Children take the first concept of professions out of kindergarten. The ability of a game that increases abilities to contribute to the intellectual development of a child has been comprehensively considered in the field of pedagogical science, and game activity has become the leading form of educational activity.

Because any person from childhood enters the world of life through play and begins to know the world by game activity. The concept of the surrounding world is formed through the game.

Literature review. L. Vygotsky says: «while playing, children acquire knowledge about the environment, learn to make decisions independently, show mobility and ingenuity in the process of thinking. This is from life experience. The game is a twin with the child's nature, because the child grows up with the game, directly contributing to its all-round development. This is the main exercise that trains and relaxes the child's brain. Magzhan Zhumabayev: «the game is the child's own business. Don't be an instigator of the child's play. Watch the child only from the sidelines so as not to spoil something. It must be remembered that control does not mean that you frown and look like a soldier on guard, if you stand like that, do not become an instigator of the child's game!»- warns. It is necessary to understand that focusing the attention of a child who is playing on another is to divide his game. This is what the great teacher K. Ushinsky says: «Teach The Game child in the game». According to the researcher of gaming activity S. Tarasov: «the game is a free and voluntary activity. A game on command, which is not a game. A game is an activity that has its own direction, designed to engage in various activities at the same time in everyday life.» Appreciating the educational significance of children's games, A. S. Makarenko writes: «in the life of a child, the game is of great importance, just as it is important for an adult, as it is important for work, work, activity. A child is what he is in the game, and after growing up he will be in many ways at work. Therefore, the education of the future figure begins first with the game.» A.M. Gorky said:» through the game, the child learns the world» (Sergeev, et al., 2020).

A.Sukhomlinsky: «without Games, there is no normal development of the mind and cannot be. The game is like a large light window opening towards the world, through which the child's spiritual feeling is combined with creative life and gets an idea of the world around him. The game is a spark, a passion for knowledge and a burning fire of imitation.»Such well — known psychological scientists as L. S. Vygotsky, A. N. Leontiev, D. B. Elkonin make a common conclusion: «the game is the child's own life.» And our folk wisdom says: «a thoughtful child, grows out of the game.» Therefore, the Thinker came to the idea that great people shoul teach children through play. This is the pedagogical meaning of the games. Learning through play this thought is of interest to many teachers and educators. Georgian teacher Sh.A. Amanoshvili was able to explain to children very difficult world knowledge through the game When playing games with his children, he put himself in the same way as children, gave them a useful concept for attention, thought, consciousness, taught them to be confident in their work and be able to cope with difficulties – in the eyes of the child there was a craving for knowledge. In this

way, learning through play results in a didactic game that is grouped on specific topics. The use of given games increases the effectiveness of their actions, develops logical thinking, mathematical abilities of children. These games can be used in accordance with the content of the actions, creatively transforming the educator, taking into account the psychophysiological characteristics of children, when passing a new topic, consolidating knowledge when repeating the material covered. In his works, which are considered innovative, there are great searches, deep meanings.

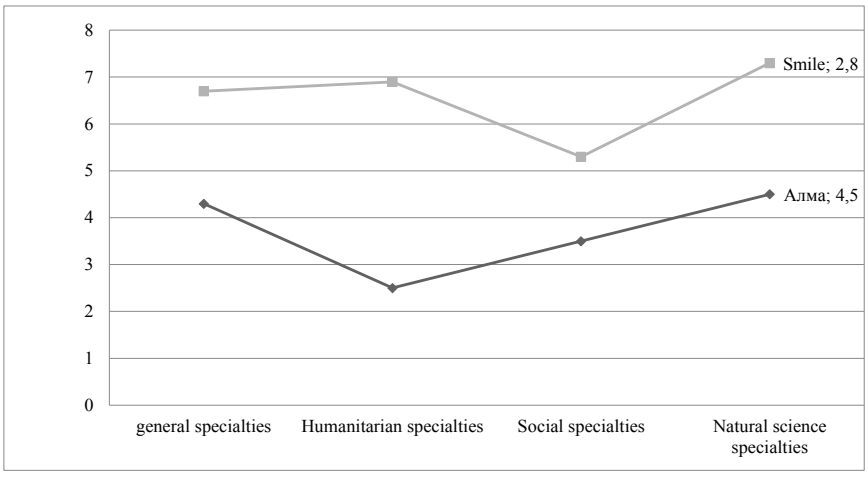
Research materials and methods. The study is designed as a multi-method study, which is carried out by external observation and is used by the method of reflection. Through figurative and audio devices, a large number of material objects can be placed on the islands of the profession. Among them are the placement of tablet video clips on the wall, installation of information via audio devices, handouts and placement of types of specialties in toy containers. The expected result will be that each student will be able to catch and hear vivid figurative information, realize it through intuition.

Participants: the study involved 40 children from 2 nurseries in Uralsk in Kazakhstan. The number of children in experimental and control groups 20. educators classified the study participants into groups using an effective method. Accordingly, the tenth class was randomly selected as an experimental and control group. Students in each group were 11 boys, 9 girls. The age of the toddlers ranged from 4-5 years.

Data collections were conducted by video surveillance. Through the device, a category of children who are able to repeat the child's game activity and types of professions without changing was identified There were parodies of 8 different professions. The features of the use of didactic tools and the ability of the child to control special toys were revealed. As a feedback, a dialogue was developed between the teacher and the children, and 4 out of 5 questions were answered in full. The teacher himself answered the unanswered question and explained the information through an additional video review (Werthern, 2019).

Implementation: the implementation of the study took from one hour a day to 1 Week. Students in the control group received information through the corners of the specialty, freely used the necessary tools and didactic toys And the pupils of the second nursery were provided with only everyday soft toys (Sergeev, 2020). Thus, the control work was improved in a timely manner. Students in the control group daily added innovations to their IP activities and brought home toys related to the profession. The scale and time of the game grew longer and longer. The format of the game has become more complicated. And for the pupils of the next nursery, everyday nursery toys remained at a boring level. Thus, during the week, the control work was carried out systematically and showed high results

Results: This item contains information that students have already learned about the profession and a set of results that are followed by explanatory work.



Picture 1. ***Previous results of pupils in the Conrol and experimenaal group without testing***

Groups	Number of children	General specialties	Humanitarin. specialty	social speciality	natural	conclusion
control	20	2	0,50	0,20	0,10	2,8
experimental	20	2	0,20	1.15	1,15	4,5

Picture 2. *General results of pupils in the control and experimental group*

Discussion. As for the importance of preparing a child for competence through the game of specialty corners in preschool institutions, it was carried out through Alma (experimental) and Smile(control) nurseries, as a result of which the students concept of «general specialties» had the same result, a maximum 5-point scale was used. The indicator of connoisseurs of humanitarian specialties in the «control» group was 0.50, and in the «experimental» group-0.20. In social specialties Alma (experimental) group 1,15, control 0,20, control 0,10, in experimental group 1,15. the final result of two nurseries Alma(experimental) 4,5 and Smile (control) 2,8. the establishment of professional angles in order to expand the concept of profession among children in preschool organizations gave a high result. we noticed that children give preference to humanitarian and Social Professions. The range of professions in this list is always in demand. As a list of highly productive professions at the world level, many of these are professions that have existed for a long time and will not lose their value and demand in the future.

Conclusion. In conclusion, we can conclude that the practice-oriented approach made it possible to identify early vocational guidance as a process of orientation of a child to the choice of a profession in a developing subject-spatial environment specially enriched by society at the stage of preschool education.

Creating conditions for the formation of preschool children's interest in adult professions made it possible to educate the value attitude of preschool children to the work of adults, to its results, to systematize knowledge about the labor process. In children with severe speech disorders of a large group, the indicators of cognitive processes have improved: attention, memory, perception, speech (dialogical side, reasoning and conclusions), imagination (creativity and transformation).

As a result of the work done, the following results can be noted:

Children's ideas about adult work have expanded (most children name the professions of parents, what they do at work and what benefits they bring to society).

The children received the basics of professional activity: carpenters-made feeders; tailors-sewed toys; pastry chefs-learned to bake cookies on their own.

The interest of parents in working together on this topic and the activity of participating in events has increased.

With teachers:

The professional activity of teachers for early vocational guidance of preschool children has expanded.

Thus, the formation of preschool children's ideas about the work of adults is a necessary area of activity of the preschool educational organization.

During the implementation of the project, such a type of work of educators, children and parents as joint partnership activities was clearly manifested.

The presented materials of this project may be in demand by teachers for early vocational guidance of preschool children.

In the future-to continue work in this direction and develop a project for vocational guidance of children of the senior preschool group.

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DEVELOPMENT OF DIGITAL COMPETENCIES OF THE GENERATION OF YOUNG TEACHERS IN KAZAKHSTAN

Abstract

The article discusses the phenomenon of socialization of modern adolescents on the internet, the current state of the existing media space, the paradigm of which determines the new digital life of society. Today's internetization, which has a global character, has become an integral part of all spheres of society's life. Therefore, the question of studying the aspects and mechanisms of its influence in science is causing a very acute content. As a result of digital socialization, the socialization of Generation Z is manifested by its active participation in the assimilation of norms and values. The features of Generation Z as the main audience of media consumption in the risk zone are determined as a result of the social negative impact of the descriptive internet on the basis of domestic and foreign scientific paradigms. The authors also studied the phenomenon along Generation Z, taking as a basis the field of Sciences in a close correlation between

socialization and through the lens of media pedagogy, a new vector of research. Within the framework of this approach, the internet socialization of the «new generation» considers the possibilities of influencing the solution of problems based on the possibilities of paying special attention to education and its methodological basis.

Keywords: young teachers, digital competencies, generation Z, teachers, digital socialization, social capital.

Introduction. The digitalization of society in Kazakhstan has led to the widespread use of information technologies across all fields. As part of the "Digital Kazakhstan" state program, there has been an increased focus on improving digital literacy among the population (Cifrovoj Kazahstan, 2017). The digitization of education is a significant trend in Kazakhstan's education reform. The concepts of "Generation Z," the "digital generation," "network generation," and "digital natives" refer to the generation of young people growing up with digital technologies embedded in their education, careers, and daily lives. There are open questions about how scientifically grounded these concepts are. Intense debate continues around the characteristics of the digital or network generation. A representative of the digital generation possesses essential social and professional competencies that are in demand in the digital society. Digital or "smart" technologies are central to modern technological advancement and will retain a leading role moving forward (Sapa, 2014). Digitization represents a deep convergence of digital technologies with material, social, and humanitarian technologies and practices, including education. Understanding the role and place of digital technologies is essential for any modern professional field. The interactivity, multimedia capabilities, hypertextual nature, customizability, and other features of many digital technologies allow for focused and personalized teaching and learning suited to the digital age. According to research by foreign scientists, the rapid transition to distance learning has raised questions about how best to support student learning and deliver impactful teaching of new material (Ugol'kov, 2012). The above analysis comprehensively describes personal development in the digital society. Most importantly, it establishes that this type of competence is necessary for all individuals in the modern information society. Pedagogically, a teacher's digital literacy can be understood as having a certain level of knowledge in this field, mastering digital education content, being aware of digital education resources, or effectively using digital technology platforms within their profession.

Materials and methods. The new educational standards in Kazakhstan require teachers to create an educational process that capitalizes on the full potential of the digital learning environment. A school's digital learning environment encompasses educational information resources, information and communication technologies, and modern pedagogical methods and technologies. Compared to traditional instruction, digital learning environments have certain advantages:

- increasing educational choices, forms, and pacing for students;
- enhanced access to varied information;
- greater student motivation and interest in academic subjects through interactive and visual content;
- developing independent and critical thinking skills;
- fostering student initiative, abilities, and interests (Pleshakov, 2013).

Teacher and student collaboration enables the learning process. Careful consideration should be given to appropriate educational technologies based on student age, abilities, preparation, and the teacher's competencies. The cooperative learning principles reflect the nature of interactions between education process participants. The main principles are:

- democracy (freedom of choice, equality);
- openness (freedom of criticism);
- alternative (multiple pathways);
- dialogue;
- reflexivity (clear goals, content, methods).

The teacher evolves from demonstrative teaching methods to activity-based approaches where students engage in motivated, conscious learning (Luchinkina, 2013). The teacher acts as an organizer and coordinator rather than an information provider. The substantial gap between the pre-digital and digital generations in education must be addressed. On the one hand, teachers from the digital generation may need help effectively incorporating technologies. On the other, it is evident that the digital

generation needs more readiness to transition to digital education models. The characteristics of the digital generation (perception, memory, thinking, motivation, behaviors, worldview) shape the psychological, pedagogical, content, methods, and principles of digital didactics. Understanding the potential adverse effects of digital technologies on child development, socialization, and learning is critical. However, awareness of the strengths of the digital generation allows for practical education approaches tailored to "digital learners" (Figure 3) (Luchinkina & Zeker'yaev, 2019).

Table 1. ***Description of representatives of the digital generation***

Representatives of the digital generation («Generation Z,» «processor children,» «tablet children,» «children's chips,» digital natives - «digital residents») are typical:
From the point of view of cognitive development - a mosaic of thinking («clip»), lack of attention (to details (can focus on one topic for no more than 8 seconds), inability to read and understand significant texts, limited vocabulary, mixing of real and virtual space («changing view of the world»), poorly developed creative imagination, the illusion of «reversibility of life»
From the point of view of emotional-volitional development - the poverty of sensory experience, simplified view of reality, perception of real life as «too boring» and «too slow,» impatience and the need for immediate rewards, inability to work systematically
From the point of view of social development - infantilism (developed intellectual balance between social and personal development), individualism, belief in one's uniqueness and uniqueness, reduced need for life, communication, unwillingness to cooperate, focus on one's inner world, hyper pragmatism and hedonism, vague and unstable moral and ethical ideas
In general, the leading role of online socialization in the process of forming an individual as a «reference group» at all stages of online growth, establishing left-wing models, and shaping social trends

At the same time, online socialization as a factor in personality development is growing dramatically across the digital generation. Although spontaneous, online socialization processes can and should be managed pedagogically.

Key educational challenges center on addressing problematic characteristics sometimes exhibited by the digital generation. These traits reflect deficiencies in social competence rather than personal shortcomings. Targeted efforts can fill these "knowledge gaps" (Figure 4).

Table 2. ***Features of representatives of the digital generation***

Representatives of the digital generation	In terms of social development	In terms of cognitive development
Members of the digital generation tend to have many critical positive characteristics, often exceeding those of pre-digital generations	Striving for self-expression, preference for «horizontal» (partnership) type of «vertical» (hierarchical) relations, openness to intercultural and international relations, but also (with some caveats) reflected in optimism and self-confidence	Constant striving for novelty and self-improvement, creativity, ability to synthesize different types of thinking, ability to process non-linear, parallel streams of different information (multipurpose), tendency to use different sources of information, independence in information processing

A root cause is a lack of supervised technology use from an early age. This creates the illusion that children require less attention and engagement from parents and caregivers. In these cases, child development is primarily dictated by active, and often aggressive or antisocial, online influences

rather than traditional socialization institutions like family. Early gadget adoption does not substantially change developmental trajectories in families where technology use is balanced with interpersonal interaction and digital media literacy (Luchinkina, 2015).

Advanced and underdeveloped groups are apparent within the digital generation. The progressive group displays heightened educational autonomy focused on self-education, expression, and development. They shape their educational pathways where possible, combining study, work, and personal growth.

Overall, effectively educating the digital generation requires accepting that integration into traditional paradigms is likely infeasible. Fundamental transformation is needed to create new, genuinely digital education models. Despite successfully adapting to technologies in their personal life, many teachers retain traditional mindsets that education should remain separate from digital spaces.

Sociologists note that new generations emerge roughly every 20 years with distinct characteristics from previous ones. Discussion currently centers on Generation Z. Generational theory incorporates both primary (Generation Z) and secondary (Baby Boomers) components. In 1991, American researchers Neil Howe and William Strauss first delineated differences across age generations based on values manifestations during specific periods (Zeker'yaev, 2019; Hodenkova, 2018). Each generational period spans approximately 20 years.

In Kazakhstan, precise statistical data on generational shifts needs to be included. However, real-world experience echoes Generation Z theory. Generational belonging depends on birth year and adjacent influences like skills, lifestyle, work styles, values, and aims.

Generation X people born from 1963 to 1983. Their characteristics are people who can rely only on themselves, think differently, know what is happening in the world, and are ready to make choices and change themselves. Their work is challenging, and they aim to achieve success. They work in the same field for many years and gradually reach a high level in their career (Vazhenina, 2018).

Generation Y - people born between 1983 and 2000. Their understanding of goal achievement and success is different: in most cases, they do not like to start their professional growth from a lower level (Beshtokov, 2018). They aim for immediate growth, and this is one of their weaknesses. People of this category work in several fields simultaneously, strive to learn as much information as possible, and become professionals. It is only possible for them to serve in one field. Generation Y is the hope of modern business. They are the most technically competent and distinguished by their willingness to work outside of working hours and enthusiasm for education. Some experts say Generation Y will become the primary workforce in the next decade.

Generation Z is today's youth, born after 2000, who know the language of technology. It is too early to assess what kind of person these people will be when they grow up from the point of view of professionalism; that is, it has yet to be known what they will be like in the future - the generation is just being formed. However, now they are considered unique— indigo children. Children are born with special talents, philosophies, and worldviews, with gadgets in their hands. However, they can be called real «digital children». They should ensure the economic recovery of our country. Motto: «Listen to me, understand me, talk to me, appreciate me» (Genner & Süss, 2017).

Representatives of Generation Z do not read books, walk less in the yard, and prefer to play football on the computer rather than go out on the field. For them, the computer is a natural habitat. They usually only read a few books; this is not their source of information; they get all the information from their smartphone, and Google knows everything. Generation Z, not in a hurry to start a family and grow up, worked earlier and tried to build their career. We cannot convince them with other information; you cannot convince them that you study poorly, and then you will become a worker who says, «Come, come, and come.» After a few years, representatives of this generation will come to the leadership and start to replace the older generation. Their demand is one - responsibility, justice, and freedom. Generation Z — 63% of men versus 61% of women want to be leaders. Generation Z does not see the difference between the real and virtual world. Right now, our country is educating the generations of this generation. Therefore, let us talk about how we educate and inform the representatives of this generation.

According to psychologists, children of the 21st century are different from their peers of the

previous generation. Today, they have two main features. First, they are brilliant, understand quickly, and accept and understand many things foreign to the adult generation. Secondly, they are susceptible and vulnerable. In this regard, traditional education methods may not be suitable for today's children. Until then, 3-5 minutes have been given for the organization period according to the lesson plan. Moreover, we need to translate the enthusiasm of students of Generation Z into the lesson within 8 seconds. Otherwise, the quality of the lesson will deteriorate (Stillman & Stillman, 2018).

Research materials and methods. Generation Z are digital kids and need to send links to information to improve learners' knowledge. Because this is a visual generation, YouTube is the primary source of information they consider reliable and safe. Alternatively, it is necessary to make a «revolution» on the internet and give homework to children in an exciting format; for example, they use a method that requires them to publish it on Instagram, click on it, and write a comment.

Generation Z is a generation that emphasizes practice over theory. They need to know why the teacher gives actual knowledge and how it can be helpful in life. If you introduce the structure of fish in biology class, tell them how to choose a new fish in the additional store, or provide exciting information about fish, this will increase the student's interest.

Generation Z is a do-it-yourself generation. The role of the classical educator will soon disappear by itself. It is necessary to improve the number of educational sites, providing various exciting and helpful information for the Z generation, which prefers to attend additional courses and clubs, study at a distance, and receive further education. For example, he likes to learn to play the tambourine by getting accurate Information on YouTube rather than going to a tambourine club and learning to play the tambourine. We need to develop a method to increase interest in the same subject.

Generation Z does not trust other people's experiences. Tell them how and what to do. Then, they often like to do individual tasks.

Important information for raising children of Generation Z:

1. Gadgets are an integral part of a modern person's life. Therefore, it is not necessary to try to isolate the children of Generation Z from getting information from the internet and isolate them from technology; on the contrary, teach them how to use such devices, how to get the correct information from it, how to properly understand and organize the received information.

2. Spend more time with children and pay attention to show them that life can be interesting. This is an excellent way to prevent alcoholism, drug addiction, and other addictions.

3. Show respect in communication with children and allow them to express their opinions.

4. Teach the child to be compassionate and understand the feelings of others.

5. Do not try to fulfill the child's needs at the first word: this does not allow him to develop his needs correctly.

6. Teach others to be independent and praise them for effort and success, even the most minor achievement.

7. Do not interfere with his play; if possible, play with him.

Results. From a terminological standpoint, competing subject-object and subject-subject approaches exist regarding socialization. The subject-object conception focuses narrowly on societal adaptation with individuals passively shaped by external forces. By contrast, subject-subject formulations emphasize individual agency in actively impacting surroundings and self-trajectory throughout constant interaction with environmental conditions across life stages (Bogacheva & Sivak, 2019). However, the continuous evolution of the media space, transforming perceptions of reality, complicates traditional socialization understandings by incorporating additional elements like media and internet-based socialization. Although boundaries across concepts blur somewhat, critical differences persist. Broadly, «media socialization is a person's acquisition of social experience mainly based on artificial media presentations», but what is essential is that the subject is «in a state of non-participation of the socializing environment in this process» Internet-based socialization relies on devices enabling continuous networking with public entities (Mudrik, 2016). A.I. Luchinkina's research details a pathway for internet-based values development constituting online socialization theory (Ivanova, 2015). This phenomenon manifests once ideas around internet purpose

and functionality consolidate within individuals. User motivations subsequently coalesce to unleash creative potential. Luchinkina's proposed three-stage model of Internet socialization consists of pre-internet, initial, and primary phases (Yudina, 2008). The pre-internet period involves forming basic internet perceptions and attitudes. Individuals employ simple online capabilities like information searches, gaming, forums, and messaging during the initial stage, primarily as content consumers. At the final stage, users start producing original materials as "virtual personalities" develop (Mityagina & Dolgopolova, 2009). Relative to offline spaces, personal initiative constitutes a pivotal internal catalyst propelling online socialization processes (Posnick-Goodwin, 2019).

Hence, internet-based socialization entails more than expanding social horizons through online sociocultural participation (Fedorov, 2015). Movement across communicative realms signifies re-socialization, enabling the adoption of new social standards. The internet's function radically transforms from a socialization factor to a socialization agent, strengthening user impacts. However, constructive (self-expression, communication skills) and destructive (violence, antisocial conduct) consequences stem from internet influence, depending mainly on individual detection, isolation, and mitigation capabilities regarding negative pressures.

Conclusion. The internet represents not just a component of virtual terrain but also modern media embodiment spanning media pedagogy and spaces. Internet-based socialization relies on media spaces establishing online networks as impactful sociocultural designators influencing social practices and representations across media production and consumption systems.

Intentional internet-based socialization fuels monumental socialization paradigm shifts challenging traditional conceptualizations. Rising generational power transfers from parents and teachers to bloggers and YouTubers dictating spiritual and material adolescent preferences signify one transformation aspect. Another concern is the replacement of traditional socialization agents by online entities disseminating altered youth values. Target reorientation persists, with teenagers pursuing online entertainment profits, followers, and content that induces public reactions. Internet socialization continues to conquer new spheres, surpassing consensus perspectives while commanding primacy regarding Generation Z as the dominant consumption and production cohort.

The analysis of scientific research on the problems of the characteristics of modern teenagers made it possible to identify the following dominant «new people» characteristics of the generation: fragmentation of thinking and «clip mind.» Spending much time on social networks, «zetas» receive information sketchily, going from «post to post.» Sapa A.S. (2014) believes that for members of this generation, «the format of mini-news, Twitter and statuses are more familiar,» i.e., information in the form of compressed fragments showing only the essence of the news, its central message, and meaning. From this feature comes another one - adjacent but meaningfully different - «clip consciousness.» Terminologically, the definition refers to «the ability to briefly and colorfully perceive the world around us through a short, vivid message presented in a video clip, television news, or other similar form.» «Zetas» are focused on processing small amounts of information, so they rely on notes, comics, and other texts «placed on one screen.» The same group includes Doll Stillman's so-called phygital world, which means that the boundaries between the real and virtual worlds are changing rapidly for members of Generation Z. Ordering food through a mobile app or real-time GPS capabilities is considered familiar. According to the author's concept of D. Stillman, the «phygital world» can be represented as the following formula: «Physics + Digital = Phygital.» Thus, physics and digital, which means combining two realities - physical and virtual». Scientifically interesting is a feature such as Fear of Missing Out or the «missing profit syndrome» described by D. Stillman (2018). Today's teenagers want to be informed about everything happening not only at the global level but also at the level of relatively minor interest groups. Zetas sees the news everyone is talking about, so they monitor their social media constantly. Some researchers also note the social introversion characteristic of «digital people.» Although the «Zetas» communicate freely with each other on social networks, they are very close in real life. Sherry Postnick - Goodwin-renowned child psychologist - in her article «Generation Z: A New Cohort Comes of Age» (Generation Z: a new cohort comes of age) «agent.» Most say they spend time with online friends rather than real people. Many students are reluctant to talk in class due to insecurity and fear of misunderstanding, so they seek a «safe space.»

To this possibility can be added the anonymous nature of the network; many teenagers feel comfortable with their invented and idealized character - a «virtual persona.»

The scientific paradigm considers three possible types of virtual personality: «corresponding (corresponds to reality), inconsistent (has both real and imaginary characteristics), imaginary (has nothing to do with reality).» It should be noted that the last two types of personality are much more common than the first due to the Internet environment's ability to hide personal data, remain inaccessible to aggressive users, and therefore feel impunity and act incompetently on others.

While researcher classifications continue expanding from additional influential factors, constructive internet-based socialization requires information literacy regarding modern media spaces, functions, roles, and manipulation techniques. Without proper skills, destructive online socialization risks intensify, particularly among impressionable teenagers still actively developing self-concepts.

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PSYCHOLOGICAL AND PEDAGOGICAL PROBLEMS OF TRAINING SPECIALISTS

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INNOVATIVE TRAINING OF FUTURE PRIMARY SCHOOL TEACHERS: ANALYSIS OF TRAINING LEVEL AND DEVELOPMENT PROSPECTS

Abstract

The article is devoted to an innovative approach to the organization of high-quality education in the training of future primary school teachers from the point of view of modern education and methodology. As an urgent research problem of the modern education system in the formation and development of innovative opportunities for future teachers in their professional activities, their own judgments and conclusions are presented. The article conducts research and presents the results related to determining the meaningful level of preparation of future primary school teachers for innovative professional activities. The authors analyzed the works of foreign and domestic scientists, guided by regulatory documents. As a result of the analysis, the directions of training future specialists were discussed, which will serve as an impetus for the trajectory of professional development based on the innovative activities of students. The authors of the article also developed an author's survey "What do you know about innovative professional activity" in order to determine the meaningful level of research work. The survey was organized on the basis of empirical methods. 123 students of the educational program 6B130100 - "pedagogy and methods of primary education" took part in the author's survey, an analysis of the results of the content level and ideas about the need for innovation in future professions was carried out. Analyzing the results of the author's survey, it was found that students have difficulty understanding the meaning of the concepts of "professional activity", "innovative activity", have a desire to use innovative technologies in the educational process, but have low knowledge of new technologies, as well as conclusions that innovative activity is necessary and should be developed for the professional growth of a teacher.. During the analysis of the research results, innovative training of future primary school teachers is being formed.

Keywords: future teacher of primary school; innovative activity; professional specialty; experiment; author questionnaire.

Introduction. Changes in the educational system lead to deep learning of concepts such as «innovative «technologies», modern methods». When there is a desire for change, there is hope for progress in any field. Creativity can be fostered, and innovation benefits both students and teachers. What and how we learn in highser education determines who we become as professionals and our lifelong success. It informs how we solve problems, how we work with other people, and how we view the world around us. Today's innovative education is increasingly important for developing the next generation of innovative and creative thinkers.

Studying the Message of the President of Kazakhstan Kassym-Jomart Tokayev to the people of Kazakhstan «Kazakhstan in new conditions: time for action», we draw attention to the fact that the fifth paragraph of the message says: «... we must direct the entire system of vocational education to the formation of qualified specialists in demand in the labor market. «In addition, he said in his speech related to the development of the branch of science: «... we need new personnel with professional, new views and initiatives, and we must also rely on international experience,» while the material on the need to train qualifiedspecialists for innovation (Tokaev, 2020). The relevance of this issue is very important to us. After all, life sets the following goals for us: modernization of the type system in accordance with the demands

of industrial and innovative development of society and the economy, integration into the global educational space.These ideas justify the need for the educational paradigm to consider the direction of preparation for professional activity in a new way through innovative activity, so that it is progressive and continuous. The preservation or substantiation of innovative activity as the main problem of the pedagogical professional specialty means that it always takes place as a root one and it establishes the need to understand and accept it as a main phenomenon, which is the driving force of the organization and management of the pedagogical process.Because, in the course of the progressive development of science and technology, the content of education provided requires an accelerated renewal, that is, it becomes innovative in its theory and methodological content, in which it is natural for innovative actions to take place in the improvement of pedagogical processes in teaching and upbringing.

Also in Article 11, paragraph 10 of the Law of the Republic of Kazakhstan "On Education", which determines the future of the country, it is determined that: "innovation and education consortium - voluntary equal association on the basis of the agreement on joint activity, in which organizations of higher and (or) postgraduate education, scientific organizations and other legal entities engaged in production, combine intellectual, financial and other resources for the training of highly qualified specialists on the basis of fundamental and applied scientific research and technological innovation (Law of the Republic of Kazakhstan, 2007).

Thus, there is no doubt that it involves the adaptation of future primary school teachers to innovative activities in the preparation of their professional specialities, the formation of a new thinking, the quality of professional education is aimed. Currently, innovative activities are considered as one of the aspects of training highly qualified specialists. Education on the basis of innovative activity is the process of entering the top of modern innovative changes and the result of educational activities and training in today's social environment and society. It is an implementation in a modern scientific methodological system of high-quality education and training of future teachers on an innovative basis in order to form their readiness for innovative activities. At the same time, teaching on the basis of innovative activity will become the basis for the effectiveness of the pedagogical process aimed at the use in life practice of theoretical knowledge of a new content, aimed at the formation and development of professional competencies of the future specialist.

Main part. In the course of updating large-scale curricula, the result of innovative searches of the education system in primary schools, it can be noted that the importance of the professional innovation process has increased to a special level. This is due to the fact that the content of education in modern educational programs is aimed at the educational goal of training each student to learning in their own way, without repeating the traditional lesson system (Updated state educational standard of the Republic of Kazakhstan, 2021).Thus, in the training of future primary school teachers, we need to train modern innovative specialists, directing them to innovative professional activities.

The analysis of scientific works showed that the object of research of scientists were various aspects of the problem of training future primary school teachers. In-depth analyzes of the theoretical and methodological background of the issue of training future primary school teachers in the country are given in the works of scientists who prepared in a new format. For example, if the university considered the issue of professional training of primary school teachers by implementing interdisciplinary continuity (Feızýldaeva, 2019), Bolashak discussed the issue of training primary school teachers for innovative activities and conducted comprehensive research (Stambekova, 2022). Also, formation of intelligence of future primary school teachers (Iskakova, 2022), formation of creative competence of future primary school teachers (Jumash et al., 2021), and creative personality of future teachers for innovative activities studied formation in the preparation process (Myrzabekov, 2022). And, while making analyzes on improving the preparation of school teachers for professional pedagogical innovative activity, it was defined (Muhametqalı, 2007) and others. In addition, on the basis of innovative professional activities, he studied the technological training of future teachers, professional pedagogical activities, the development of intellectual potential, the

improvement of the education system, the theoretical and methodological foundations and capabilities, measurements and indicators of preparation for innovative activities in a unified pedagogical process of universities and methodology.

The teaching profession is a profession that requires many skills in an increasingly complex and rapidly changing information society. In the history of education, the primary purpose of providing professional development opportunities to teachers has been to achieve student success.(Gaýssıan K. et al., 2022). These scientific works are valuable for their methodological recommendations that guide us in determining the main direction and orientation of our research work.However, in the comprehensively analyzed scientific works, we found out that the preparation of future primary school teachers for innovative activities compatible with the direction and content of their professional speciality is not considered sufficiently from a theoretical and methodological point of view.Thus, the relevance of preparing future primary school teachers for innovative activities aimed at the new requirements of society and the social environment for the development of a professional personality is deepening.In this regard, it is necessary to organize a special practical-pedagogical work aimed at eliminating this contradiction.

Research materials and methods. During the study, the object, topic, purpose and task of the study were determined. A scoping review was then conducted. In conclusion, a judicious selection of methodologies appropriate to the research domain was made. Finally, an empirical study was conducted, which included analysis of the results, discussion of the findings, drawing conclusions and formulating recommendations.

*Participants.*The author's survey involved 60 respondents from the control group and 63 respondents from the experimental group for the educational program 6B130100 - "Training of teachers in pedagogy and methods of primary education."

The preparation of the future specialist at the higher education institution for innovative professional activity should be directly related to the preparation for pedagogical creative activity, in addition to the purposeful preparation for professional skills during the academic years. It ensures that the future teacher acquires the general cultural (view of life), methodological (psychological-pedagogical), subject blocks. The preparation of future primary school teachers for innovative activities in the course of their professional activities should be carried out according to an individual program for each student. Therefore, it is designed to encourage students to strive for innovation, to be able to distinguish between innovative technologies, to understand the need for innovation, to reveal their creative abilities, approaching from the point of view of novelty, to creatively present new ideas and ensure their implementation in the pedagogical process.

Innovative activity in the profession is one of the aspects of the way of developmentof of the modern higher school, or, according to Sh.T.Taubaeva, «it is characterized by such processes as invention, research, preparation for use, practical use of innovations» (Sh.T. Taýbaeva, 2019).

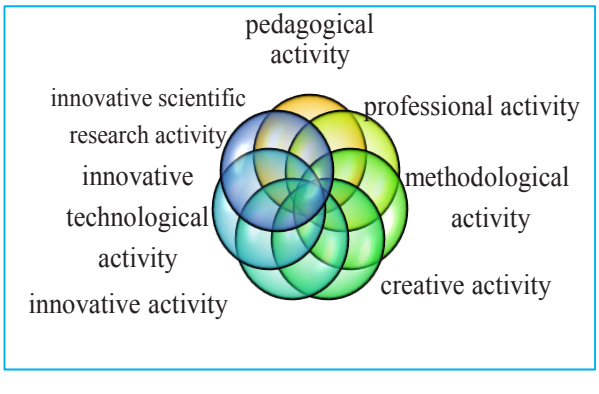

Figure 1. ***Levels of innovative training according K.Zh.Buzaubakova***

K.Zh.Buzaubakova in her work determines the indicators of the teacher's readiness for innovative activities (Býzaýbakova, 2009). We believe that it is necessary to be guided by the innovative training levels proposed by the scientist, taking into account the necessity of creating the methodology of our research work (Figure 1).

Based on the research of domestic scientists and analyzing them from our side, we assume the existence of «three directions» that allow us to determine the trajectory of formation of the student's innovative activity in professional specialties that he masters in preparation of future primary school teachers.

These three directions are characterized as follows:

- firstly, an environment based on innovation in a higher education institution;
- the dynamics of technology for the formation of an innovative orientation in the model of a primary school teacher;
- the introduction of an innovative impulse as a professional person who is deeply aware of the responsibility for teaching students through the growth of a qualified teacher to the level of innovative consciousness.

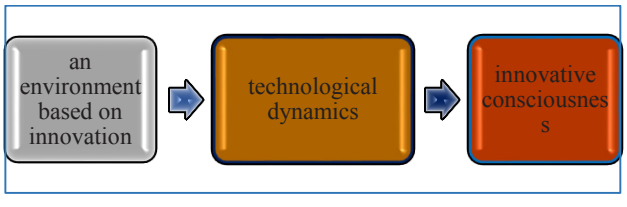

Figure 2. ***Dynamic forces of the development trajectory of innovative activities as a professional orientation of a future primary school teacher***

We model the described three dynamicforces with the help of the figure (Figure 2).

It should be noted that these three dynamicsare closely related to each other and influence each other.

In the study of the domestic scientist K.M.Nagymzhanova on the formation of innovative activity of a primary school teacher: "The motivational structure of innovative activity requires consideration in two directions, i.e., firstly, from the point of view of professional motivation in the structure of general motives, and secondly, the content of the creative orientation of professional activity and pedagogical innovations. Pushing is divided into external and internal: material incentives associated with self-determination, professional motivation and motivation for self-realization. The innovative activity of the teacher is considered in accordance with the priority of the following motives:

1. External stimulation of material rewards associated with the introduction of innovations. Such incentives include material incentives for highly qualified teachers.

2. Motivations for external self-determination of the teacher. In this case, the student uses innovation to bring resonance to their work. This motivation is called cognitive.

3. Professional motivation. The two motivations we have considered are not professional, the professional motivation is generally aimed at increasing the desire, interest and personal qualities of the participant for education. Professional motivations are associated with a high level of creativity, which ensures the effectiveness of pedagogical activity. Here, teachers update the system of working methods, create their own concepts, and strive to create scientific schools.

4. Motivations for self-determination of personality. The need for self-activity is potentially present in all people, but professional activity is not consciously manifested, "and gives the following definition of innovative activity:"innovative activity means finding an effective way to organize the educational and cognitive activities of students, introducing innovations into established traditional activities, changing and developing pedagogical work in accordance with the characteristics of abilities" (Naǵymjanova, 2010).Taking into account the definition given by the author, according to the results of our study, we believe that a future teacher who has received an education at a university should be focused on his own object of pedagogical influence, and in order to improve

his innovative professional activity, the future primary school teacher should master innovative methods of teaching the Kazakh language.

The search for ways to improve the quality of the methodological activities of a primary school teacher in the conditions of the innovative direction of education is associated with the innovative potential of the pedagogical environment. It is carried out on the basis of the use of new methodological ideas in the system of primary education, the consistent pedagogical implementation of innovative methodological models and technologies of teaching. All this creates conditions for a high-quality understanding of the professional activities of a primary school teacher from an innovative point of view (K.Ratheeswari, 2018).

The formation of innovative activities of future primary school teachers in their professional specialty means improving their professional quality through the introduction, application, modification, transformation of innovations. So, in order to determine the level of innovative activity of future primary school teachers in mastering their professional specialty, an author's questionnaire was taken for conducting experimental work.

Results. Not every action will be equally effective for everyone. To be effective, it is necessary to find an effective way and method of this action. Under the result of the educational process, we understand the indicators of the mental functions of the child (thinking ability, individuality, reasoning, self-activity), the ability to use the knowledge gained as a result of their actions to solve their life problems.

Therefore, the author's questionnaire *«What do you know about innovative activity in the professional speciality?»* was obtained in order to determine the level of readiness of future professional teachers of primary school for innovative activity, motivation and interest in its development. This questionnaire was conducted on students of experimental and control groups. Since the questionnaire is open, we asked them to answer honestly.

During the analysis of the results of the author's questionnaire, 72% of the students of the experimental and the control group gave the answer «yes» to the first question «Do you know the concepts of "innovative activity» and «professional activity», and we found out that the majority of students didn't know about these terms in general, and also that they do not understand the meaning of a specific concept. In the analysis of the next answer of the questionnaire, the students of the experimental group made up 78,2% of the version "It is difficult to answer", the control group - 75%. Because we know that they do not understand the meaning of these concepts.26,5% of the experimental group (EG) and 23% of the control group (CG) answered positively to the question "Are you ready to use innovative technologies in teaching the Kazakh language in primary school?". This is a pleasing situation, but there are those who do not know about innovative technologies.

Most of the students (26,5%) gave positive answers to the question of striving for innovation and innovative success, but they do not know the exact ways to achieve innovation. Most of the students answered «no» to the question in the form of preparation for presenting new ideas, inventing innovations, and implementing them during the lesson in the teaching of the Kazakh language. The reason: they emphasized that they have difficulty presenting new ideas, inventing innovations, and implementing them during the lesson.63% of the experimental group and 65% of the control group answered "yes" to the question, "Do you think it is necessary to use the innovative activities in the pedagogical process more often in your professional speciality?" The answers given to the question "Do you think that innovative activities are necessary for the professional growth of a teacher?" also showed a higher percentage than the average, in addition to the answers given by students to the previous question. It was found that most of the participants of the questionnaire believe that innovative activity is necessary for the professional growth of the teacher.70% of the experimental group and 73% of the control group showed satisfactory answers to the last question: "Do you think that the innovative activity of the future primary school teacher should be purposefully developed in his professional speciality?"The results of the questionnaire are presented in the form of a diagram below (Figure 3,4).

As can be seen from the results, the prospective elementary teachers described the dynamism and adaptability necessary to deal with these different challenges(Negrín-MedinaM.Á. et al., 2022).

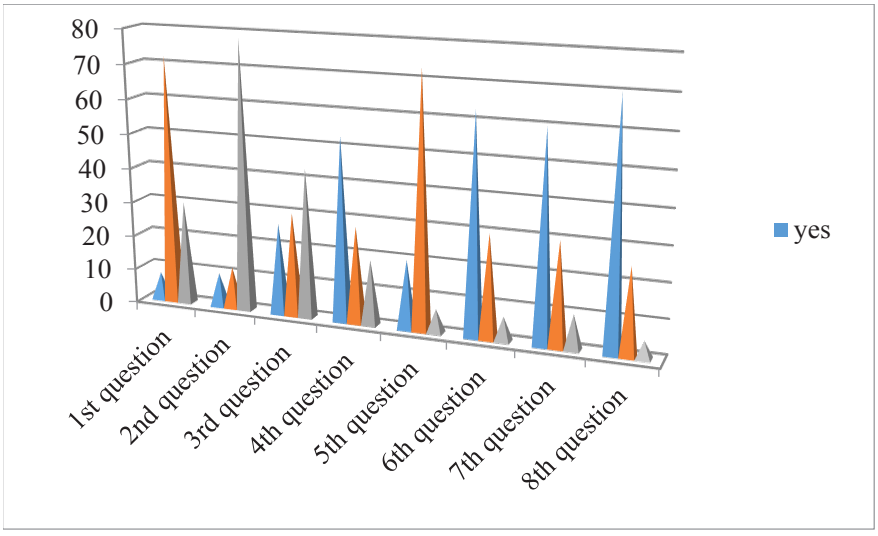

Figure 3. ***Results of the questionnaire»What do you know about innovative activity in your profession» (experimental group)***

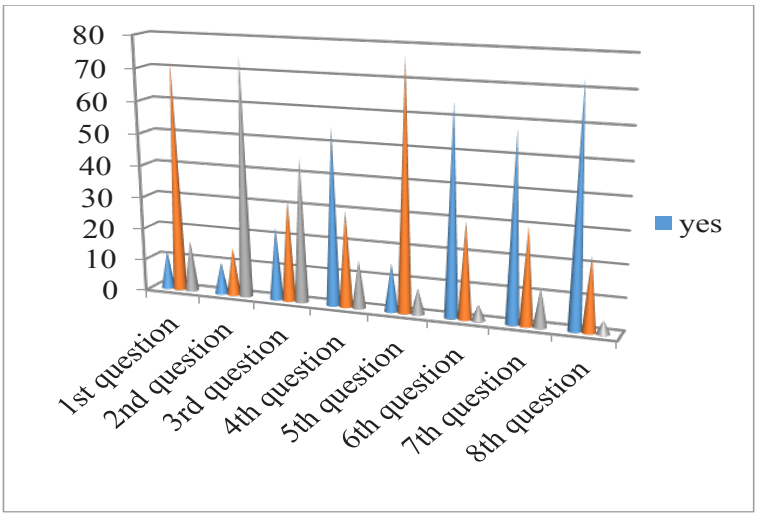

Figure 4. ***Results of the questionnaire «What do you know about innovative activities in your profession?» (control group)***

Discussion. In the scientific work of Zh.A.Zhumabayeva, Zh.E.Zhumash "ways of organizing effective education in higher education" on the basis of works related to "effective learning", within the framework of the research topic, a survey of university teachers was conducted in order to determine attitudes to effective learning and ways to organize it (Zhumabaeva, Zh.A., &Zhumash, Zh.E., 2023). As a result of the survey, it is clear that, despite all the difficulties of implementing the student in the classroom, the teacher chooses a style of pedagogical communication that will maximize the student's personality, develop him as a future specialist, and during the discussion of the questionnaire on our research work, it was possible to determine the meaningful level of innovation in preparing future primary school teachers for professional activity it is shown that he has achieved effective success. One can observe students' self-confidence and passion for innovation, the need for innovation in professional growth.

One of the ways to solve these problems is the active use of innovations in teaching the Kazakh language in primary school, in other words, the use of innovative teaching methods and technologies as a new tool for the future teacher. That is, innovative activity changes the interaction, the relationship between the student and the teacher in the formation of the future primary school teacher as a professional, and

innovative activity changes the thinking abilities of the future teacher.

In addition, taking into account the development of innovative activities of future primary school teachers, guided by the scientific works presented above and the answers to the survey from students, we make the following assumptions within the framework of the study:

- interdisciplinary content: in the professional training of future teachers, the content of educational subjects will have an interdisciplinary connection. That is, it allows students to learn independently through creative thinking, using innovative activities in group or individual learning;
- collaborative: future primary school teachers will have the opportunity to use new types of innovative teaching and will increase the psychological readiness and activity of students for the lesson;
- formation and development of professional preparation and skills of future teachers: to enable them to increase their competitiveness at the higher educational institution and adapt them to innovation.

According to these assumptions, various works are being carried out in practice. For example: future elementary school teachers are given combined lectures on the connections between pedagogical and methodical subjects, an elective course on creating a collaborative learning environment, increasing the activity of learners and adapting them to innovation is being introduced.The implemented elective course demonstrated the importance of effective learning strategies to determine the meaningful level of innovative activity of students in the learning process of preparing future primary school teachers for a professional profession. It should be noted that in order to develop the learning outcomes of students using modern teaching methods and technologies, the content level of innovative activity of future specialists was determined.

Conclusion. We determined the level of content by considering the effectiveness of training future primary school teachers in Kazakh language teaching due to the analysis of scientific works and the results of the author's survey.

Summing up the results of the author's questionnaire, we came to the following conclusion: the students of the control and experimental groups have low enthusiasm for innovations in the professional activities of the future primary school teacher in teaching the Kazakh language, it is difficult for them to understand the meaning of the concepts «innovative activity», «professional activity», they have a desire to use innovative pedagogical technologies, but they have a low level of knowledge about innovative technologies, and it is also shown, that innovative knowledge and methodological action in pedagogical practice is necessary and should be developed for the professional growth of future teachers.

In conclusion, as a result of the practical work carried out, it was noted that students do not want to master innovative activities and professional skills, and their enthusiasm for the use of innovative pedagogical technologies in the educational process is low. It was also found that there are students with a low level of innovative activity aimed at a professional specialty. Therefore, we understand that the introduction of a complex of knowledge based on the theory of innovative education and innovative pedagogical technologies into pedagogical practice has had a positive impact on the professional activities of future primary school teachers and the formation of cognitive activity in this direction.

Recommendations. Based on the results of the research, we made recommendations related to the adaptation of students to innovation:

1) The use of innovative technologies in teaching the Kazakh language in primary classes will increase the interest of students in learning, despite low academic performance;

2) Presenting new ideas, inventing innovations, and implementing them during the lesson in the teaching of the Kazakh language in the primary school motivates the future primary school teacher;

3) Forming the professional skills of students through innovative activities in education will allow the professional growth of the future teacher.

The results from the author's survey helped to determine the orientation of knowledge towards innovation and helped to determine the level of content, thus confirming the validity of our methodological choice in the empirical study.

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FEATURES OF THE FORMATION OF GENERAL TECHNOLOGICAL COMPETENCE OF FUTURE TEACHERS

Abstract

Currently, the formation of the foundations of vocational education is increasingly paying attention to the focused training of competitive personnel with a high indicator of general technological competence. The article reveals the features of the mode of higher pedagogical education, such basic concepts as cokazakhmpetence, competence, competence, which are important in the training of future competitive teachers of professional training. The concept of the general technological competence of future teachers of professional training is given. The features of the formation of general technological competencies of future teachers of professional training were considered. The formation and development of general technological competence is the most important condition for success in any professional field, but for a teacher, the development of competence becomes a necessary condition for the implementation of professional tasks. A high level of general technological competence is an urgent requirement of our time, forms the basis for the successful implementation of professional pedagogical activities, confirms the relevance of this research problem in the process of performing tasks of a professional nature.

Keywords: competence, highly competent, professional, modernization, general technological competence.

Introduction. The processes of modernization of higher pedagogical education in modern conditions determine the appeal to the development of professional and personal qualities of future teachers, their spirituality, creative potential, cultural and moral values. Of particular importance in the context of professional training is the implementation of the social policy of the state to create the necessary conditions for successful socialization and adaptation of young people.

The transition to a modern system of training future teachers includes:

- understanding the purpose and meaning of the educational and cognitive activity of future teachers and complete liberation from all forms and consumer-thinking consciousness;

- the order of personal and humanistic relations in a Pedagogical University, where the effectiveness of the educational process is formed by the ability of teachers and students to change among themselves;

-transfer of «ritual», professional dogmatic behavior of participants in the educational process to conceptual behavior .

General technological competence includes the formation of a system of ideas about the essence of technological activity, a high level of development of skills in planning, organization, implementation of technological activities, mastering individual technological processes, etc. In other words, a high degree of improvement in relation to the competence of the individual makes it possible to include different types in processes that contribute to the successful implementation of technological activities, and, as a result, increase productivity, efficiency of production or social activities. Accordingly, the formation of general technological competence is one of the most urgent and important tasks of the modern education system.

The formation and development of general technological competence is the most important condition for success in any professional field, but for a teacher, the development of competence becomes a necessary condition for the implementation of professional tasks. The modern education system is impossible without resorting to technology, without the teacher's ability to use modern technologies, without

understanding the essence of technological activity, without the ability to plan and implement it.

The aim of our research is to scientifically substantiate the formation of the general technological competence of future teachers of vocational training.

Main part. Today, the process of forming general technological competence can be considered, first of all, as «a relatively complex subsystem of professional and general training of an individual, related in general categories (thinking, behavior, communication and activity).» In the process of forming general technological competence, the targeted development of certain structural components of competence is carried out, as well as the general, personal and professional development of the future specialist.

First of all, given the fact that technological competence in general has become an urgent object of scientific research relatively recently, I would like to note that there is no single approach to understanding technological competence in general, and the theoretical and methodological justification for the formation and development of competence is at the stage of development.

Today, scientists are developing various approaches, pedagogical models for the formation of general technological competence. This is a systematization of the basic principles, methods, methods of developing competence.

In addition, based on the results of the analysis of theoretical sources, it can be concluded that pedagogical models, methods, technologies, programs for the formation of general technological competence should be based on basic conceptual principles:

1) formation of fundamental general technical knowledge-development of the cognitive component of general technical competence;

2) the formation of Integrated General technological knowledge and skills in the process of solving practice-oriented technical and technological tasks, i.e., the pedagogical methodology should respond to the essence of the competence approach, apply a practice-oriented approach, i.e. meet the goals of the formation of general technological competence as a set of skills, skills,knowledge that can be used in the process academic, professional activities;

3) variability in the search for solutions to technical-technological, general technical tasks, that is, the pedagogical methodology should provide flexibility, variability in the process of solving the tasks set. To complete the task, there must be several proposed solutions;

4) ensuring the professional growth of the student;

5) obtaining experience in solving professional technical and technological, general technological tasks.

In the scientific literature, the methodological approach is considered as a set of principles, methods and approaches used in the study of a particular pedagogical and psychological problem. The concept of" approach " is used in pedagogy as a certain method, an element used by science. An approach is an element of any process of scientific and pedagogical activity, a type of activity. If the concept of" method "means a set of methods of scientific and pedagogical activity, then the concept of" methodological approach " means that it is used by the researcher throughout the entire period of scientific and pedagogical activity. The totality of research positions determines the sequence and logic of their application, the technology of pedagogical research.

Pedagogical scientists often use the concept of" approach " as a methodological guide. At the same time, systemic, system - service, complex, holistic, axiological, praxiological, activity, personality, etc. are used in pedagogical research.

Depending on the content specificity of the study of pedagogical phenomena, methodological approaches were divided into three groups. For example, mega, macro, micrometodological approaches. Megamethodological platforms: natural-scientific and humanitarian. Macrometo-dological platforms: cultural, synergistic, innovative, environmental. Microenvironments: individual, systemic, activity, etc.

Based on the analysis of the psychological and pedagogical literature corresponding to the goals and objectives of our study, as well as taking into account the development strategy of Kazakhstan, we decided to describe a number of key positions, such as personal, competence, systemic, activity and others. These positions are based on the development strategy of Kazakhstan “new development opportunities in the context of the Fourth Industrial Revolution”. Among them, the following can be distinguished:

1. endurance.
2. national identification.
3.creative and creative thinking.
4. globalization.
5.interfaith and diplomatic agreement.
6.relationship.
7. peace and the development of civilization.
8. digitalization.
9.multiculturalism.

An example is an individual approach that involves the development of tolerance, communicativeness, multiculturalism, creativity and creativity, as well as the digitalization of thinking and the desire for peace. The culturology approach, in turn, implies an emphasis on communicativeness, multiculturalism, interfaith and diplomatic harmony. In general, strategy and approach are closely related, and each strategy goes beyond listing factors, which determine the way to achieve and achieve the set goals.

Kazakh scholars have defined the content of methodological positions in pedagogical research. Drawing on global experience, these researchers have specified the content of methodological positions in pedagogical studies (Sapargaliyeva et al., 2019).

The analysis of methodological positions by García reveals a system of positions in pedagogy and cultural studies: systemic, holistic, comprehensive, personal, activity-based, historical, anthropological, axiological, cultural, psychological, technological, sociological, civilizational, innovative, typological, acmeological, axiomatic, ethnopedagogical, ethnographic, informational, semantic, prognostic, and others (García et al., 2023).

An individual approach to education provides future teachers with a unique opportunity to fully develop as a person. It contributes to the formation of such multifaceted qualities as multilingualism, professional competence, self-determination in a professional role, the development of personal qualities necessary for successful pedagogical activity and the disclosure of internal potentials. This approach is based on a system of interrelated concepts, ideas and methods aimed at developing the professional competence of the future teacher, as well as stimulating the process of self-knowledge and self-improvement of the teacher's personality and developing his independence.

Relying on methodological positions in pedagogy and psychological science is a socio-pedagogical phenomenon. As pedagogical activity within the broader cultural context, it enables the examination of the researcher's culture in pedagogy, facilitating a comprehensive study and consideration of facts, phenomena, mechanisms, and patterns in the fields of education and science (Morgacheva et al., 2023).

From the point of view of influencing the personality, it is important to contribute to the development of spiritual and moral value qualities of each person, taking into account the age characteristics and personal qualities of each person, such as innate temperament and psychological character. Interaction within the framework of an individual approach can be carried out at different levels in the educational process, from simple forms of dialogue to meaningful conversations on certain topics, as well as discussions that contribute to the formation of value orientations and the development of personal integrity.

The concept of general technological competence is widely used in assessing a high level of professionalism. In some studies, it is considered an alternative to concepts such as preparation for professional activities or pedagogical professionalism.

According to Choshanova (1996), a competent specialist has a number of characteristics that include the ability to choose the most appropriate solutions from a wide range of options, justified denial of incorrect solutions, and critical thinking.

Importantly, competence also includes the ability to receive new information and constantly update your knowledge in order to effectively solve professional problems in limited deadlines and conditions.

In addition, competence has two main components: process (or operational) and content (or educational). This means that a competent person can not only understand the essence of problems, but also apply methods and solutions in practice, acquiring the necessary skills. Depending on the specific situation, such a person can use the appropriate method that is appropriate in this context. Consistency of methods, along with flexibility of critical thinking and knowledge, is the third most important characteristic of competence.

In some scientific works, the problem of professional competence is considered as a system of cognitive, technological, motivational, behavioral, and value orientations. There is also a significant body of research that views the knowledge, skills, experience, and behavioral patterns acquired by learners as a process involving the integration of educational content, shaped in practical situations or "from the result." In scientific circles, there is an opinion that the general technological competencies of future educators are formed not only through university education but also in practical activities or as a result of independent exploration (Shakirova et al., 2019).

Using a competency approach, we determined the general goals and direction of the study, and also examined in detail the basic concept of "general technological competence".

The use of a competency-based approach in teaching future teachers of professional activity is based on practice-oriented principles. The implementation of this approach offers a new approach to the quality of training of the future specialist.

In connection with the substantive specificity of the study of pedagogical phenomena, methodological approaches have been divided into three groups. For example, mega, macro, and micro methodological approaches. Mega-methodological platforms include natural-scientific and humanitarian approaches. Macro-methodological platforms encompass cultural, synergetic, innovative, and ecological approaches. Micro-environments include personal, systemic, and activity-based, among others (Grande-De-Prado et al, 2021).

In accordance with this, Serrat-Brustenga specified and proposed cultural-cognitive, axiological, civilizational, and innovative methodological approaches (Serrat-Brustenga &Marta, 2023) .

Research materials and methods. Qualitative and structural changes taking place in the context of its modernization in the system of higher pedagogical education are aimed at the professional and personal development of teachers. We combine these two important components of future teachers into the concept of «professional competence». At the same time, it seems appropriate to clarify the concepts of «competence» and «competence» close to it.

It should be noted that professionalism and skill, creative abilities, high intelligence and cultural and moral values, in short, the desired image of the future teacher, which should be formed in the humanistic educational system of the University and be able to realize his human and professional potential in a particular activity as efficiently as possible, constantly develop through self-education, self-development and self-improvement.

The word» competent» is a derivative of the word «competence» and is used in two meanings: first, he is knowledgeable in a particular field; secondly, he has the right to do or decide something, to evaluate something by his knowledge or authority.

Another concept should be clarified – «competence», which is found in the literature along with the concept of «competence». In the same dictionary we find the concept of «competence» (lat. competence), which has the following values: 1) the circle of powers granted by law, charter or other act to a particular body or official; 2) the circle of questions about the knowledge and experience of a particular person (Makewa, 2019).

Consequently, competence can be considered as a framework of the powers and duties of a responsible person who demonstrates high responsibility and independence in solving certain tasks, as well as the ability and experience to apply this knowledge in practice and manage them (that is, knowledge and experience) in the course of the implementation of these powers.

In the educational process, competence is primarily the result of training: during the study of the training module, the student acquired specific competencies - specific knowledge, skills; gained professional experience (professional qualities) and showed his perseverance, independence, responsibility (personal qualities). Competence is a professional requirement for the professional training of a student. Let us pay attention to the fact that the formation of certain competencies occurs in the activity of mastering and acquiring experience .

The study of the literature on this issue made it possible to establish that today many types of competence and competence are presented. The problem of competence affects practically the entire system of education, from the primary generation of schools to institutes of advanced

training, that is, it not only provides a value-effective direction of professional training of specialists, but also finds its application in the training of primary school children, High School students.

Professional education of future teachers can be considered as a system with its main properties: 1) purposefulness, 2) the presence of components and Structure, 3) interaction with the external environment, 4) integrity, 5) development over time. The structure of professional training of future teachers consists of two blocks - theoretical and practical training and has the following areas: general education (Natural Science and socio-humanitarian training) and professionally oriented . Special structural components of the professional training of future teachers have specific goals . General professional and general technological disciplines are focused on the areas of professional activity of future teachers, while natural scientific and humanitarian disciplines are often focused on the educational activities of students, creating a base and mastering disciplines other than the curriculum .

In addition, competence in the educational process is an integrated result of training: the integration of theory and practice, the integration of teaching methods, as well as pedagogical technologies and the integration of special disciplines of training, the integration of the employer and the educational institution, etc.

The modern social sphere needs specialists who can identify and solve a specific production problem. At the same time, it is important for the employer not only the ways of action of the teacher, but also a positive final result. At the first stage, socially oriented features appear that allow the future teacher to professionally adapt and reveal in the team. This is also reflected in competencies such as:

- preparation for collective activity in the group, between a combination of intra-group, as well as inter-group competition;
- the ability to reconcile one's own interests with those of the group, as well as subjugate one's own interests to achieve overall success;
- the ability to take into account external pressure in limited situations and make a commitment to the results of conducting their own decisions in life.

The concept of competence implies deeper personal changes at the level of a person's personal qualities, qualities, his values, as well as communication with the world around him, in the scientific circles of Western countries is not closely related to the philosophy of success . Such a successful professional activity and an energetic life position today are the expected result and a criterion for the quality of Education.

According to the proposal of Rozov (1993), the concept of competence, at first glance, assimilates new discoveries and developments related to human cognition and practice, on the other hand, makes it possible to identify educational requirements in each class of pedagogical conditions (for each type, profile, level of education).

The professional competence of the future teacher is a description of the typological characteristics of a person as a professional and individual and is expressed in a personal-humanistic view of reality within the semantic boundaries of the presence of a specialist in the space of professional existence.

The main components of professional competence can be distinguished: general professional literacy (necessary knowledge), the ability of the teacher to apply the existing knowledge and personal qualities in the process of activity, without which the competence of the teacher is impossible .

The main criterion for the formation of the professional-active component of the personality is the teacher's ability to independently solve emerging production situations, introduce innovations in his activities, create a favorable psychological climate in the team, constant self-education, self-education, self-realization.

The personality of a teacher can be considered its internal integrity, where the professional and the individual are closely related to a certain system of values. The teacher here» in the tone of Major « as a person aimed at performing certain socio-moral functions in society and as a professional in all his capabilities and abilities. Therefore, in my opinion, it is impossible to consider the professional competence of a teacher outside of his individuality, since the future teacher acquires professionally necessary knowledge, skills in a personal context, and professional skills can be mastered at an individual creative level (Makarenko, 1986).

As the author notes, the competence of a teacher determines, on the one hand, the analysis

of his work, the process (pedagogical activity, pedagogical communication, personality) and the result (learning and upbringing of students), on the other - the ratio of the necessary skills and psychological qualities.

The author tried to identify the main types of professional competence of a teacher:

- special competence-the ability to master professional activities at a high level, to project their professional growth in the future;
- social competence-mastering General (Group, Cooperative) professional activities, cooperation, including the methods of professional communication adopted in this profession; social responsibility for achieving their professional growth in the service;
- personal competence-mastering the means of personal self-expression and self-development, methods of countering professional changes in the individual;
- personal competence-mastering the means of self-realization and improvement of individuality within the profession, as well as the desire for professional growth and talent for personal self-preservation, the independence of professional aging, the ability to reasonably organize their labor without overloading time and effort, perform their work easily, without overloading and even with a refreshing effect;
- «extreme professional competence», when a person is ready to work in unexpectedly complex conditions (Amonashvili, 2017).

Of interest to our study is the concept of professional competence proposed by V. A. Slastenin. In his opinion, professional competence is the unity of the theoretical and practical readiness and ability of an individual to carry out professional activities in a qualified manner.

In his article, Adolf (1998) noted that the professional competence of a teacher includes thorough knowledge of any subject of the school course, as well as knowledge and skills in the field of new information technologies.

The analysis of studies shows that to date a large number of different competencies can be distinguished, and their number is increasing. Currently, in the structure of the professional competence of future specialists, depending on the profile, several dozen competencies of general Professional, professional and special forms are distinguished. It can also be noted that the structure of professional competence of specialists of various profiles includes technological competence (Rozin, 1998).

Modern research shows that there are certain inconsistencies in the definition of the concept of» technological competence « in the context of specific material or social technologies, caused by the consideration of this competence and the presentation of the features of these technologies in the composition of the competence under consideration. For example, A.V. Shulepov defines technological competence as «he nature and content of practical-educational and production activities in the profile of the specialty» (Shulepov, 2007).

Technological competence is considered as a component of professional competence and acts as an integrative feature of the individual, an integrative set of knowledge, knowledge and skills that ensure the effective solution of professional innovation or professional-technological tasks. In this context, researchers who consider technological competence include narrow functional knowledge, qualifications and skills, as well as the quality and qualities of the individual, a character beyond the specific subject. The general technological competence of the future teacher of vocational training, the experience of integrating the acquired knowledge, skills, methods and approaches to solving practical tasks, the ability to transformational technological activity formed under the influence of the conditions of this activity and regulatory requirements for it (Shagataeva et al, 2021).

Results and discussion. Analysis of research on the problem of the formation of general technological competence of future teachers, the use of pedagogical technologies in the educational process, as an orderly placement of operations, actions, is understood as the ability and desire to implement the design of the pedagogical process.

General technological competence includes the formation of a system of ideas about the essence of technological activity, a high level of development of skills in planning, organization, implementation of technological activities, mastering individual technological processes, etc. In other words, a high degree of improvement in relation to the competence of the individual makes it possible to include different types in processes that contribute to the successful

implementation of technological activities, and, as a result, increase productivity, efficiency of production or social activities. Accordingly, the formation of general technological competence is one of the most urgent and important tasks of the modern education system (Koshkinbayeva et al, 2023).

Thus, today technology is considered as a field of knowledge, a form of transformative activity, a science, a process, etc.

At the moment, different features that characterize the technology can be distinguished. So, D. F. Dorfman in his research focuses on the nature of the activity of technology, considering it as a specially organized process, a special type of activity. The main feature is the organization of natural processes aimed at creating artificial objects (Dorfman, 1988).

At the same time, it is noted that technology is associated with a number of Special, modern mechanisms for the growth of activity-control over its performance in the civilizational plan, control over development interest in the technological side of the case, etc.

Conclusion. Thus, considering the existing psychological and pedagogical approaches of future teachers to studying the problem of the formation of their professional competence in the process of their training at the university, they develop the ability to analyze various technological ideas and choose from them the most rational of the proposed ideas, predict the possibilities of their improvement, and think creatively. the ability to extract interesting and fundamentally new technological ideas from the world of new and technology. Training develops cognitive interest in the search for new ways to achieve goals and non-standard solution of tasks in the process of technological activity.

Let us give a general concept of general technological competence-a complex individual structure, a set, a combination of personal qualities that, on the one hand, allow a person to join, integrate into the implementation of transformational technological activities, on the other hand, are formed under the influence of the conditions of these activities, individually included in the general professional competence of the individual.

Thus, the result of successful and effective training of future teachers with consideration of the existing psychological and pedagogical approaches to the study of the problem of the formation of their professional competence in the course of their training at the university will be a sufficient and high level of development of professional competence.

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ASSESSMENT OF SOCIO-PSYCHOLOGICAL HEALTH AS A FACTOR IN INCREASING MOTIVATION IN THE STUDY OF STUDENTS (ON THE EXAMPLE OF LEARNING A FOREIGN LANGUAGE)

Abstract

This article addresses the dual challenges of enhancing motivation and evaluating the social and psychological health of educational subjects. Motivating students is crucial, and assessing their well-being serves as a pivotal strategy. The article recognizes the contemporary importance of evaluating social and psychological health in education, highlighting the limited exploration of this topic in psychological and pedagogical research. It aims to clarify the concept of "personal health of subjects in the educational process" and explores associated problems. Key terms such as "the subject of the educational process," "psychological health," and "social health" are defined, emphasizing subjectivity's interconnected nature with the surrounding reality and relationships. The second part focuses on motivation, using the example of teaching a foreign language. In Kazakhstani higher education, video-based instruction in professional French courses not only motivates students but also facilitates training success assessment

Keywords: educational process, subject of education, social health, psychological health, assessment, motivation.

Introduction. When investigating health at the individual level, it is insufficient to merely attribute it to the "normal functioning" of specific body or psyche subsystems. Additionally, restricting analysis to isolated aspects of human existence proves inadequate. According to Sokolskaya (2009), the attainment of the highest developmental level in an individual is a gradual and non-immediate process. This progression is marked by non-linear and occasionally non-sequential stages, with potential temporary halts, reflecting the concept of regression.

A comprehensive understanding of human development at various stages provides insights into the overall development of an individual. In the context of education, this perspective, aligned with the views of both domestic and foreign scholars such as Asmolov (2022) and Kassymova et al. (2021), informs the exploration of assessing the personal health of individuals involved in the educational process as a crucial aspect of their social and psychological well-being.

Main part. Prior to delving into the characteristics of evaluating the aspects integral to an individual's personal health, it is essential to establish our comprehension of key terms. In formulating our methodological stance, we drew upon prominent research within the context of the discussed issue. (Kivunja & Kuyini, 2017).

Numerous points of view of scientists come down to the fact that social health is a person's ability to establish and maintain harmonious relationships with others, to be a useful and active member of society (Fusar-Poli et al., 2020). After all, man is a social being, and our well-being directly depends on how successfully we are able to communicate, overcome conflicts and find a common language with others. Social health concerns not only personal relationships, but also social, professional and even international ones. It is this that allows us to feel confident in the world, make the right decisions and find a balance between personal interests and the needs of others.

Mental health, as defined by the World Health Organization, is a state of well-being in which a person can realize his or her own potential, cope with the normal stresses of life, work productively and productively, and contribute to their community (World Health Organization, 2022).

The notion of personal health that we put forth is grounded in the conception of an individual as intricate, self-evolving system engaged in the pursuit of specific objectives and adjusting to environmental circumstances (Litvinov et al., 2020), including interaction with the outside world and the implementation of internal self-regulation. We propose the following definition for the concept of "personal health": it is a comprehensive, integrative, and dynamic trait of an individual, shaped by the social (as opposed to asocial) subjective activities of the individual. This trait manifests as subjective well-being within the context of one's affiliation with a specific sociocultural and professional community.

As indicated by a review of psychological literature, the primary integrative criterion for social, psychological, and overall personal health is the subjective well-being of the individual. The determining factor is the subjective activity of the individual, with its theoretical analysis expounded upon in the work of (I.Serafimovich et al., 2018). Subjective activity, serving as a prerequisite for personal health, forms the foundation for the self-actualization and self-realization of the individual.

Simultaneously, certain scholars define subjective activity as a distinct form of activity (Kanybekovna et al., 2020). Here, activity is construed as the measure of engagement, the level of initiation of a mental process or any form of interaction, representing the subject's potential capabilities to engage with the environment and others. It is characterized as a collection of proactive actions by the subject, influenced by internal contradictions, mediated by environmental influences—an aspect crucial to our research (de Medeiros et al., 2021).

Hence, activity is viewed both as the foundation for personal development and as a characteristic of the individual. The subject's activity serves as the embodiment of their motivation, being the product and result of activities contributing to increased motivation. In subsequent sections of this article, we will explore motivation for success, specifically within the context of teaching a foreign language, exemplified by the research of Elsayed & Al-Najrani (2021). In recent years, at universities in Kazakhstan, French has become increasingly popular as a second foreign language in language faculties. The main motivation for Kazakh students to choose French as a second foreign language is to continue their studies in French universities (Aubakirova et al., 2019). Kazakhstan and France wish to develop the teaching of French in many educational institutions in the country, in order to increase the mobility of students and young professionals.

As mentioned above, the aim of teaching French legal language at universities in Kazakhstan is to develop the main components of communicative competence: linguistic, socio-

cultural, strategic, and discursive. For these components of communicative competence to be implemented effectively in the learning process, "a certain system of motivation is necessary to encourage students to perceive and consciously learn a foreign language" (Shevtsova & Boskalets, 2022).

This current didactic task is particularly important for teachers of non-language specialties in universities, whose students are poorly motivated to learn French due to the underestimation of the importance and value of communicative competence in French in future professional activities.

Research materials and methods. The preferred methods used are mainly project method, analysis and synthesis of scientific and methodological literature, content analysis of the curriculum, collection of authentic documents, analysis of normative documents, video recording, and technical editing of the project.

Results. Researchers treat motivation "as the set of forces that drive our activity: need, instinct, urge, passion, desire, interest, curiosity, will, project, goal, etc." (Asma, 2017). It is crucial to foster students' motivation for learning French to enhance in the educational journey, fostering an interest in the legal language of French. Consequently, there is a need to cultivate students' enthusiasm for acquiring fresh knowledge, ensuring its relevance, and facilitating improvement. When addressing the motivation aspect within the academic setting of Kazakhstan, our approach is grounded in the perspective of Zimnaya (1997) defines motivation as "one of the main components of learning activity, she believes that it is what stimulates and motivates learners to perform actions". In other words, motivation can be seen as a main element that ensures students' involvement in the learning process, promotes concentration of attention and interest, enriches linguistic and extra-linguistic knowledge, and finally contributes to the formation of the target competence.

Shevtsova and Moskalets identify several fundamental conditions that, when successfully implemented, contribute to the cultivation of positive motivation in language learning within a professionally oriented university context. In our perspective, these conditions encompass:

1) Students' comprehension and awareness of learning objectives and prospects.

2) Effective organization of the educational process with a professional orientation.

3) Execution of developmental educational-scientific activities fostering additional interest in learning a foreign language (Shevtsova & Moskalets, 2022).

According to A. Leontiev, as quoted by Zimnaya (1997), motives are directed either at satisfying the desire to learn something interesting or important, or at guiding future behavior and actions. This category of motives is particularly intriguing for analyzing dominant learning motivation in professional French (PF) courses. In the context of a French legal language course, the communicative-cognitive need may become a key motivator for student activity.

Drawing from the aforementioned definitions, we posit that the incorporation of short authentic film material significantly enhances students' motivation in the classroom. Assessing the language skills and professional background of law students, we identify the following criteria as crucial in selecting authentic film material:

1) Informational and cognitive value, including the relevance of legal issues and novelty of professional information.

2) Alignment of the film's information content with specific topics studied and areas of professional communication.

3) Feasibility of linguistic and professional information content in the video text.

4) Compatibility of the video content with the professional and personal interests of future lawyers (Dementieva, 2016).

Aligned with these criteria, we present a selection of authentic films utilized for educational purposes in the French international law class. This entails materials that capture learners' attention and promote reactions in learning situations due to their interesting and interactive nature (Widad, 2020). The use of audio-visual aids serves as a facilitating tool for acquiring communicative competence, vocabulary, and improving writing skills (Bouchra, 2020).

As an illustration, to introduce the fundamentals of French constitutional law, we effectively leverage authentic video films available on the website (cest-quoi-la-declaration-universelle-des-droits-de)addressing the Universal Declaration of Human Rights. These educational films employ a playful approach as "a rich and varied means" (Hedouche, 2017)

to present French and European legal norms, as well as human and civil rights. Another type of work that increases students' motivation is the project method that allows "to foster a cooperative exercise" (Forero Barrera, 2020). The effectiveness of professionally oriented projects "is shown by an increased motivation to learn a foreign language among non-linguistic students".

The increase in motivation is due to the fact that this type of work has a practical orientation and is directly linked to the students' professional activities. In practice, one can see the benefits of practicing foreign language and the ways of its implementation in situations close to reality" (Ryabova, 2017).

Thus, interdisciplinary and integration of language and professional training is a great advantage of project work. This type of work can increase students' motivation which is considered as "an impulse for an activity, associated with the satisfaction of human needs; a set of external and internal conditions that provoke the subject's activity and determine its orientation" (Azimov&Shchukin, 2009).

Discussion. During the project work in the French class, students engaged with various

authentic documents, which had a significant impact. In addition to enhancing vocabulary, mastering grammatical structures, and developing speech acts, authentic materials offered insights into the culture of the target language country. Working with these materials aimed to develop skills required in professional activities, including linguistic, socio-cultural, discourse, and lingua-professional components. Establishing and developing the latter is the primary objective of teaching the French legal language.

To foster communicative competence, we employed not only communicative exercises but also the project method to engage students in active thinking processes. This approach facilitates problem-solving, discussion, and the exploration of solutions, directing students' attention to the content of the statement and emphasizing critical thinking.

An exemplary model is the video project "The Law is One for All," designed for law students. The diverse range of topics allows students to choose issues of personal interest, motivating them to be more productive and applying the principle of individualization. Project work is predominantly independent, with open coordination to adjust subgroup activities. The main project goals include practicing and consolidating previously acquired knowledge of legal French language, as well as developing communicative competence and critical thinking skills. Initially, students collected information using authentic documents, enriching and consolidating their lexical field, terms, and grammatical structures. Motivated by their roles within the project, they actively sought definitions for specific legal terms, such as acts of aggression, apartheid, war crimes, colonial domination, and systematic violations of human rights.

Subsequently, they summarized, analyzed, and discussed the information as a group, culminating in presenting their findings and engaging in class discussions. These final stages contribute to the development of independent critical thinking and communicative competence, addressing tasks inaccessible in traditional teaching methods.

The didactic game's role and importance lie in facilitating knowledge acquisition, retention, and consolidation. With its formative character, the game influences students' personality development, enriching their affective life and gradually instilling emotional control (Mocanu, 2018).

As a result, project participants demonstrated not only organizational skills but also all components of communicative competence, including discursive, linguistic, socio-cultural, pragmatic, and lingo-professional components, collectively forming intercultural communicative competence.

Methodologists argue that interactive teaching methods, including the video project method, create conditions for students' creative self-realization, increase motivation for learning, develop intellectual abilities, and engage students in active cognitive processes. This approach forms skills in search and research activities, with the result being a project. Project activities, grounded in the intercultural aspect of learning, assist students in enriching their knowledge of global and native cultures, expanding their horizons, and enhancing their intercultural understanding (Goncharova & Medvedev, 2022). This type of activity enables students to develop cognitive and creative abilities, create

a comprehensive understanding of the studied material, and optimize the learning process using new information technologies. Integrating the formation of intercultural communicative competence with the process of project-research activity in the educational process allows learners to better develop their potential and enhances competence in problem-solving in foreign language communication.

Conclusion. It is imperative to underscore that the motivation to acquire proficiency in French legal language is shaped by diverse pedagogical influences. This motivation is contingent upon both the substance and trajectory of the educational process, as well as on developmental and educational initiatives fostering a positive and convivial atmosphere within the educational milieu. Consequently, educators teaching French at non-linguistic universities in Kazakhstan must employ a comprehensive approach to address the prevailing apathy among certain students toward learning the French language. Efforts should be concentrated on effectively integrating the development of intercultural communicative competence with project-based activities within the educational framework. This integration serves to optimize the realization of the learner's inherent potential, thereby contributing to the enhancement of their competence in navigating challenges in foreign language communication.

Recommendations:

1) Prioritize Mental Well-being: Acknowledge the crucial role of social and psychological health in education quality.

2) Holistic Psychological Health: Understand psychological health as vital for personal goals, encompassing social, emotional, and spiritual well-being.

3) Cultivate Positive Attitudes: Foster a socially and psychologically healthy mindset in learners, boosting motivation and subject competency.

4) Link Health to Language Learning: Recognize the positive impact of mental well-being on language motivation. Use effective language teaching techniques.

5) Reveal Potential through Well-being: A healthy learning environment uncovers students' potential, enhancing foreign language communication proficiency.

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DEVELOPMENT OF MEDIA COMPETENCE OF FUTURE TEACHERS IN THE CONDITIONS OF DIGITAL EDUCATION

Abstract

In the context of digital education, the article analyzes how future teachers are developing their media competence. The ability to examine the stages of prospective teachers' media competence development and analyze that development in relation to digital education constitutes the analysis's key components.

According to the goal of this study, an analysis of the psychological and pedagogical literature on the topic under study was carried out, as well as an analysis of the motivational component, which includes the motives for contact with media texts, the contact component as the frequency of communication with the media, informational, creative, perceptual, evaluative and practical components. When conducting an empirical study, modified blocks of questions of the A.V. Fedorov methodology were used to identify the development of future teachers' media competence.

The topic's relevance under study is also described. The definition of «media competence" is given and the analysis of foreign literature in this area is carried out. The developmental stages of perceptual, interpretive, and creative indicators were identified. It was noted how perceptual and interpretative indicators related to one another as a result of the mutual examination and evaluation of media resources. Future educators gain crucial abilities for future professionals in the development of media competency, including new media competence, virtual collaboration, transdisciplinarity, and design thinking.

Keywords: media competence, media resources, intellectual technologies, future teachers, network educational module, university.

Introduction. Modernization is required due to the exceptional rate of scientific and technical advancement and the short lifespan of knowledge (approximately 3 years). Modernization is the process of transforming all facets of society with the aim of making the Republic of Kazakhstan more competitive in the global market through cutting-edge technologies. For the development of an innovative economy, the country needs competent personnel in various sectors of life.

Kassym-Jomart Tokayev, the president of the Republic of Kazakhstan, addressed the nation in a message dated September 01, 2022 "A Fair State, One Nation, Prosperous Society" notes that the driving force behind progress in education is dedicated teachers. Our people have a proverb: "The future of the country is formed in the cradle of a baby". In this regard, we consider it very important to develop the competencies of future teachers, since it is they who teach the child to read, and write, instil teamwork skills, lay a moral foundation, and teach to see the beautiful and good in this world (Tokaev, 2022; Lütge et al., 2019).

In accordance with Kazakhstan's Republic Law "On the status of a teacher", a teacher is a person who has a pedagogical or specialized education, working directly with students.

According to the Education Development Concept for 2022-2026, schools will be gradually granted greater academic autonomy. As part of the digitalization of the educational process, several projects will be implemented: "Digital Teacher", teaching certain subjects in small schools online and offline digital textbooks (mobile application). Based on the findings of the SWOT analysis of the growth of higher and postgraduate education, the Concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023–2029

identified the strengths and weaknesses of the current system and suggested one possibility—the development of digital technologies in education.

The media environment is changing as a result of innovations in satellite and digital TV, video, cinema, computer and cellular communications, the Internet, graphics, music, and radio, among other things. The contemporary media environment serves as a set of settings that enable a person to accomplish a variety of tasks, including professional and practical ones as well as those involving self-improvement, self-expression, and self-knowledge. Future teachers must be ready for ongoing self-improvement, information processing skills, the study of new technologies, and the pursuit of strategies for integrating them into the teaching process in order to carry out their professional responsibilities successfully (Mok 2021; Engel et al., 2023; Cuisle & Annie 2022). A number of universal, general professional, and professional competences represent such graduation requirements. The coordinator of the educational online platform, gaming instructor, and organizer of project-based learning are only a few examples of the professional duties of future teachers that are directly connected to the media environment.

Future Work Skills Summary Map, produced by the European organization IFTF (Institute for the Future), is a visual representation of the skills of the future. Future professions will need the following important competencies: new media competence, virtual collaboration, transdisciplinarity, and design thinking. It is important to realize that a wide variety of technologies are being used to shape the media environment of today. An important contribution to make is social media, which allows users to produce media content. However, at the present stage, semantic technologies and intellectual technologies are increasingly being used. For example, combining the power of the semantic web and Internet video to develop digital content that allows playback of video fragments based on given keywords. Smarter technologies in information systems for educational purposes can support the construction of a sequence of an individual course of study, intelligent analysis of trainees' answers, interactive analysis of trainees' answers, and interactive support in solving problems. Big data analysis and educational analytics are relevant to this field of study.

In order to support user judgments in selecting content for further interaction, intelligent technologies are also employed to search for and choose media content. The creation of intelligent picture, video, and sound processing algorithms is ongoing. As an illustration, intelligent algorithms for the rectification of graphic files, the production of video sequences, and the synthesis of musical snippets. A promising technological foundation for students' media competency, which will be required in future professional activities in the context of digitalization, can be formed by using such intelligent algorithms, which are a component of contemporary instruments for solving professional difficulties (Botturi 2019). In a digital society, finding information is only one of many tasks that people must perform. They must also evaluate it, make a critical choice, use it to solve problems in their professional and academic lives, and create their own media messages as an essential part of contemporary communication.

Literature review. Future educators construct pages, browse the Internet for information, and communicate electronically with one another, as Genedy (2021) noted in his research. Al-Msi'din R. et al. (2021) contend that future instructors must develop media competence and a media-savvy culture. The development of conditions for the production of suitable abilities to function in the digital world should go hand in hand with the virtual educational space given the digitization of education (Ngoc Tran, 2021). Tosun & Akcay (2022) also believe that the digital environment is of particular importance in the world of children and youth. Digital game worlds and numerous channels of social networks constantly shape the multiliteracy of children and youth (Tosun & Akcay 2022; Daniyarova et al., 2022).

Another danger factor for students is the lack of boundaries while utilizing social networks for both personal and professional reasons (Zhu et al., 2020). In particular, Ho et al.'s (2021) study on the effects of Facebook use on psychological health discovered that students who use social media heavily have higher levels of sadness, stress, and anxiety.

According to scientists Jormand et al. (2021), it is critical to pay close attention to the threat

that the dissemination of false information and destructive content through social networks poses to pupils. In this regard, we believe that the relevance of this study lies in the following - to develop critical thinking among future teachers, the capacity for analysis and select personally significant information, structure, generalize, use, and meaningfully for the informational environment, they produce their own media texts. (Jormand et al., 2021). Nevertheless, it's crucial to realize that the Internet also exposes the user to dangers such as cyberbullying, and according to Tosun et al., (2022), they believe that future educators should further educate children about working in the digital world. The focus should be on individual responsibility, safety, criticality, and sustainability (Tosun et al., 2022).

According to Banaji and Moreno-Almeida (2021), future specialists' digital literacy levels, as well as their economic and social standing, are what determine their level of media competency.

Media competence (German: medien-kompetenz; English: media competence) is described as the capacity to operate in a skillful, independent, creative, and socially responsible manner regarding the media in foreign original sources as early as 1997 (Tulodziecki).

Babadzhanov (2014) and Ronzhina et al., (2021) define the tasks of pedagogical education through the development of student's critical thinking, the capacity for analysis and select personally significant information, and the development of general media literacy. Media competence is part of the future teachers' media literacy (the ability to perceive, create, analyze, evaluate media texts, comprehend the political, sociocultural, and economic contexts in which the media in the modern world operate) (Babadzhanov, 2014; Fernández et al., 2023).

Also, in the Abai University graduate model, one of the competencies that a graduate should have a deep understanding of digital environments, and the skills to create new content. In this connection, when developing educational programs, the teaching staff actively uses such concepts as media literacy, media competence, and media education, media culture, media space, media technologies, etc.

According to a survey of 110 students in the specialty 6B01303- Primary education with information and communication technologies at Abai university, aged 1 to 4, 78% of respondents thought it was essential to study multimedia content creation as part of an educational program, compared to 9.3% who thought they could master multimedia technologies on their own, and 13.6% who did not. The findings indicated that although most students are eager to learn how to create and manipulate different types of multimedia information, they do not always have the opportunity to do it on their own.

An indicative survey of first-year students of the specialty 6B01303 - Primary education with information and communication technologies of Abay KazNPU, who started studying the subject "Digital Technologies in Education" in the first semester of the 2022–2023 academic year, was conducted in this context to determine their preferences for the ways in which educational materials are presented. Of the 30 respondents, 57% say they would like to incorporate multimedia resources, such as video, animation, graphics, and infographics, while structuring their own work. The preferences of students are clear, but a legitimate question arises: to what extent are they prepared for productive activities in an evolving media environment, including the process of solving professional problems (for example, during teaching practice), implementing self-education, and independently mastering media objects that they have created and distributed (for example, digital storytelling)? The authors of this paper also take into account the potential of intellectual technologies for fostering pupils' media competence.

In general, the ability to select, use, critically analyze, rate, create, and transmit media texts in a variety of forms and genres, as well as to comprehend the intricate ways in which the media functions in society, is referred to as media competency. In understanding medical competence, we will be according to the work of foreign scientists Fedorova (2007); and Kubey (1997). Fedorov (2007) emphasized in particular that media competence more precisely describes the essence of a person's abilities to use, critically analyze, evaluate, and transmit media texts of various types, forms, and genres to examine the intricate processes of media functioning in society. In contrast, Kubey (1997) defined media literacy as the capacity to use, understand, and convey messages in a variety of forms. The ability to evaluate and analyze multimedia resources as well as the willingness

to produce and edit multimedia educational resources (graphics, animation, audio and video fragments, infographics, and text) are the two main facets of a teacher's media competence that will be discussed in the context of this article.

Main part. Scientists and researchers have an ambiguous approach to the problem of defining indicators of media competence, according to an examination of the examined literature on the topic of establishing the level of formation and criteria for media competence.

So, in 2011, UNESCO developed the requirements for the curriculum on media and information literacy for teachers, in 2021 they were updated, so according to these requirements, teachers should have the following media competencies:

Competency #1: Understanding the role of the media. Competency #2: Understanding media content and how to use it. Competency #3: Effective and efficient access to information.

Competency #4: Critical evaluation of information and its sources. Competency #5: Applying new and traditional media formats.

Competence #6: Understanding the role of the socio-cultural context of media materials.

Competency #7: To raise the level for media literacy among students and manage the necessary changes (Renés-Arellano, et al., 2021).

The following traits – motivational, contact, informational, perceptual, interpretative/ evaluative, practical-operational (activity), and creative – were identified by Fedorov (2007) as indications of a person's media competency. High, medium, and low levels of indicators are used (Fedorov, 2017). We concur that this categorization is conditional because it is broad, but it is also a useful starting point for recognizing signs of someone's readiness while taking into account the unique characteristics of training profiles.

In response, Hlyzova (2011) provides cognitive, activity-operational, and motivational markers of the formation of media competence (for a secondary linguistic personality), which are based on readiness and ability, including knowledge, skill, and attitude.

This categorization has three levels: elementary, intermediate, and advanced. This essay demonstrates the value of this personality trait for students in linguistic programs; it is presented as the fundamental structural element of a secondary linguistic personality. The classification of A.V. Fedorov, in which students of a pedagogical university serve as the researched audience (Fedorov, 2007), serves as the foundation for Ryzhykh's (2007) work. She supports the value of fusing English language instruction and media literacy on the subject of screen arts.

The classification made by Fedorov (2007) is also followed by Imanova (2010). In her research, she takes into account how a high school student might define the term of media competence. However, the approach of using information technology to just develop the activity component of media competence is being researched.

In her dissertation research, Kutkina (2016) supports the following criteria for media competence: drive, value-semantic representations (relationships), media knowledge, media skills, and experience utilizing media in a variety of contexts. It is clear that the criteria also take personality attributes like mental activity, logical thought, creative thought, communication, and contemplation into consideration. Different indicators are chosen for each requirement. We think the author's choice of classification is appropriate given that she is researching the need to teach future library and information experts media literacy.

Purpose of study. Our study aims to examine how future teachers' media competency is growing within the framework of digital education.

Materials and methods. This study's objective will be attained by analyzing the psychological and educational literature on the topics under study was carried out, as well as an analysis of the motivational component, which includes the motives for contact with media text the contact component as the frequency of communication with the media, informational, creative, perceptual, evaluative and practical components. When conducting an empirical study, modified blocks of questions of the

Fedorov (2007) methodology were used to identify the improvement of future teachers' media competence.

Participants. The empirical base of the study was students of the specialty 6V01303-Primary education with information and communication technologies of Abay university in the amount of 110 students.

Data collection tool. The methodological support of the study consisted of a questionnaire using a modified questionnaire to determine the future teachers' media competence based on the methodology (Fedorov, 2007).

Data analysis. We also used the analysis of creative works, and essays of students, which allows us to evaluate the development of a creative a sign of media competence.

The definition of media competence was based on a classification of the individual's media competence development indicators. Future teachers were given the option of answering seven main blocks of questions in a closed-type questionnaire to gauge their progression in developing skills like:

1. The motivating indicator presupposed that the student could identify their favourite media genres and the reasons why they chose to engage with them, including intellectual, creative, thematic, psychological, emotional, and aesthetic reasons;

2. The contact indicator calculated how frequently different media kinds were contacted;

3. The understanding of terminology and the development and operation of media culture is indicated by the information indicator;

4. The perceptual indicator determined the abilities of adequate perception, including correlation with the author's position and understanding of the main meanings inherent in the media text;

5. Interpretive and evaluative indicators assume the capacity for analysis, and evaluate the usefulness, reliability, and safety text from the media, and its interpretation by students;

6. The realization of the practical abilities of users of media texts, understanding of information and communication technology, was how we interpreted the practical and operational indicator;

7. The level of creativity and the capacity to produce one's own media products were determined by the creative indicator of the growth of the audience's media competence.

Each of the seven blocks contained from 3 to 8 questions with suggested answers.

Results. The results of the study on evaluating the motivational, contact, informational, and creative indicators of media competence as the degree of involvement of respondents in media culture, the priority of choosing certain types of media, the ability to practically use different methods of obtaining information, are presented in Figures 1-4.

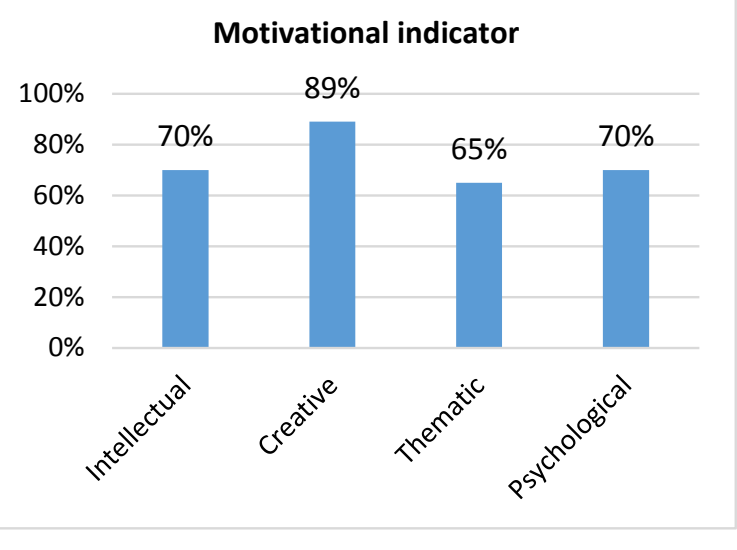

Figure 1. ***Motivational indicator of the development of media competence of future teachers***

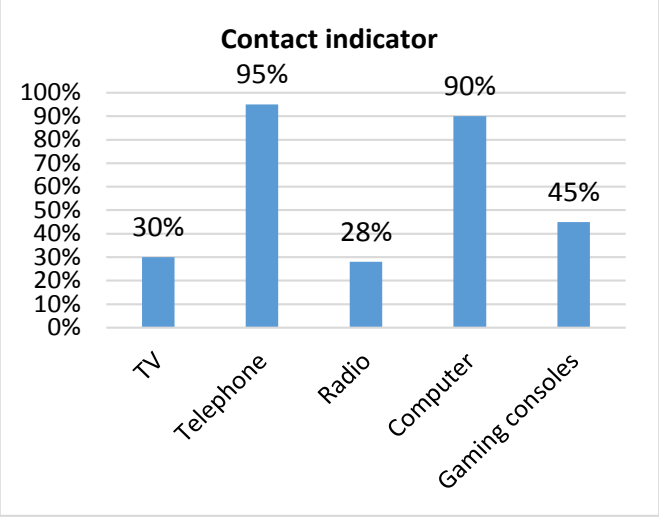

Figure 2 - ***Contact indicator of the development of media competence of future teachers***

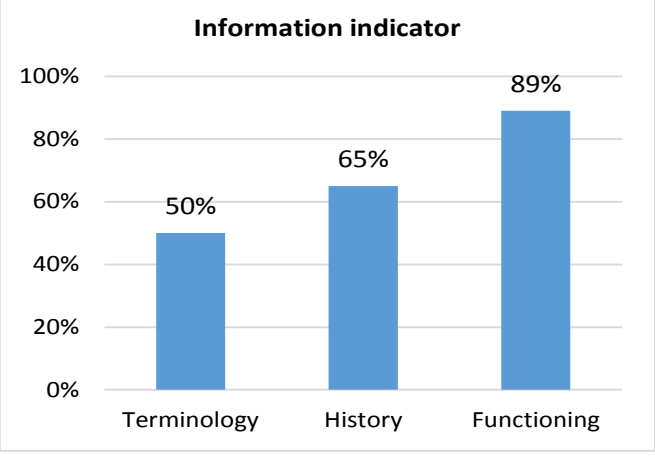

Figure 3 - ***Information indicator of the development of media competence of future teachers***

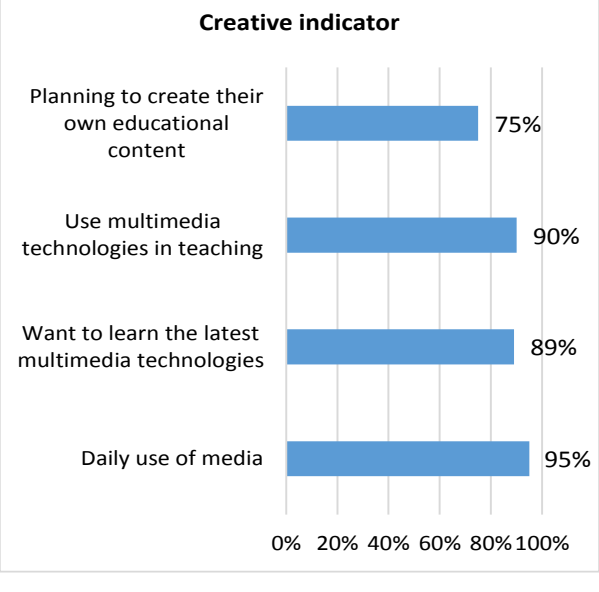

Figure 4 - ***Creative indicator of the development of media competence of future teachers***

After analyzing the answers of the respondents to the questions of the questionnaire, we noted that television does not regularly occupy future teachers, a small number of respondents watch it daily, the contact with interactive gadgets is high, and only those who have their transport like cars listen to the radio. There is some difference in the appeal to game consoles: as it turned out, not all of the respondents play computer games, and most of them (55%) have not played computer games at all lately. The surveyed students use the Internet, including for educational purposes. 100% of students use the Internet every day, and they have developed practical skills and skills to use it at a fairly high level. Operational and practical skills are developed enough. Based on the results of the study, we state the development of practical skills of users, knowledge of information technologies, and their frequent use, including in the educational process, that is, the practical and operational indicator of media competence among students is quite high.

The data of the ascertaining experiment on the study of the motivational, perceptual, and informational components of media competence are shown in Figure 5. In addition to being given a list of topics within the context of using different types of media on the Internet, the respondents were also given a list of psychological, therapeutic, emotional, moral, intellectual, creative, and aesthetic motivations for contact with and perception of these media texts. Therefore, we looked into future teachers' topic preferences and perceptual drivers for media contact. Figures 5 displays the research's findings.

Thematic preferences reflect the understandable interest of future teachers in educational topics; the indicator reached 98%. Students are also greatly interested in military, historical, criminal, sports, scientific, and technical information. Environmental, religious, industrial, and political topics occupy them to a lesser extent.

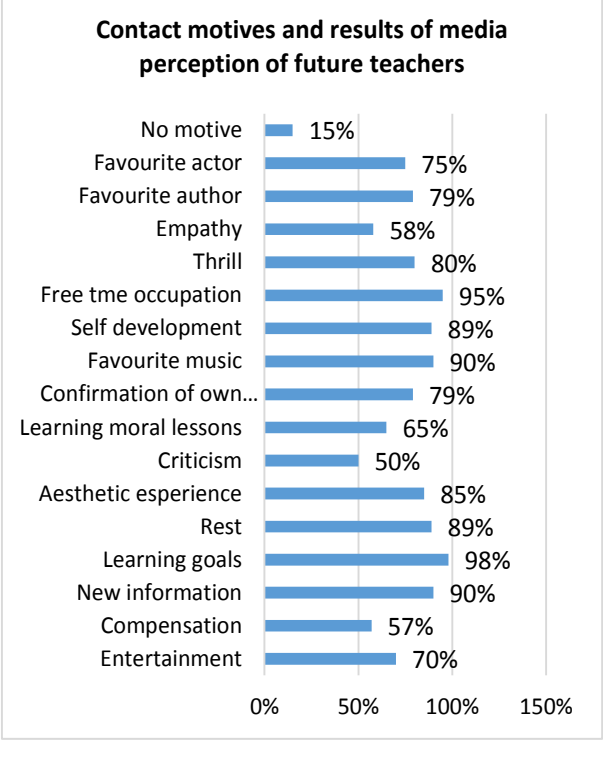

Figure 5. ***Contact motives and results of media perception of future teachers***

Figures 5 shows the data we collected on thematic preferences for different media types, contacts' motivations, awareness of, and reactions to, media, as well as students' practical and operational skills, which allow us to draw the conclusion that future teachers' preferred motivation for media contact is the desire to learn new things. The search for educational resources

comes in second place, and entertainment comes in third. Students most frequently use the internet for educational purposes. Because they need to search for most of the educational information and study it on their own, they form a stable motivation to search for and receive information on the network. It must be stated, however, that a significant number of subjects use the Internet and social networks to occupy their free time, as well as for entertainment.

Discussion. The audience we studier's most common reasons for interacting with media texts were thematic, psychological, emotional, moral, intellectual, creative, and aesthetic, as well as their perspective, according to an evaluation of the motivating indicator. The formation of the student's personality does not take place on an isolated island, but in the context in which it exists, and these are different types of media, the Internet, and social networks. We believe that future educators need to be taught to use cognitive and enlightening media that contribute to the development of their media competence. The tasks of a teacher that are difficult to accomplish today include the motivation for a culturally appropriate pastime, and not just entertainment and the consumption of information and goods.

The analysis of students' creative works in the form of essays, which allows for assessing the development of their critical thinking, interpretative-evaluative, and creative indicators, revealed a high level of development of the interpretive-evaluative component of media competence, a high level of students' critical thinking. Students were able to analyze and critically evaluate this or that work or block of information, highlight the main and secondary, separate the meaning from the accompanying and often contradictory data, and draw conclusions. They do not experience difficulties in the critical analysis of information, as well as in self-assessment, which was revealed when checking their creative products of students, essays.

Conclusion. The following characteristics of students' media competency growth were identified during the study, with the information-activity indicator showing the most obvious improvement: students explore the theoretical and practical aspects of utilizing the potential of media information to produce multimedia instructional tools while working with materials, learn how to use a variety of tools for producing and analyzing information of different forms, develop an interest in and a drive to learn new technologies, especially those that are considered to be the end-to-end solutions for the digital economy. The increase in the contact indicator is important because, in order to create their multimedia educational resources, students must view a lot of EER examples, use the services covered in the module to become proficient with their tools, and communicate with the instructor and other students to solve problems as they arise. As a result, students develop the ability to interact purposefully and productively with media resources in an open information environment.

The perceptual, interpretive, and creative indicators are the most challenging to create and assess. The perceptual component of media competence is developed by students analyzing the media resources of other authors, learning to understand their pedagogical intent, formulating evaluation criteria, and choosing the most efficient ways to prepare and present information using multimedia resources. Throughout the study, we observed a close relationship between perceptual and interpretive indicators. Future educators gain expertise in new media literacy, virtual collaboration, transdisciplinarity, design thinking, development, and use of new technologies—skills that are crucial for professionals in the future.

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MOTIVATION FOR EDUCATIONAL AND RESEARCH ACTIVITIES AS A FACTOR IN THE DEVELOPMENT OF ANDRAGOGICAL SUBJECTIVITY OF UNDERGRADUATES

Abstract

In the modern changing world, the goal that all universities set for themselves is to focus on the development of individual psychological qualities, cognitive skills, reasoning and needs to achieve success in the profession, social values of professional activity and internal motivation for it. Now, the quality of education, training of graduates in a higher education institution should allow to eliminate the discrepancy between the requirements of production and employers, the current changing society. This is due to the fact that undergraduates should have the opportunity to develop their subject qualities beyond professional skills in accordance with the chosen specialty.The integration of our country into the world political and economic space is a natural process of rapid response to the radical changes taking place. For the reform of education, it is important to update the principles of communication in the multi-level system of training specialists. Changes in the system of higher education should begin primarily with the training of specialists. Under the word training is not only the deepening of academic knowledge, but also the ability to apply the acquired knowledge in life. The use it is primarily associated with intrinsic motivation that is, with motivation and subjectivity. That is, such a system, which has been modernized, will be aimed at creating conditions and opportunities for the holistic development of a person, professional and social adaptation of an individual in society.

Keywords: Personality, subject, undergraduate, motivation, training, skill, education, skills.

Introduction. Today's higher education system involves students independently replenishing knowledge, acquiring new skills. Thus, the readiness to assimilate new information through orientation from one professional position to another, based on the ability to quickly adapt to a new situation, reorganize oneself, belonging to the manifestation of professional mobility, can be a key factor in considering solving the problem we are raising. It can be seen by studying the works of many scientists that the development of the properties of the subject is largely associated with the process of cognition.The subject acts as the basis for the connection between consciousness and activity. And, as noted by K.A. Abulkhanova (2001), the subjective approach in psychology is implemented in the principle of the unity of consciousness and activity.

For social psychology, the key idea is the mode of the subject. The main question to the question of the subject is to determine at what level the relationship between cognition and action is.This subject is the individual. In the personality, as a focal point, the reflective, cognitive aspects of consciousness and its qualities of attitude, experience, and aspiration are concentrated. The socio-psychological qualities of a person, expressed in her interests, ideals, orientation, worldview, synthesize her cognitive, relational mechanisms that regulate these relationships. The subject is a complex system of human communication with another person, with his environment, with the world around him.

Main part. In today's psychology and pedagogical science, the problem of subject and subjectivity has a special place, that is, the nature of the subject, which characterizes the activity of

a person, reflects his constructive position. The subject is one of the central concepts of modern psychology, the categorical status of which is currently the most controversial.

Since the category of subject is a general philosophical category, it refers to the concept of an active quality of a person, his position in society, development, being the author of his own life. The introduction of the category of subject into psychology contributed to the consideration of man in a new plane: in the unity of his natural, social, and spiritual principles.

From the principle of subjectivity (subject) comes a new term: Andragogical subjectivity, which acts as one of the types of activity of the subject, as a way of his relationship to reality. The activity of the subject is expressed, in our opinion, in the forms of self-determination, self-infliction, and self-activity. These forms reflect the essential characteristics of the subject.

«Andragogical subjectivity» is:

- the ability to organize and organize a high level of qualities, consisting of activity and business skills of a person;
- purposefulness, initiative, high motivation and interest in educational and research work;
- the quality of its activity, moving from one level to another, that is, to a new level, which allows it to consciously change itself;
- The ability to achieve the goal set for oneself, to activate oneself, to systematically build a dream, a goal, to systematically use one's capabilities;
- use a high level of creativity in problem solving.

A person's relationship with the world takes place in different forms - cognitive, active and relational. The latter is the relationship of a person to another person. All these forms of relationships that make up the essence of the subject take shape in activity: «The subject, both in his cognition, and in his action, and in his relation to another subject, destroys (each time in a specific way) the appearance, the outsideness of the object and the other subject, overcomes its isolation , discovers (by knowledge), transforms (by action), strengthens the essence of another person with his attitude towards him».

Thus, the single logical basis, the main idea, the main direction of the internal connections of the philosophical and psychological concept of the subject-personal approach is the idea of the subject. It is in the subject that the cognitive and activity characteristics of human psychology are connected. He (the subject) acts as the basis for the connection between consciousness and activity. This idea underlies our research.

When considering the problem of the development of andragogical subjectivity of undergraduates, we were guided by the law of transition from quantity to quality, which is the basis of science. Because it is known that the law of transformation of quantitative changes into qualitative ones is the basis for explaining how and in what way movement and development take place. So this law assumes that small, quantitative changes have the potential to move to a qualitatively new level. Each individual process justifies that the gradual accumulation of quantitative changes necessarily leads to the transition to meaningful, qualitative changes.

Andragogical subjectivity in our research work appears and manifests itself at a certain level of development of the student. It is considered a systematic quality that determines the worldview, relationships, purpose, orientation, unrepeatable specificity, spiritual and moral character, actions, potential for communication, will of a graduate student. Andragogical subject is a phenomenon that becomes relevant at a specific level of development of professional training and determines the specifics of the activities, communication, behavior and behavior of students, the process of their own development (Sovetkanova, 2019).

A system of general epistemological guidelines that determine the directions of research activity in pedagogical science, its goals and structure, as well as new scientific principles and methods; within the framework of pedagogical methodology, a special discipline, the object of which is the pedagogical process and methods of its provision (Taubaeva, 2000).

Insufficient attention has been devoted to the exploration of motivational factors influencing the academic and research pursuits of undergraduate students, as highlighted by Sovetkanova in (2018). Existing studies on student age, encompassing the master's degree stage as well, primarily focus on the examination of cognitive processes and individual characteristics of students, as noted by Gippereiter in (2002).

The main principle of adult education in the system of continuing education lies in

the recognition of a person as a subject in the course of his development. Therefore, the subject position allows you to reveal and recognize all the vital activity, relationships, internal logic of the personality, and makes it relevant to reproduce and manifest the psychophysiological integrity of the personality. This is a quality in which actions, relationships are characterized by achievements between the self-consciousness. Thanks to subject properties, changes, development, maturation of cognitive processes, mental states and personality traits of the individual are carried out (Berikkhanova & Sapargaliyeva, 2023).

The purpose of our research is to theoretically substantiate and empirically identify the features of motivation for educational and research activities of undergraduates as a factor in their subjectivity.

Research objectives:

1. give a psychological and pedagogical description of students ' motivation for learning;

2. andragogical subjectivity of undergraduates as a factor of effective influence of educational and research activities.

In accordance with the purpose and objectives of the study, the following set of methods was defined:

I. A psychological and pedagogical experiment was employed to create optimal conditions for the development of educational and research motivation among undergraduates.

II. The diagnostic approach utilized the following techniques:

1.A modification of A.A. Rean and V.A. Yakunin's methodology for studying the motives of educational activity.

2. The "Motivation for studying at a university" test originally developed by T.I. Ilyina, with modifications by E.P. Ilny.

Methods for processing and analyzing empirical data included descriptive statistics, analysis of variance, and correlation analysis using Spearman, Fisher, and Student tests.

The study focused on two groups of undergraduates, comprising a total of 150 participants:

1. Experimental Group (EG) - consisting of 75 individuals, who underwent a systematic implementation of psychological and pedagogical conditions aimed at fostering educational and research motivation.

2.Control Group (CG) - also consisting of 75 individuals, who did not receive the corresponding classes (Wikipedia, as of 15.05.2013).

Materials and methods

1. Methodology for Exploring Motives in Educational Activities (Modified by A.A. Rean, V.A. Yakunin)

Participants were instructed to thoroughly review a list of motives related to their educational activities. Subsequently, they were asked to identify the five motives most significant to them and mark them with a cross in the corresponding lines. The list of motives included:

1. Aspire to become a highly qualified specialist.
2. Obtain a diploma.
3. Successfully progress through subsequent courses.
4. Excel in studies and achieve "good" and "excellent" exam marks.
5. Continuously receive a scholarship.
6. Attain profound and enduring knowledge.
7. Maintain readiness for upcoming classes.
8. Refrain from neglecting subjects within the educational cycle.
9. Stay in pace with classmates.
10. Ensure success in future professional endeavors.
11. Fulfill pedagogical requirements.
12. Earn respect from teachers.
13. Serve as an example for fellow students.
14. Secure approval from parents and others.
15. Dodge judgment and penalties for poor academic performance.
16. Attain intellectual satisfaction.

Processing of Results:

The frequency of motives being identified as most significant across the surveyed sample was determined. Subsequently, the ranking of each motive within the given sample population (school, class, group, etc.) was recorded in the relevant form for further analysis.

2. *«Motivation for University Studies»* Test by Ilyina T.I.

In creating this assessment, the author incorporated various established techniques. The test comprises three scales: "Knowledge Acquisition" (reflecting the desire for knowledge and curiosity), "Mastery of a Profession" (indicating the aspiration to master professional knowledge and develop essential professional qualities), and "Diploma Acquisition" (revealing

the desire for a diploma, including formal knowledge acquisition and strategic approaches to exams and tests).

The primary goal is to assess the following motivation scales for university study:

Scale: Knowledge Acquisition

• Affirmative responses ("+") to statements in paragraphs 4, 17, and 26 earn 3.6 points each.

• Negative responses ("-") to the statement in paragraph 28 and item 42 earn 1.2 and 1.8 points, respectively.

• The maximum points achievable on this scale are 12.6.

Scale: Mastery of a Profession

• Agreement with statement 9 earns 1 point.

• Agreement with statements 31, 33, 43, and items 48 and 49 earn 2, 2, 3, 1, and 1 point, respectively.

• The maximum points achievable on this scale are 10.

Scale: Diploma Acquisition

•Disagreement with statement 11 earns 3.5 points.

•Agreement with statements 24, 35, and items 38 and 44 earn 2.5, 1.5, 1.5, and 1 point, respectively.

•The maximum points achievable on this scale are 10.

Questions related to paragraphs 5, 13, 30, and 39 are considered neutral to the objectives of the questionnaire and are excluded from the processing.

The prevalence of motives on the first two scales indicates the student's appropriate selection of a profession and satisfaction with the results.

Table 1. Calculation of motives for research activities

Motive	Number of people chosen	% of total
Opportunities for getting a prestigious job	18	12,3
Interest in the problem of your scientific research	16	10,5
Financial incentives	5	3,5
Reluctance to be expelled from university due to conscription into the army	24	15,7
Mandatory implementation of ID	8	5,3
Interest in science	8	5,3
Increased status, recognition of colleagues	37	24,6
Cognitive activity, desire for discovery	5	3,5
Self-development, self-realization	3	1,7

Analysis of Indicative Motives: Distribution and Significance

Within the dataset, certain motives stood out, constituting 26.3% of the total mentions. These motives encompassed various external factors contributing to success, along with cognitive elements. The breakdown of significant cognitive motives is as follows:

•Cognitive Activity, Desire for Discovery: 12.3%

•Interest in Scientific Exploration: 10.5%

•Interest in the Problem of One's Scientific Research: 3.5%

Exteral motives influencing success were also notable:

•Increased Status and Recognition among Colleagues: 15.7%

•Opportunities to Secure a Prestigious Job: 5.3%

•Material Incentives: 5.3%

Furthermore, motives related to self-development and self-realization held substantial significance:

•Self-Development and Personal Fulfillment: 24.6%

While other motives played a lesser role, they were still identifiable:

•Mandatory Implementation of Identification: 3.5%

•Concerns about University Expulsion: 1.7%

This nuanced analysis provides a comprehensive understanding of the diverse factors influencing the motivations for research activities within the surveyed group.

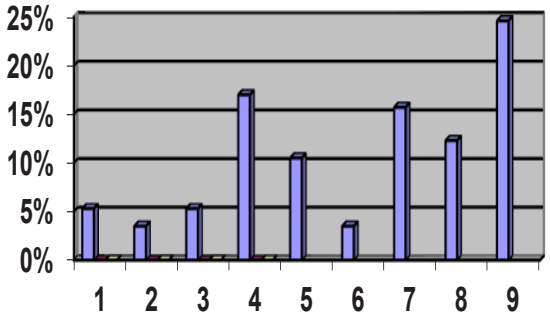

Figure 1. **The results**

1. the possibility of obtaining a prestigious job; 2 interest in the problem of your scientific research; 3. material incentives; 4. reluctance to be expelled from the university; 5. - interest in science; 6. - obligation to carry out research activities; 7. -increased status, recognition of colleagues; 8. - cognitive activity, desire for discovery; 9. - self-development, self-realization.

Analysis of Educational and Research Motivation Factors

Among the factors influencing the motivation for educational and research activities, communication with teachers plays a noteworthy role at 7.9%, signifying not only support but also potential "pressure."

A comparative examination of ideas regarding the motives for educational and research activities among undergraduates in general and their motives for personal scientific activity reveals a 3.4% increase in the cognitive motivation share among undergraduates. Concurrently, external motives for achievement (recognition, material reward) experience a significant reduction among undergraduates, decreasing to 12.6%.

It is essential to highlight a sharp increase in the motivation of obligation in self-image among undergraduates, reaching 20.8%. This shift provides insights into the evolving perspectives of undergraduates concerning their own academic and research pursuits.

The study enables the delineation of the psychological portrait of undergraduates and the identification of components of both external and internal motivation in university research activities and their personal research endeavors.

An indicative metric of the research motivation development of master's students lies in the level of completion of their certification work. A high level of attainment necessitates a profound understanding of the logic of scientific research, comprehensive organization of its stages, and mastery of the fundamentals of creative activity.

Statistical substantiation of the research motivation of undergraduates can be presented in tabular form. The data indicates an average level of readiness for the identified components, underscoring the imperative for targeted intervention.

It is noteworthy that the skills of self-organization in cognitive activity dominate in the development of research motivation among undergraduates. Deep and comprehensive knowledge among undergraduates constitutes the second-level priority in this context.

1- deep and lasting knowledge; 2 - effective motives; 3 - skills of self-educational activities; 4 - formation of operations of mental activity; 5 - skills of self-organization of cognitive activity (Figure 2).

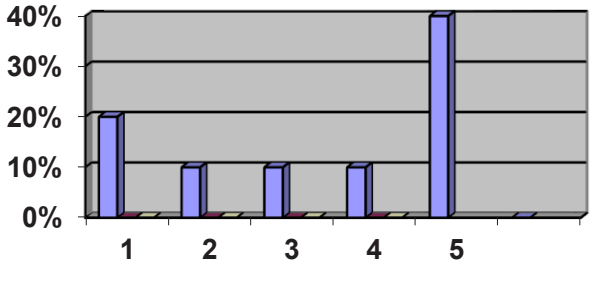

Figure 2. **The results**

As can be seen from the table, 80% of respondents have low and medium levels of motivation for the research activities of undergraduates, and 20% have high levels of motivation for the research activities of undergraduates.

In the study, respondents were categorized into groups reflecting an underestimated, low, and average level of students' readiness for research work. The dominant factor in forming the research motivation of undergraduates is the skill of self-organizing cognitive activity. At the second level, undergraduates exhibit deep and solid knowledge.

The primary type of research motivation identified is extrinsic motivation. In this context, mastery of educational content is not an end in itself but serves as a means to achieve other goals. These goals may include obtaining good grades, certificates, diplomas, scholarships, complying with the demands of teachers or parents, and receiving praise or recognition from friends (Kosshygulova & Sarsenbayeva, 2022). External motivation often leads to alienation from the cognitive process, passivity, a sense of meaninglessness, or forced activity among master's students (Nemov, 2003). The content of research activities becomes less personally significant for them.

Levels and Structure of Educational and Research Motivation

Based on the study, three levels of educational and research motivation among undergraduates can be identified:

1. High Level (20%):

•Characterized by the ability to self-organize cognitive activity.

•Possession of deep and lasting knowledge.

•Engagement in self-development and self-realization.

•Pursuit of increased status, recognition of colleagues.

•Display of cognitive activity and a desire for discovery.

2. Average Level (30%):

•Characterized by skills in self-educational activities.

•Formation of operations of mental activity.

•Interest in science.

•Possibility of obtaining a prestigious job.

•Material incentives.

3. Low Level (50%):

•Characterized by effective motives.

•Low interest in the problem of one's scientific research.

•A sense of obligation to carry out research activities.

•Reluctance to be expelled from the university.

Goal of University Education for Master's Students

The overarching goal of university education for master's students is the systematic training of highly qualified professionals for analytical, consulting, and research roles in Kazakhstan universities and companies, aligning with successful career trajectories.

Structure of Motivation for Educational and Research Activities

The motivation structure is multifaceted and includes motivational aspects characterizing cognitive interest and motivation for research activities. Competence-based components encompass ideas about the methodology of scientific research and methods of research activity. Activity-based elements determine the possession of skills and competencies in research activities. Value-semantic dimensions include self-assessment, self-analysis of one's research activities, and determination of ways of self-development in scientific knowledge (Maslow, 2004).

Psychological and Pedagogical Conditions

Creating optimal conditions for identifying the peculiarities of motivation for educational and research activities of undergraduates involves updating the content of professional training, implementing training activities, increasing the value and semantic level of undergraduates, and fostering master's students' readiness for educational and research activities.

It is important to highlight that in modern higher educational institutions, two main types of research activities for undergraduates are organized to varying degrees:

1. Educational and Research Work:

• Mandatory as per current curricula and programs.

• Traditionally includes notes, reports, essays, coursework, and final qualifying papers (Lakh, 2004).

2. Research Work Outside of Classroom Time:

• Involves independent search for new literature.

• Encompasses creative preparation for tests and exams.

• Provides time for practical training and internships.

• Main forms include scientific subject clubs of different directions (pedagogical, psychological, methodological, philosophical, etc.), problem groups, and participation in conferences (Baizhanova, 2006).

The educational and research activities of undergraduates contribute to creating a new creative educational environment at the university. They serve as a crucial factor in the development of the university as an innovative educational institution, fostering a new pedagogical communication characterized by creative cooperation between teachers and undergraduates, continuous improvement of subject-subject relationships, and an atmosphere of spiritual closeness and co-creation.

As a result of the study, research motivation levels of undergraduates can be identified:

• High Level:

• Cognitive activity and a desire for discovery.

• Average Level:

• Opportunities to obtain a prestigious job.

• Financial incentives.

• Low Level:

• Obligation to carry out research activities.

• Reluctance to be expelled from the university (Volkov, 2006).

Results and Discussion: Several reasons can diminish motivation at university, including:

• Organizational Factors:

• Planning the educational process solely by the teacher, without student involvement.

• Unidirectional assessment systems without student feedback.

• Lack of student engagement in planning lectures and seminars.

• Psychological Factors:

• Fear of objections from the group or teacher.

• Personal indifference, shyness, lack of self-confidence.

• Negative attitudes toward studies and the topic being studied.

• Pedagogical Factors:

• Educational material not related to previously acquired knowledge or future professional activity.

• Material presented too completely, leaving no room for independence.

• Lack of variability in tasks and uninteresting presentation (Knowles, 2005).

Psychological and pedagogical reasons are intertwined, suggesting the need to address them together:

1. Motivation forms through conscious knowledge acquisition.

• Training based on basic knowledge related to specific subject areas.

• Active acquisition through criticism, testing, and paradigm development.

• Structured training to develop independent knowledge acquisition and communication skills.

2. Cognitive processes benefit from appealing to various senses and emotions, increasing efficiency in assimilating and processing knowledge.

3. Motivation for learning increases when undergraduates build a holistic picture of knowledge through active participation rather than passive memorization.

4.Moti vation for learning and achievement results from interacting goals and values within the learning subject, family, and broader culture. Mastery and self-representation goals significantly impact behavior, cognition, and emotions.

To enhance mastery goals, the teacher must instill confidence in the student's ability to succeed and emphasize education as an internal goal. To achieve self-representation goals, the teacher should help students understand and develop their abilities, fostering a sense of self-worth and uniqueness. Clear assessment criteria are crucial for developing motivation to acquire mastery, as understanding how efforts will be assessed leads to increased task engagement and effort (Kolb & Kolb, 2020). The level of achievement, task importance, and value also rise with clear assessment criteria.

Conclusion. Summing up the article, you can draw the following conclusions:

At the master's level, motivation is associated with the position of "oneself" in any education such phenomena as "self-education", "self-knowledge","self-development", which includes its development as a subject. Therefore, the analysis of the requirements caused by the public demand for the professional competence of Masters and set in the state standard of compulsory education increases the importance of the need

to develop their andragogical subjectivity in the professional training of Masters.

Today, despite the fact that pedagogical and psychological factors that reduce educational activities occur in higher educational institutions, the internal motivation that a graduate student has is considered the most important.

However, we believe that the formation of interest in learning among students of higher educational institutions should be carried out at the following levels.They are:

- at the theoretical level, the system of continuing education should be distinguished by openness, accessibility, versatility, multilevel and multifunctionality.

- methodological support of the University for the development of andragogical subjectivity of undergraduates in accordance with the tasks set by the research at the methodological level.

- at the methodological level-the formation of the scientific environment of the University, which creates optimal opportunities for students ' self-development as a subject of scientific and educational and further subject of scientific and pedagogical activity in the direction of Master's training (Mýhametzıanova, 2018).

In the course of the studied works, it can be seen that in order to develop the motivation of undergraduates to study, the place of andragogical subjectivity is also important.

Education is not only the transfer of ready-made knowledge to undergraduates, but also the education of a person who finds his place in life and develops his acquired knowledge, skills and abilities.

Formation of a structural system that ensures the formation of specialists with a high andragogical subject in accordance with the needs of society in the conditions of post-graduate education;

- availability of conditions for effective use of the information environment of a higher educational institution in the development of andragogical subordination of undergraduates;

- Organization of conditions for conducting basic research work based on new educational technologies for the development of andragogical subject of undergraduates through scientific research activities;

It cannot be said that the research problem has been completely solved due to its very complex and wide scope. In the future, we will consider the development of the andragogical subordination of undergraduates, the improvement of the andragogical subordination of undergraduates based on the use of information and telecommunications technologies by undergraduates, etc.

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SOCIO-PEDAGOGICAL LEVEL STRATIFICATION: PORTRAIT OF A VIRTUAL PERSONALITY

Abstract

The authors tried to determine the psychological and pedagogical characteristics of the phenomenon of "virtual personality" in this article. The main purpose of this work is to show the results of the content analysis of socio-psychological reasons (anonymity and confidentiality, expression, and self-expression, research of roles and identities, social interaction and acceptance) for designing a portrait of a virtual personality in an "online community". The quintessence of modeling the portrait of a virtual personality in the "online community" provides for the identification of a methodological concept for the analysis of socio-pedagogical stratification, applicable to establish a correlation between indicators of network communicative culture and behavioral patterns of Kazakhstani students.

The quintessence of modeling the portrait of a virtual personality in the "online community" provides for the identification of a methodological concept for the analysis of socio-pedagogical stratification, applicable to establish a correlation between indicators of network communicative culture and behavioral patterns of Kazakhstani students.

The results of the conducted research are presented, and the concepts are clarified: "virtual personality", "virtual personality image", and "virtual identity". The algorithm of experimental research developed by us will allow: us to substantiate the deterministic features of social networks; reveal the dominant role of "online community" in the socialization of personality; to reveal its real influence on the value orientations of modern students.

Keywords: online community, virtual personality image, virtual personality, virtual space, social networks, virtual self, virtual reality, virtual identity.

Introduction. In light of the growing societal importance of communicative culture among participants in the educational process within the "on-line community" – emerging as a novel virtual reality – digital pedagogy prompts a customization of communication structures on network platforms.

The utilization of networking enables students to access information at any time and from anywhere, thereby enhancing their motivation

for academic achievement (Diacopoulos & Crompton 2020). The attributes of digital culture create avenues for personalized, context-specific interactions in the field (H. A. Alamri & S. Watson & W. Watson 2021). Additionally, within the "on-line community," studies affirm the effectiveness of collaborative completion of educational tasks through wireless communication technologies (Li Sha 2021; T. Favale & F. Soro & M. Trevisan 2020).

The "on-line community" emerges as a new dimension shaping the reality of the virtual world, representing a system of endless creative design. Conversely, the unique phenomenon has its downside – the absence of authentic communication, the desire for social status change, and unfulfilled personal qualities motivate the preference for the "on-line community."

An exploration of international scientific discourse within this framework reveals a decade-long focus on works dedicated to the phenomenon of the virtual personality. The diffusion of virtual reality culture compels modern society to increasingly "structure itself around the opposition of network systems (net) and personality (self)," as articulated by M. Castells (2018). This phenomenon is justified by the recognition that the "search for identity" is a pivotal driver of social development in the digital era. Media theory classics (M. McLuhan & S. Turkle & M. Poster & A. Viso 2012) emphasize the substantial influence of social networks on personality variability and the impact of virtual self-presentation on authentic identity. Consequently, this influence transforms membership in a specific on-line community into a tangible social identity.

In his dissertation research, based on the scientific views of the classics of media theory M. McLuhan, S. Turkle, M. Poster, determines the factors of influence of social networks on personality variability and the influence of virtual self-presentation on real identity (Kuatbekov, 2022). Research portrays the phenomenon of virtual personality as akin to a multiplayer role-playing game, fostering not only a sense of belonging but also motivating individuals to enhance their scientific potential (Turkle, 2012).

In contemporary science, a virtual image is defined as an element of an individual's self-presentation in virtual space, shaped by specific signs and symbols. Posits that the virtual image is the impression the user conveys to others, not encapsulating the totality of personal qualities but serving as a representation created in the observers' perception (Egorova, 2012). This image functions as a user's business card, crafted through personification (nicknames, avatars, usernames, play of color and font) and depersonification (communication style, language) (T. G. Antonia & P. Limone 2020).

Scientific perspective contends that facets of individuality manifest in network communication with minimal distortion (Tikhonov, 2022). This includes the transfer of personal meanings related to beliefs, the emotional and value sphere, and behavioral reactions. Furthermore, characteristics such as erudition, intelligence, ability for creativity, and reflection are reflective of a person's inner world. Argues that the Internet, as a novel communication environment, becomes a sphere of self-affirmation for individuals seeking recognition and social expansion through online interactions (Kosenchuk, 2014). In most instances, virtual self-presentation on the Internet is closely associated with the user's real identity.

Main part. The intersection of higher education and the digital realm within the "on-line community" poses a highly relevant and significant challenge, as it involves addressing complex and unresolved issues. These issues include understanding how the assimilation of cultural communication patterns from various sources occurs, both externally and within oneself. Additionally, identifying exemplary models of behavior and determining the most significant concepts and values are central to this inquiry. Finally, the study aims to explore how norms established through socialization processes in an offline society undergo transformation in a network society.

An exploration of the scientific literature in the contemporary period of the development of the "virtual personality" concept reveals a consensus among most researchers. They posit that online communication in the modern world contributes to the formation of relatively isolated identity qualities, imbuing the ego-identity of an individual with a distinct specificity within the structure of the authentic identity – a novel substructure termed the "virtual personality".

Given the absence of a readily available definition for "virtual personality" in conventional dictionaries, considering its conceptual ties to virtual reality, our approach involves presenting a comparative analysis of how foreign scientists interpret this phenomenon.

Table 1. ***Comparative definitions of the concept of "virtual personality"***

Authors	Definitions
Virtual personality	
Z. Tedeschi, M. Riess, S. Turkle, ler, J. Cumming, L. Lengel ,	The ideal self, striving for self-expression in various forms.
M. D. Back, R. E. Wilson, N. Doering	Digital character – avatar.
Howard, Th., Dautenmann, Serpentelli	«Double» of the real one identity, replacement of the real image of one's own "I"
D. Winnicott , H. Kohut , R. Laing	Self-presented personality in the virtual space
Danet, B., Ruedenberg, L., Rosenbaum-Tamari , Y.	A phenomenon other than human connected according to the " creator - creation " model .
Cheung,C., Green, E., Adam, A., E.A. Mountain	Author to complex signs existing in digital _ environment
A. S. Evdokimenko, N. Yu. Fedunina, A. E. Voiskunsky	The phenomenon of personality transformation during network interaction.
I. N. Blokhin N. A. Senchenko	«Communicator, author and navigator « of the network.
D.N. Pogorelov, E.L. Soldatova, O.N. Astafieva	Virtual image as reflection ideal I, a subjectively significant image.
E. Belinskaya, E. Galichkina, T. Vinogradova	Totality virtual identities subject exhibiting _ myself How conscious behavior personality in sociocultural virtual space
Y. Babaeva, M. Bergelson, V. Nesterova, G. Guseinov	Element self-presentation personalities sign-symbolic forms
M. I. Borishevsky, P. I. Gnatenko, L. B. Shneider	Product of self-presentation and self-identification personalities in the virtual space .
E.V. Perov E.M. Burnaeva, D.N. Pogorelov	Metaphorical image created during perception reality similar to virtual reality reality
M. Abdurazakova, O. N. Tsvetkova , I. V. Mironova , Zekeryaev R.I.	An imitator whose character, actions , actions reflect real personality
Donath, J. S. Z.S.Zavyalova A.E. Zhichkina , Belinskaya E.P.	Reliable , virtual (network) reconstruction personal and social identity subject

Our examination of foreign literature reveals diverse interpretations of the concept of virtual personality. For instance, suggests approaching the psychological features of a virtual image as a reflection of two aspects in the actual genesis of personality: the processes of personification and personalization (Orlova, 2010).

Within the framework of the real world's structure, emphasizes that the virtual image is "unembodied and unknowable," lacking the characteristics of its originating environment (Egorova, 2012). In the "on-line community," describes the virtual image as a sort of business card shaped by personification (nicknames, avatars) and depersonification (communication style, language) (Egorova, 2020). In the eyes of others, the virtual image is distinct from the real person, as "...he is not real and is not the totality of his personal qualities". Adds that the external, facial, verbal, mental, and background components of the virtual image adapt depending on the intended communication partner (Blokhin, 2013). Associates the formation of a virtual image with social roles, influenced by a person's

status, interests, needs, and requirements (Perov, 2019).

Synthesizing these perspectives, it becomes evident that the creation of a virtual personality serves not only as an attempt to realize the ideal of the Self but also as a means for expressing oneself in various forms.

In essence, the real identity of users offers a unique opportunity to experiment with their identity, creating a network identity distinct from the authentic one. Virtual self-presentation may be linked to the desire for novel experiences and the exploration of alternatives for personal development. A virtual personality is an entity to which the qualities of a subject are ascribed, yet the subject's existential status remains undefined.

Following the author's approach A.B. Orlova to the personality's modeling of a self-image in virtual space, which is not always identical to the image that has formed in the minds of the subjects of this environment, also the result of our comparative analysis, where the essential manifestation of the concept of "virtual personality" is based on its basic component - "image, self-image," we tried to give the author's definition of this phenomenon.

The essential characteristic of our definition is as follows: A virtual personality is a conscious personal virtual construct, the function of which is to create a certain self-image among subjects of the virtual environment.

In accordance with our definition, we made an attempt to construct a portrait of a virtual personality based on socio-pedagogical level stratification, first indicating the reasons and motives for its existence.

Social and psychological reasons and motives for the formation of a virtual personality.

1. features of individual self-esteem, the formation of self-concept, the experience of group affiliation and socialization of the "Z-generation" (Borishevskij et al., 2010; Gnatenko et al., 2000; Schneider, 2017);

2. change in the time of onset of personal, motivational, and value maturity of students of the digital generation (the ideal image of subsequent age stages is transformed), (Ustinova & Deineko, 2015);

3. problems of physical inactivity (excessive involvement in social networks, restriction of a healthy lifestyle);

4. decreased interest in real communication (Farakhutdinov et al., 2017);

5. transfer of elements of identity (self-presentation, self-determination of personality) from the real world to the virtual one (N. Doering et al., 2003);

6. alternative identity, due to the characteristics of the network interface (Voiskunsky & Evdokimenko, 2013);

7. compensation for the shortcomings of real socialization (Zh.I. Namazbaeva et al., 2016; Sheryazdanova & Ermentaeva, 2015; Zhienbaeva, 2014);

8. motivated, self-valued desire to gain personal experience (Tapalova & Kuatbekov, 2021).

It should be noted that due to the lack of detailed recommendations on the possibilities of filling out a profile on social networks, we cannot claim that the portrait presented below is ideal. However, according to:

1. with the characteristic features of a virtual personality (English: "virtual identity", "virtual personality", "virtual person", "virtual persona", "virtual character") as:

- a name corresponding to the idea;
- the desire for uniqueness, uniqueness of the image;
- immersion in the image;
- thoughtful tactics of the behavior of a virtual personality on the network;
- ephemerality, reduction of personality to its semiotic manifestations;
- anonymity, masking of the real name as an arbitrary connection between the "real" and "online" personalities;
- identification rendering, free attributes of the image of a network personality;
- diversity of virtual personality;
- simulation of activity through communication with artificial intelligence and robotics.

2. according to the socio-psychological reasons and motives for the formation of a virtual personality that we have identified, a portrait of a virtual personality is presented.

Table 2. ***Psychological and pedagogical portrait of a virtual personality***

Fundamental quality – own name , self-presentation How exceptional and unique personality ; imaginary uniqueness and plurality virtual images and social roles.	
characteristic	
Psychological	Pedagogical
1. has social intelligence; 2. motivated to do virtual communication; 3. can manipulate with identity; 4. dominates reflection ideal self; 5. demonstrates subjectivity significance; 6. realizes meaning-forming function information in symbolic-sign form; 7. able to show alternative identity having _ different from the real one identity characteristics	1. adaptive to the global network; 2. knows how to identify problem; 3. capable of autonomous action, interpretation network content; 4. owns digital and information literacy; 5. demonstrates network thinking; 6. partially has communicative reflection; 7. realizes belonging to a network community

Results. As part of our investigation and the development of socio-pedagogical level stratification, we experimentally assessed students' communicative attitudes using a diagnostic technique designed for this purpose.

Study Objectives:

1. Employ group and individual psychological and pedagogical diagnostics to evaluate digital awareness and the level of communicative attitudes.

2. Identify the motivational orientation driving the use of Internet communications.

The study encompassed 220 students with varying degrees of involvement in network communication.

Collected survey data were meticulously processed and are visually presented in Figure 1.

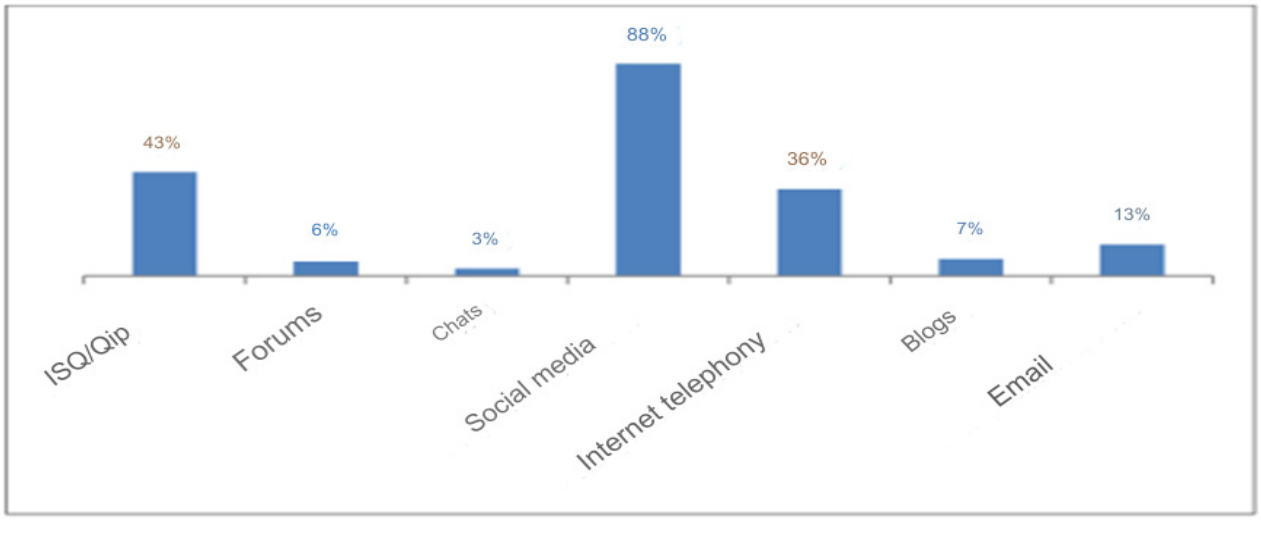

Figure 1. ***Preferred method of communication in the "on-line community"***

Contrary to expectations, the predominant allocation of young individuals' online time did not exclusively center around communication. While 55% of students primarily devoted time to seeking information pertinent to their studies or work, communication ranked second at 25%. Another significant portion engaged in searches related to their hobbies (20%), whereas video searches held a less substantial position (5%). Among various communication methods, students predominantly favored social networks (88%) and messaging applications

(43%). Social networks emerged as the leading mode of communication, with VKontakte being the preferred choice for 84% of students. The Russian-language version of Facebook garnered popularity among 24% of students, and a third of them engaged with English-language social networks, including Facebook, Twitter, and My Space.

The outcomes derived from the diagnostic assessment of the initial level of digital awareness encompass the capacity to recognize one's actions and their impacts in the digital realm. These findings are visually represented in Figure 2

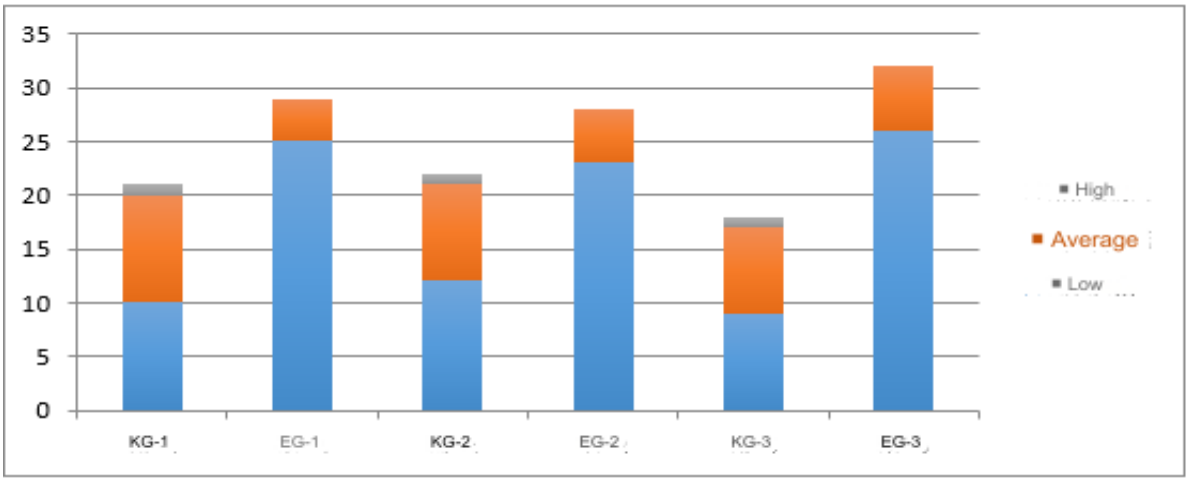

Figure 2. ***Initial level of digital awareness of students.***

The outcomes regarding the initial level of digital awareness among students, derived from subjective individual assessments, diagnoses, and self-diagnoses, reveal a prevalence of low and medium levels. Experimental data were acquired by assigning points to each sign of a communicative attitude, including veiled negativism in judgments about others, justified negativism in judgments, a tendency to unfoundedly generalize negative facts in partner relationships and observations of social reality, and negative personal experiences in communication.

Upon interpreting the experimental findings, it is noteworthy that the subjects exhibited elevated indicators of signs indicative of a negative communicative attitude. Specifically, 68% attained a total score surpassing the overall average, signifying a pronounced negative communicative attitude. This not only detrimentally impacts the communication process but also raises concerns about their psycho-emotional well-being, prompting attention from educators.

Table 3. ***Average values for diagnostics of communicative attitude***

Indicators	Mean values of negative communicative attitude					
	KG-1	EG-1	KG-2	EG-2	KG-3	EG-3
1. Veiled judgments about others	20.5	28.5	20.5	29.5	21.5	30.5
2.Open hostility in relationships with others.	2.4	1.4	2.4	1.4	2.4	1.4
3. Justified negativism in judgments about others	3	4	2	4	3	4
4. Negative _ experience communication	2.70	1.70	3.70	1.70	2.90	1.70
5. Negative communicative installation	38.8	42.8	35.8	42.9	34.8	42.8

The findings outlined in Table 3 reveal veiled negativism in judgments, conspicuously evident in 25% of the subjects. This aspect of the communicative attitude of a virtual personality predominates among its various components. Noteworthy is the indicator of open negativism in

relations with others, signifying that individuals with the highest scores on this indicator do not conceal or mitigate their negative assessments and experiences regarding the majority of others, forming sharp and unequivocal conclusions about them.

Another significant component of the communicative attitude is justified negativism in judgments about people, exhibiting objectively determined negative conclusions about specific aspects of interaction. The negative personal experience in communication with those around them, as a facet of the communicative attitude, implies that some individuals face challenges in forming friendships. The tendency to make unfounded generalizations of negative facts in partner relationships and social network observation, as a component of the communicative attitude, was less pronounced among students.

To enhance clarity, we will visually represent the acquired experimental data concerning knowledge about the communication process and the evaluation of communicative attitudes.

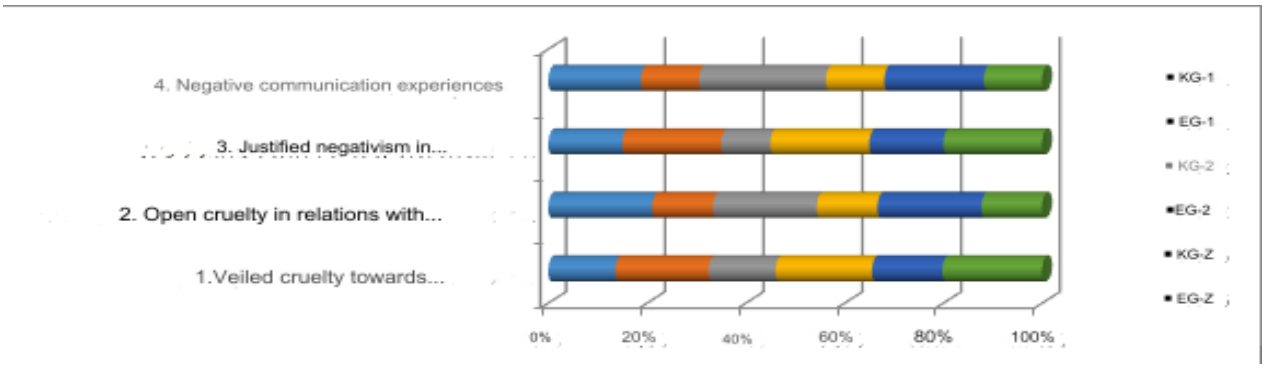

Figure 2. ***Average values of negative communicative attitude among students***

Utilizing communicative attitude diagnostic method yielded experimental results indicating a significant number of subjects with elevated levels of the negative communication component (Boyko, 2021). The outcomes of this experiment reveal that the subjects experience heightened emotional states, potentially exacerbated by inappropriate and maladaptive behavior in the digital educational environment.

In the ongoing exploration of virtual personality, particular emphasis was placed on cultivating the network communication culture (NCC) of students. To achieve this, a diagnostic examination of online communications was imperative. Students actively participated in this experiment, providing prompt and candid responses. The results were analyzed using decoders, wherein the maximum sum of "ideal answers" was established to reflect pronounced Internet communications (refer to Table 4).

Table 4. ***Indicators of manifestation of online communications of students (virtual personality)***

TO	Grade	Level of manifestation of online communications	Number of students
0.10-0.45	1	Short	87 (58%)
0.56-0.65	3	Average	43 (28%)
0.66-0.75	4	High	20 (14%)

Based on the results delineated in Table 4, the majority of subjects (58%) garnered a score of 1, signifying a low level of online communication. Additionally, it was unveiled that among active users of online communications, the most appealing coping strategy is the pursuit of social support, accounting for 14%.

The identification of these indicators was facilitated through experimental methodologies, incorporating the following tests: the personality diagnostic test for motivation for success by T. Ehlers; personality diagnostics methods for motivation to avoid failures by T. Ehlers; Mehrabian Achievement Motivation Test Questionnaire; Freiburg Multifactor Personality

Questionnaire; and the personality self-actualization questionnaire SAMOAL.

Table 5 presents the obtained results delineating the motivational orientation of students across all studied indicators in the entire sample.

Table 5. ***Differences in motivational orientation among 1st-4th year students***

Variables	Student Research Sample				Criterion H
	1	2	3	4	
Achievement motivation	164	158	165	159	0.000
Time orientation	13.42	9.11	12.96	7.09	0.000
Values	13.29	8.93	12.40	6.77	0.000
Need for cognition	13.58	7.78	14.02	5.74	0.000
Creativity	13.81	8.44	14.20	5.59	0.000
Autonomy	13.67	8.86	14.44	7.78	0.000
Spontaneity	13.36	8.28	14.61	7.65	0.000
Self-understanding	13.79	8.01	15.61	5.92	0.000
Autosympathy	14.28	8.75	15.42	6.34	0.000
Contact	14.88	9.06	13.95	7.35	0.000
Flexibility in communication	13.62	8.15	14.11	6.12	0.000
Motives for maintenance	13.62	8.15	14.11	6.12	0.000
Sociability	7.00	8.14	6.60	5.78	0.000
Openness	9.67	9.56	9.83	9.57	0.000
Emotional lability	7.44	4.86	8.44	9.24	0.000

H - The Kruskal-Wallace test provides an overall perspective on the differences without uncovering the specific quantitative distinctions between them. To identify these distinctions, pairwise comparisons of these clusters based on the studied indicators become necessary.

Summarizing the data illustrated in Table 6, it can be inferred that 1st and 2nd-year students exhibited average values for the studied indicators that were higher than those observed in 3rd and 4th-year students.

Discussion. In the context of this study, the methodological framework for examining socio-pedagogical stratification, aimed at establishing a correlation between indicators of network communicative culture and behavioral patterns of Kazakhstani students, is centered on exploration of the relationship between Internet communications and the social behavior of young people (Samsonova, 2021).

It is noteworthy that the overall stance of teachers regarding social level stratification is characterized by ambiguity. For instance, advocate for the need to "decompensate" the influence of social stratification within virtual organizational practices, emphasizing the elimination of attributes of social inequality from educational approaches (Zhuravlev & Zankovskij, 2017). Theorists, including actively work toward rationalizing the situation. Achieving harmony between education and socialization is identified as both a scientific challenge and a crucial practical objective (Zekeryaev, 2019).

In her dissertation research titled "The Relationship between Internet Communications and Social Behavior of Young People," uncovered that "… among young individuals integrated into the realm of Internet communications, social desirability manifests itself in tolerance for diverse views and opinions, the capacity to understand different perspectives, and respect for various tastes, customs, and habits." Users who prioritize communication highly emphasize values such as a sense of humor, tolerance for differing opinions, the ability to forgive others for their mistakes, caring, and sensitivity (Samsonova, 2021). According to the author, social facilitation is linked with:

Intolerance towards critical (negative)

assessments from opponents directed at oneself and, conversely, encouragement of criticism towards opponents.

The pursuit of publicity, requiring productive self-work or on any subjects or objects, which is expressed in instrumental values such as "efficiency in business."

In our study, we postulated the relevance of exploring social stratification to comprehend the nuanced interplay among communication activity, network communication culture, and the behavioral inclinations of present-day students. Noteworthy findings from research underscored that students who actively maintained Facebook and Twitter accounts displayed markedly heightened interest in the social facets of communication settings, in contrast to those with minimal or no online presence (Greenwood, 2008). This evidently indicates a pronounced need for social relationships through communication among actively engaged young individuals.

Conclusion. The study results have been presented, elucidating the concepts of "virtual personality," "virtual image of personality," and "virtual identity." The devised experimental research algorithm enabled us to: establish the defining features of social networks, highlight the predominant role of the "on-line community" in individual socialization, and uncover its tangible impact on the value orientations of contemporary students.

The correlation between the utilization of Internet communications and the intensity of certain behavioral traits among the younger generation has been identified, including demonstrative behavior, social desirability, and the significance attached to communication (the pursuit of social support).

In summary, the analysis of the problem has allowed for the formulation of a model portraying the social behavior of young individuals actively engaged in online communications. For users with a high level of online activity, seeking social support emerges as the most appealing coping strategy; those with a medium level tend to employ positive reappraisal, while individuals with a low level opt for problem-solving planning.

The development of a virtual personality portrait within the "on-line community" unveils a novel avenue for fundamental psychological and pedagogical research on personality in this emerging reality.

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CURRENT PROBLEMS OF INCLUSIVE AND SPECIAL EDUCATION

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SITUATIONAL ANALYSIS OF INTERSECTORAL CARE FOR CHILDREN WITH AUTISM SPECTRUM DISORDER

Abstract

This article presents a situational analysis of intersectoral care for children with Autism Spectrum Disorder (ASD) in Kazakhstan. The study analyzed legal documents from the healthcare, education, and social service sectors spanning 2017 to 2023. It focuses on recent developments in providing comprehensive care for children with ASD, examining approaches, challenges in implementing these regulations, and assessing potential benefits for patients. The results were deliberated by the project team, which includes parents of children with ASD and specialists from the inclusive services field. The research found that recent legal changes have shifted from a medical to a socio-pedagogical model, concentrating on creating conditions for the development of children with special educational needs. Notable initiatives and improvements in health regulations concerning ASD have been observed. The analysis also identified some challenges and opportunities for enhancing the intersectoral care system for children with ASD in Kazakhstan.

Keywords: ASD, education, inclusive, preventive health care, social assistance.

Introduction. Autism Spectrum Disorder (ASD) is a group of different conditions caused by a neurological developmental disorder (Chiarotti et al., 2020). This disease in children leads to a persistent lack of communication and support for social interaction with others. In addition, the child may exhibit limited interest and repetitive behavior (Lord et al., 2018). Over the last decade, there has been an a noticeable rise in the prevalence of ASD in all countries. In a systematic review and meta-analysis, the authors determined the global prevalence of ASD to be 0.6% (Salari et al., 2022), aligning closely with the World Health Organization data, which estimated 0.76%, and it was determined to represent approximately 16% of the world's child population (Baxter et al., 2015).

However, in subgroup analysis, the largest numbers were in Australia (1.7%), the Americas, and Africa by 1.0%, Europe (0.5%) and Asia (0.4%) (Salari et al., 2022). In America, ASD prevalence data vary between The Centers for Disease Control and Prevention, which found 1.68%, and parent-reported data at 2.5% (Kogan et al., 2018). Men are most commonly affected compared to women, where the mean ratio is 4.2, and mental retardation was a common comorbid condition at 33.0% (Zeidan et al., 2022).

Management of care for children with ASD is provided by primary health care professionals who regularly assess and monitor health status. In addition, help from social services is important (Ip et al., 2019). Frequently, children diagnosed with Autism Spectrum Disorder (ASD) require personalized intervention, encompassing the formulation of specialized educational programs. These programs may include components such as speech-language therapy, occupational therapy, and other tailored approaches (Ontario Association for Behaviour Analysis, 2017; Charman et al., 2014). Proper multidisciplinary care approaches have the potential to enhance the well-being of individuals with ASD and their caregivers or parents (Frye et al., 2022).

The objective of our study is to conduct the regulatory documents analysis related to the care of children with ASD from three ministries of Kazakhstan.

Materials and Methods. We conducted an analysis of legal documents spanning the healthcare, education, and social service sectors in the Republic of Kazakhstan from 2017 to 2023. The focus of the document analysis was on recent developments in providing comprehensive care for children with Autism Spectrum Disorder (ASD), examining approaches and challenges in implementing these regulations, and assessing potential benefits for the patients.

The information examined encompassed decrees, guidelines, and the roadmap titled "Improvement of Comprehensive Assistance to Children with Disabilities in the Republic of Kazakhstan for 2021-2023." These documents were sourced from the official websites of three ministries, the legal portal "Adilet," and the National Center for Health Development, which regulates health system processes. Search keywords included combinations of terms such as "ASD, education, inclusive, preventive health care, social assistance, children, Psychological Medical and Pedagogical Consultation (PMPC), and others."

The results obtained were deliberated upon by the project team "Integrating Children with Autism Spectrum Disorder into the Social and Educational Environment Based on Comprehensive Support: Challenges and Benefits." This team comprises specialists from inclusive services and parents of children with ASD.

Results. Medical services. Childhood is one of the priority areas of the Government of the Republic of Kazakhstan (RK), consequently medical care is regulated by many legal decrees. Screening and further management of ASD sympoms are one of the recent areas where the new initiatives and improvements in health care regulations are noted. According to the hierarchy of laws, we focus on Constitution, Constitutional Laws and other regulatory documents issued by the Ministry of Health (MoH) RK. As stated by clause 27 7 of the Constitution all children are under Govermental support and clause 29 states that all children are covered by State Guarantee Benefit Package for medical health. The law of the RK dated July 11, 2002 No. 343 "On social and medical and pedagogical correctional support for children with disabilities" defines two groups of children: children at risk and children with disabilities. Children at risk are the category aged 0-3 that are having a high probability of lagging behind in physical and (or) mental development in the absence of early intervention and the provision of social and medical and pedagogical correctional assistance. Children with disabilities refer to individuals below 18 years old experiencing physical and/or mental impairments, resulting from congenital, hereditary, acquired conditions, or injury aftermath, confirmed according to specified procedures. The above-mentioned legislation outlines the following objectives for healthcare:

1) early (from birth) diagnosis of congenital and hereditary diseases, deviations from normal development;

2) prevention of retardation and disorders in the development of children, prevention of severe forms of disability;

3) reducing the level of child disability;

4) compensation or restoration of the physical, mental and other abilities of children with disabilities, the realization of their social rights, the promotion of their most complete social adaptation.

To implement the goal 1 and 2 of the MoH, screening of children for the risks of developing ASD is described in the legal act of the Minister of Health dated as of March 15, 2022 No. 25 "Standard for the organization of pediatric care in the Republic of Kazakhstan" and outlines methods to evaluate the progress of the development of autism risks in children. The TABLE attached to regulatory act #704 highlights home visits for early diagnosis of developmental risks. In total, there are 10 home-visits that could be possible ways to evaluate the risk of ASD symptoms in children.

The Pediatric Standard also defines the M-CHART tool as one of the screening tools for use at the outpatient level (Attached to this document). This is a tool used by health practitioners in the form of asking questions to parents/ caregivers and identifying the risk of ASD. The M-Chart tool was approved by MoH only in 2022 and included in clinical protocols as a tool to use by the nurse at primary care level.

In the Decree 704 "On Approval of the Rules for Organizing Screening", visits to children to

assess the neuro- psychological development of children aged 0 -5 years. It also defines the tool that is called as Scale for neuro-psychological development and includes such domains as Sensitive area and speech and Social sphere. Both domains contain questions according to the age, whereas the assessment of neuro-psychological development should be done once in two months until age 1. Consequently, there are several opportunities at the primary care level to identify the risk of ASD that would be a proper base for early interventions.

Once a child is diagnosed with ASD, the primary care nurse or the nurse of the Child development room recommends to undergo the Psychological medical and pedagogical consultation to identify the educational needs of a child. PMPC is a structure that belongs to the Ministry of The process of the Psychological medical and pedagogical consultation is described at the chapter below. The data later are gathered from PMPC and the local health department goes to the Republican health institutes and MoH.

Early intervention services concerning primary care rehabilitation are available at centers where a multidisciplinary team, comprising psychologists, defectologists (speech pathologists, and rehabilitation specialists), administers care. This process is regulated by the legal act "On approval of the Rules for the provision of medical rehabilitation" dated October 7, 2020 of the Ministry of Health. The rehabilitation of ASD is coded as F. 84, including subcodes (codes).

The most recent changes in clinical practice guidelines in the world are also reflected in Kazakhstani clinical protocols and the status of clinical protocols shifted from jurisdictional to recommendation character. The clinical protocols on "Childhood Autism ‘', "Asperger's Syndrome", "Atypical Autism", "Hyperactive Disorder" are developed in 2021 by the Republican Center for Psychological health.

Educational services: In recent years, awareness and understanding of the challenges associated with autism have increased in Kazakhstan, leading to more comprehensive support for children with Autism Spectrum Disorder (ASD) and their families in the realm of education. During the study period of 2017-2023, positive changes have been observed in the policy of inclusive education. The education of children with ASD is considered within the context of inclusive education.

The law "On Education," dated July 27, 2007, No. 319-III, underwent changes during the period 2017-2023, which included the formulation of the concept of inclusive education. Notably, for the first time, subparagraphs addressing psychological and pedagogical support and the assessment of special educational needs (SEN) were incorporated (refer to Table 1).

Table 1. ***Amendments to the Law of the Republic of Kazakhstan "On Education" dated June 26, 2021***

The specific clause, article of law	The early version of the Law of the Republic of Kazakhstan «On Education»	The corresponding amendments to the Law of the Republic of Kazakhstan «On Education» dated June 26, 2021
Paragraph 11, Article 5	Previously, there were no subparagraphs given in the amendments	Supplemented with the following subparagraphs 11-3) develop and approve rules of psychological and pedagogical support in educational institutions; 11-4) develop and approve rules for assessing special educational needs;
Paragraph 1, Article 31	1. Children attaining the age of six are eligible for enrollment into the 1st grade	1. Children from the age of six are admitted to study in the 1st grade. For children with disabilities, admission to educational organizations for receiving secondary education is permitted between the ages of six and ten. The education of children with disabilities is conducted with due consideration to the assessment of their special educational needs. Concurrently, the duration of acquiring primary and basic secondary education through educational programs is mandated to be a minimum of ten years.

According to Article 49 of the Law on Education, the right to choose the educational institution lies exclusively with the parents or legal representatives of the child. When applying to a kindergarten or general education school for children with Special Educational Needs (SEN), there is no requirement for the conclusion of the PMPC. However, if a parent opts for a special kindergarten or school, the decision of the PMPC is necessary before admission.

In the Law of the Republic of Kazakhstan dated July 11, 2002, No. 343, titled 'On Social and Medical and Pedagogical Correctional Support for Children with Disabilities,' changes were made during the study period concerning the functioning of the PMPC (refer to Table 2).

As evident from the table, the primary role of the PMPC is now to assess the Special Educational Needs (SEN) of children with disabilities. Prior to 2021, children with disabilities were directed to schools based on a medical diagnosis, and they had to adapt to general education programs. Following the changes outlined in Table 2, the PMPC's activities now take on a socio-pedagogical character. This signifies a shift from a medical model to a socio-pedagogical one, where SEN assessment is conducted to create conducive conditions for a child's development at school.

For instance, whereas previous PMPC conclusions specified a medical diagnosis such as childhood autism or ASD, today, socio-pedagogical classification of children with SEN is employed (refer to paragraph 133, chapter 3, paragraph 8 of the Order of the Minister of Education of the Republic of Kazakhstan dated August 31, 2022, No. 385, titled 'Model Rules for the Activities of Organizations of Preschool, Primary, Basic Secondary, General Secondary, Technical and Vocational, Post-Secondary Education, Specialized, Special, Educational Organizations for Orphans and Children Left Without Parental Care, Organizations of Additional Education for Children and Adults'). For example, it might be expressed as difficulties or impairments in communication and social interaction or a lack of independent mobility, necessitating individual care. This more accessible terminology aids teachers in educational organizations, as highlighted in an interview with the director of PMPC in the Karaganda region. This shift aims to facilitate the creation of conditions tailored to the child's characteristics and the adaptation of the curriculum to meet their needs.

Table 2. ***Amendments to the Law of the Republic of Kazakhstan dated July 11, 2002, N 343 "On social and medical and pedagogical correctional support for children with disabilities"***

The specific clause, article of law	Early revision until 2021	The corresponding amendments in the law of 06/26/2021
Article 10. Psychological-medical-pedagogical consultations	Psychological, medical, and pedagogical consultations function as state institutions responsible for diagnosing and conducting psychological, medical, and pedagogical assessments for children with disabilities. Their purpose is to identify criteria for social, medical, and pedagogical corrective support, ascertain the appropriate type and format of education, and formulate individual rehabilitation programs.	A Psychological-Medical-Pedagogical Consultation is an educational institution responsible for conducting examinations and providing counseling for children. It assesses special educational needs, identifies suitable conditions for education, determines educational programs, and directs specialized psychological and pedagogical support for children with disabilities.

According to subparagraph 11-4) of Article 5 of the Law of the Republic of Kazakhstan 'On Education,' the 'Rules for Assessing Special Educational Needs' were initially approved by order of the Minister of Education and Science on January 12, 2022 (No. 4). As per these rules,

children with Autism Spectrum Disorder (ASD) are categorized within the first group of children with Special Educational Needs (SEN). The basis for addressing the identified SEN in children of the first group relies on the conclusions and recommendations of the PMPC, the decision of the psychological and pedagogical support service, and/or the pedagogical council of the educational organization (Rules for Assessing Special Educational Needs, 2023).

If a child enters an educational organization without a recommendation or conclusion from the PMPC, the responsibility of the organization is to identify the SEN of the child and develop an individual program for their education. This process involves the participation of psychological and pedagogical support and/or the pedagogical council of the organization. Consequently, the 'Rules for Psychological and Pedagogical Support in Educational Organizations' were initially approved by the Minister of Education and Science on January 12, 2022 (No. 6), following subparagraph 11-3) of Article 5 of the Law 'On Education.' As outlined in the rules, psychological and pedagogical support encompasses the identification and assessment of the special educational needs of individuals (children) with SEN (Rules for Psychological and Pedagogical Support in Educational Organizations, 2023).

The National Scientific and Practical Center for the Development of Special and Inclusive Education (NSPC DSIE) under the Ministry of Education of the Republic of Kazakhstan oversees the methodological guidance of regional and city PMPCs (paragraph 93, chapter 3, paragraph 8 of the Order of the Minister of Education dated August 31, 2022, No. [reference]). The conditions and methods for the psychological and pedagogical examination of a child with autism are outlined in paragraphs 131 and 132. Chapters 4 and 5 detail the procedures for the activities of psychological and pedagogical correction offices and rehabilitation centers, respectively. Chapter 6 focuses on the operations of the Center for Support of Children with Autism Spectrum Disorders (ASD). These measures signify positive strides towards inclusive education and reflect a comprehensive and compassionate approach to children with ASD.

Social services. The similar process of analysis of legal acts of the law portal "Adilet" was conducted for regulatory documents in the social support area. The social support system in Kazakhstan is covering the children with disabilities with a state package of social support. This package includes financial, legal and other special social services. Autism has been recognized as a disease for social support quite recently and is regulated by the regulatory document #44 "On approval of the Rules for conducting medical and social expertise" dated as January 30, 2015. Once the child is registered with the status of a child with disability, the local authorities of medical-social expertise assign different status of disability according to the disease severity and categorize it to 3 groups. The recent changes in the categories as a child with disability from the birth has been changed to the category called "child with disability until age 7" and then prolongs with child with disabilities for the particular term. One of the recent changes in law is the changing the status of a parent/caregiver for a child with a disability of group 1 and providing them with work experience for the period of caring for a child. This experience enables people caring for a child with a disability of group 1, the right to appropriate retirement. Alongside financial aid, the Government covers children with disabilities with free special social services, where different types of care is provided. Children with disabilities can take day-care services with multidisciplinary team support, which in cases in children with ASD includes psychologists, speech pathologies, caregivers and other educational support team members. Visiting day-care centers does not influence the parents in terms of governmental financial aid.

Discussion. The analysis carried out by Michelle Somerton co-authors showed that in Kazakhstan there is a variability in the approaches of different specialists (psychiatrists, child neurologists, general practitioners and others) in understanding autism, which is often based on subjective indicators, and often excluding the latest scientific evidence (Somerton et al, 2022). This fact may be a barrier to the provision of quality, evidence-based care, which indicates the need for training among medical professionals.

The regulatory documents do not sufficiently define the role of assistance to parents, in particular, psychological support. Parents or caregivers of ASD children in Kazakhstan had

high levels of stress and depression (Alibekova et al., 2022).

There significant developments are occurring within the implementation activities of a roadmap titled "Improvement of Comprehensive Assistance to Children with Disabilities in the Republic of Kazakhstan for 2021-2023". The roadmap is being led by Aruzhan Sain, who holds the position of children's ombudsman. The mention of "On approval of the Roadmap for improving the provision of comprehensive assistance to children with disabilities in the Republic of Kazakhstan for 2021-2023" suggests that this initiative has undergone an approval process. The roadmap encompasses four key chapters focused on comprehensive initiatives, including preventive measures, early interventions, enhancements to rehabilitation services, improvements in accounting systems, and the provision of special technical means and medical products. The primary objective of this roadmap is to bolster collaboration across health, education, and social support systems, fostering a multisectoral approach. The First President Foundation "Kamkorlyk" is instrumental in this initiative, establishing care centers within the health sector that offer a 21-day rehabilitation program for children with disabilities. This endeavor is expanding into the realm of social support, with the establishment of centers providing specialized services for children with disabilities, including those diagnosed with Autism Spectrum Disorder (ASD). The duration of stay at "Kamkorlyk" Centers offering special social services ranges from 6 to 12 months, involving a multidisciplinary team of diverse specialists. Despite concerted efforts from various stakeholders, early interventions face challenges due to legislative gaps in identifying children with ASD. Future initiatives should prioritize providing guidance for parental support from primary health care professionals to facilitate the timely identification of parents requiring assistance. In summary, the roadmap is designed to address multifaceted aspects of care for children with disabilities, with notable contributions from the "Kamkorlyk" Foundation, and highlights the need for targeted efforts in early intervention and parental support.

Despite significant changes in the practice of providing care to children with ASD, our opinion is consistent with the need for further improvement in strengthening the system of professional care for children with autism (An et al., 2020) as well as given the situation as a COVID 19 pandemy (Amirova et al., 2022).

Despite significant coverage in the educational area, some pitfalls are important to note:

1. Even though the PMPC centers cover the entire territory of the Republic (a total of 92 institutions, on the website of the NSPC DSIE), however, even in the city of Almaty, there is a shortage of PMPC specialists and one specialist has a very large load, due to as a result, specialists cannot devote sufficient time to counseling each child.

2. Children at risk are screened en masse, and the healthcare organization sends information to the territorial PMPC. This can be shown through the interview with the director of PMPC in Karaganda region, the bridge between the two subordinate organizations is poorly established and information from the polyclinic is often not sent to the PMPC. Because of this, there is no timely intervention in child development.

3. If a parent (legal representative) brought a child with SEN to a kindergarten or a general education school, then the organization does not have the right to refuse admission. The absence of a PMPC conclusion is not grounds for refusal. The conclusion of the PMPC for parents (legal representatives) is advisory in nature, and for the organization of education, it is mandatory.

Conclusion. In conclusion, our analysis of legal documents pertaining to comprehensive care for children with Autism Spectrum Disorder (ASD) in the Republic of Kazakhstan has illuminated both strides forward and areas warranting improvement. While commendable efforts have been made to enhance the system of professional care for children with ASD, challenges persist in the healthcare sector. Notably, there exists a lack of standardized approaches among medical professionals, coupled with insufficient emphasis on providing psychological support for parents.

Within the education sector, despite the presence of PMPC centers across the entire territory of the Republic, challenges such as shortages of specialists and inadequate communication between organizations persist, leading to delayed interventions in child development. Addressing these issues necessitates further guidance and training for

healthcare, social, and education professionals. Additionally, an increased focus on psychological support for parents is imperative to foster a more holistic and supportive environment for children with ASD.

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THE USE OF A DIGITAL PLATFORM FOR THE DEVELOPMENT OF AN INCLUSIVE EDUCATIONAL ENVIRONMENT

Abstract

The article reviews with the issues of digitalization of inclusive educational environment, improvement of inclusive educational practices, development of digital platforms for children with special educational needs. To article aim: to analyze the current state, existing global practices, foreign and Kazakhstani digital resources and concluded that digital platforms are convenient to use, provide inexpensive access to technologies, and have a set of tools for inclusive online education and others. The experience of different countries can be used to create a custom flexible model, but it is necessary to develop its own digital platform for teachers and support specialists, students and the parent community. The article presents various approaches to the development of E-inclusion and specific objectives for its implementation are identified. The digital platform being developed opens up wide opportunities for the development of inclusive education in the Republic of Kazakhstan.

Keywords: inclusive educational environment; digital platform; online learning; inclusive educational practices; children with special educational needs.

Introduction. Since the beginning of the 21st century in many developed countries of the world the leading trend in the education of children with "special needs" is their inclusion into the general educational space. Children integrated into a mainstream education are provided with additional academic accommodations, assistance and support to facilitate learning. Digital platforms to improve inclusive educational practices are the most sought-after, effective and informative resource (Sharipov A., 2021).

The report on the status of children in the Republic of Kazakhstan as at January 01, 2022 states that for 4 years the country has been registering an increase in the number of children with special educational needs caused by disorders of psychophysical development up to 18 years of age. For example, the increase from 2017 to 2020 is 4.6%. At the same time, the number of children with special educational needs involved in an inclusive environment does not exceed 50%. For example, in 2017, the engagement of children with s[ecial educational needs was 33.6%, in 2018 it was 42.4%, in 2019 it was 36%, and in 2020 it was 38.7% (Report on the Status of Children, 2021).

The current circumstances require the development of effective ways, forms and technologies to improve the competence of teachers and the informatization of the parental community in the field of inclusive education.

Main part. In the European Union's Glossary of Digital Economy and Society, E-inclusion refers to a situation where low-cost access to technology, the availability and usability of information technology, and the ability and skills of all people to use digital tools in learning are required (Glossary: E-inclusion. Eurostat: Statistics Explained).

The VU University Amsterdam (Vrije Universiteit) has an E-inclusion project, funded with the support of the European Commission, designed to build capacity for inclusive education in a digital environment. The authors have created a website "einclusion.net", design a set of tools for developing inclusive online education (inclusive education handbook, learning micro-modules, online digital inclusion course, awareness raising tool) (Marieke Slootman et al., 2022).

Scottish Sociologist and Cultural Studies Scholar, Caroline Y. Robertson-von Trotha, reviewing European studies, presents various definitions of e-inclusion, issues of e-inclusiveness (accessibility) of digital opportunities, overcoming the digital, cultural and socio-economic gaps, and the knowledge gaps due to rapid growth. Therefore, the

overabundance of information, knowledge and innovation becomes the dilemma of modernity (Caroline Y. Robertson-von Trotha, 2017).

Apparently, each country implements its own models of e-inclusion, which evidences the impossibility of creating universal integrative models and simple calquing of foreign experience.

Wherefore, the development and implementation of the digital platform, "E-inclusion.kz", is intended for teachers of general education schools of Kazakhstan, support specialists (special educators, psychologists, social pedagogues, teaching assistants), methodologists, students of pedagogical majors, parental community.

Research materials and methods. Based on the analysis of sources and data, the authors attempted to identify the main approaches in the development of "E-inclusion.kz".

The system approach shall allow to consider the development of "E-inclusion.kz" from the point of view of unity of theory and practice, expand the understanding of the sought phenomenon of "inclusive educational practice", "e-inclusion" and provide an opportunity to define the model of the digital platform based on the principles of flexibility and adaptability, multi-profile, practice-orientation. Comprehensive approach - implies legal, informational, methodological, consultative support for those on whom the full implementation of inclusive education depends: classroom teacher, special educator, psychologist, social pedagogue, teaching assistant, parents. An interdisciplinary approach will establish the interrelationships and mutual influence between the socio-psychological, legal and methodological aspects of inclusive education. The information approach shall allow searching, exchange, processing and interpretation of information on inclusive education in Kazakhstan and the world through the "E-inclusion.kz" digital platform (Galaguzov M.A., 2020).

Based on an analysis of current sources, in the opinion of the authors, for the development of the digital platform "E-inclusion.kz" it is advisable:

- carrying out scientific and theoretical analysis of modern Kazakhstani and foreign sources on the subject of studying the phenomenon of "inclusive education", "inclusive educational environment", "inclusive educational practice", "children with special educational needs", "digital environment", "e-inclusion" in the context of regulatory-legal, psychological, methodological, informational and social aspects, for which purpose the essential characteristic of the basic concepts of the study of "inclusive educational practice", "e-inclusion", "children with special educational needs", "digital environment", "digital platform" shall be clarified and supplemented;

- identifying the informational opportunities and risks of using digital resources to build capacity for inclusive practices, where the opportunities and risks of promoting inclusive practices and culture shall be identified and substantiated through analysis of the body of existing data from the digital environment; focus group questionnaires and interviews shall be undertaken;

- scientific and theoretical substantiation of the structural and content model of "E-inclusion.kz" on the basis of scientific analysis of functions, criteria, principles of work and content filling;

- creating content components of "E-inclusion.kz" based on the results of the conducted research - massive educational online courses (MEOCs) for students and teachers on inclusion and support of children with special educational needs in the general education environment (MEOC cycle: "Inclusion of Children with Special Educational Needs in the Mainstream Educational Setting", "Psychological and Pedagogical Support for Children with Autism", "Teaching Children with Visual Impairments in the Mainstream School", "Teaching Children with Hearing Impairments in the Mainstream School", "Teaching Children with Intellectual Disabilities in the Mainstream School", etc.);

- creating a "School for Parents" with the purpose of their informational, legal, methodological, psychological and pedagogical support, creating video clips for parents of children with special educational needs describing the processes of algorithmized support for children with special educational needs in various circumstances;

- creating, piloting and testing the "E-inclusion.kz" digital platform to build capacity for inclusive education in the digital environment and support all actors implementing inclusive educational practices;

- developing and testing professional development courses to prepare teachers to work

in an inclusive educational environment based on systemic and interdisciplinary approaches to their development ("Pedagogical Technologies of Inclusive Education", "Digital Tools of Inclusive Education", etc.);

- generalization of the findings of the scientific research for the purpose of wide coverage in the scientific and professional community, control questionnaire and interviewing on the results of approbation of the digital platform, development of proposals.

Results and discussion. Scientific novelty of the research consists in the scientific and theoretical substantiation and development of the "E-inclusion.kz" digital platform for the improvement of inclusive educational practice of general education schoolteachers, support specialists (special educator, psychologist, social pedagogue, and assistant educator), methodologists, and parents.

Scientific research on the issue demonstrates that the ideas of wider implementation of digital platforms in inclusive education have been accumulating in the global educational space for a number of years already:

- in the contemporary world, the "e-inclusion" term describes the extent to which people have access to information technology and is believed to be intended to reduce the gap (digital divide) between developed and less developed countries in a broad sense or to empower disadvantaged people such as the poor, the disabled, the unemployed, etc. Thus, more and more companies are now producing computer hardware with e-enablement programs (Harnessing diversity, 2021);

- in the USA, there are long-standing studies of inclusive education practices, the authors of which have concluded that additional teacher training is required to improve their effectiveness. More than 32 qualitative studies are described in the corresponding handbook (Jared Keengwe, 2020);

- Chris Abbott, based on a review of English academics' research from 1970-2007 on inclusive education, also suggests his own approaches to training, assisting the learning of people with special educational needs using digital technologies, which are to create inclusive learning communities (Chris Abbott, 2007);

- in order to improve the understanding of the social challenge of the digital gap, researchers from Florida State University (USA) and Nankai University (China) conducted a study and suggested an integrated model of the digital divide and an integrative framework for measuring its causes (Yu, B., 2018);

- according to a University of Genoa study undertaken during the Covid-19 pandemic in Italian schools, an effective e-inclusion depends on technology, collaboration between teachers and families, and online learning strategies. In small groups and individually, the teachers used asynchronous and synchronous interactive ways of teaching, and the move to a virtual school revealed inequalities in access to digital resources. Thus, electronic integration shall be viewed as the ability of teachers to increase student engagement with special educational needs and to enhance their instructional processes through the incorporation of multiple devices and applications (Davide Parmigiani et al., 2021);

- the UN Economic and Social Commission for Western Asia website presents the Arab Digital Inclusion Platform (ADIP), which provides information on disability and e-accessibility in Arabic-speaking countries. The platform supports the implementation of the UN Convention on the Rights of Persons with Disabilities, the UN Strategy for the Inclusion of Persons with Disabilities, and other mandates (Facilitating digital inclusion);

- the International Telecommunication Union website features UNESCO projects for people with disabilities in Nepal, Latin America, the Philippines, Palestine, the European e-TEN program, the Accelerating Access to ICTs in Africa (CATIA) program, the Federal Government of Nigeria's NRTP National Rural Telephone Program, the Joseph Wresinski Training Center project in Peru, the Hungarian Government's program to provide Internet access to low-income households at reduced prices, the project to build basic telecommunications infrastructure in rural Laos, the Asian Broadband Program and many others (E-inclusion);

- Marion Hersh in her report draws attention to the untapped potential of technology in inclusive education due to insufficient numbers of trained teachers, lack of expertise and available technology. 2020, UNESCO (Marion Hersh et al., 2020);

- "Inclusive Kazakhstan" project of the Eurasia Foundation of Central Asia Kazakhstan (2019-2021) aimed to protect and ensure the rights of persons with disabilities to free movement and equal access to facilities and services in Kazakhstan in accordance with international standards. The created "Inclusive Kazakhstan" portal offers information and services in 17 cities (Inclusive Kazakhstan: Project). It should be noted that this portal is not non-educational and is more focused on providing services to the public;

- in 2021, an international online conference "Modern Technologies in Inclusive Education" was held in Abai Kazakh National Pedagogical University with the participation of Kazakhstani and foreign professionals in the field of inclusion, psychology, library specialists, representatives of companies developing adapted technologies, publishers and developers of information resources. The conference addressed the issues of sharing best practices in the field of inclusion, creating an inclusive environment in the library space, the use of adapted special technological devices and information resources in the educational process (Modern technologies in inclusive education, 2021);

- a research among teachers of general education schools of Almaty was conducted at Narkhoz University (Almaty city), which revealed the attitude of teachers to the process of inclusive education. The findings revealed neutral and even negative attitudes in general towards the process of inclusion of children with special educational needs in the mainstream educational setting. Moreover, that teachers are more interested in the didactic and social factors of the inclusive education process (Yusupova D.Sh. et al., 2021);

- UN Special Rapporteur on Education in Kazakhstan, Kishore Singh, notes the need to strengthen the inclusive education system, to ensure good working conditions for teachers and to improve their qualifications (United Nations Expert);

- Maulsharif M., Nurbekova Zh., Naimanova D. in their research made a comparative analysis of the regulatory framework of countries in Europe, America, Asia, Australia and came to the conclusion that in all countries there are still obstacles to the transition to an inclusive school environment. Specialized professional and psychological training of teachers, including internships, may become a prerequisite for overcoming them (Mira Maulsharif et al., 2022);

- the National Scientific and Practical Centre for the Development of Special and Inclusive Education (NSPC DSIE) carries out information and analytical work in the system of special and inclusive education, as well as training and methodological support to special education organizations (NSPC DSIE, 2021).

The above studies have developed a shared vision of e-inclusion as an essential foundation of the information society, providing ubiquitous and affordable access to it. However, to date, has not found practical implementation in our country.

The suggested "E-inclusion.kz" digital platorm offers a wide range of opportunities for informing, legal, methodological support of inclusive education in the Republic of Kazakhstan.

The significance of the project outcomes lies in the scientific and theoretical substantiation and development of the structural and content model, "E-inclusion.kz", focused on the national system, regulatory and legal framework and educational experience of Kazakhstan.

The "E-inclusion.kz" digital platform shall be developed and implemented to build capacity for inclusive education in the digital environment, support research and improve Kazakhstani inclusive educational practices with further commercialization.

The research findings (questionnaire and focus group interviewing outcomes; design and creation of a digital platform, including the development of content to support parents of children with special educational needs, updating of complex diagnostic tools, development of massive online educational courses on inclusion of children with special educational needs in the mainstream educational setting) shall be implemented in the practice of educational organizations for the purpose of timely methodological, informational and legal support.

In addition, the findings of the research will significantly increase the research competencies of students and young researchers, current support professionals and school teachers in the field and contribute to the international practice on psycho-pedagogical support for persons with special educational needs.

The principal difference of the research from the previous ones is that, despite earlier attempts to create and scale Internet resources of inclusive education in Kazakhstan, they have not found widespread practical application.

Thus, at the round table, "Society and Business: Presentation of Social Projects" the project of public organization, "Inclusion.kz", under the supervision of Dauren Alkanov was presented. However, no information can be found in the public domain at this time (Round table, 2022). The "Inclusive Education" online course developed by the "School for All" Public Educational Foundation with the support of the Soros Foundation-Kazakhstan is limited to open lectures (School for All, 2021). The materials posted on the website of NSPC DSIE are limited to the results of its own researches on the collection and analysis of information on the system of special and inclusive education and on training and methodological support of special education organizations (Scientific and Methodological Department, 2021).

Expected outcomes of the research:

- creation of the E-inclusion.kz digital educational platform on the basis of systemic, complex, interdisciplinary approaches for the purpose of navigating legal, personnel, and educational resources in the field of inclusive education in the Republic of Kazakhstan. It includes a repository, massive online educational courses, videos with algorithmic processes for supporting children with special educational needs, and more.

- ensuring algorithmic resource, information and methodological support for support professionals, teachers, methodologists and parents;

- utilizing an information approach to improve existing inclusive educational practices, which shall serve as a meaningful, informative and analytical resource for inclusive education.

The above-mentioned fundamental differences of the stated project shall undoubtedly cause a social and economic effect and allow to increase the degree of inclusion of the pedagogical and parental community in the development of inclusive education. The following requirements are necessary for its achievement:

- a team of researchers, academic experts from various fields of science and practice;

- expanded list of research and implementation bases through the conclusion of memorandums of cooperation within the framework of the project (general education schools in Almaty, Astana, implementing inclusive education); higher educational institutions of the Republic of Kazakhstan providing training in pedagogical qualifications; "Rostok" Kazakhstani Association of Specialists of Applied Behavior Analysis" Institution; "Center for Social Inclusive Programs" Public Foundation; "Omir Family Education Center for Psychological Assistance to Families" Public Association, "Azamat Auleti" Public Foundation, "Ashyk Yalem" Public Foundation).

- approbation and testing of the "E-inclusion.kz" platform on the basis of the above-mentioned educational and public organizations.

The findings of the research shall have an impact on the scientific and technical (including personnel) potential of teachers of general education schools, students and faculty of higher education institutions of social, psychological, pedagogical, humanitarian and IT fields of study. The developed platform shall significantly increase the level of competitiveness of scientists, scientific organizations and their teams in the field of conducting and interpreting new information and information and communication technologies in the humanities and educational sphere.

Conclusion. Thus, the research has shown that in the educational practice of inclusive education teachers the application of digital resources and platforms provides accessibility of education for children with special educational needs. Usability, digital inclusion, different approaches, unity of theory and practice makes for an effective digital platform model. Clarifying and complementing basic concepts of inclusive education, identifying opportunities and risks in the use of digital resources, creating educational content, testing the digital platform and publicizing it widely contributes to building the capacity of digital inclusive educational environments and providing specific recommendations for their development.

The practical relevance of recommendations is:

- the development of a digital educational platform, "E-inclusion.kz", to support all participants working in an inclusive educational environment with further commercialization;

- analyzing the available diagnostic tools for inclusion in "E-inclusion.kz" of the most available test diagnostic methods to assist parents and specialists;

- the development of a series of video courses for students and teachers, "Inclusion of Children with Special Educational Needs in the Mainstream Educational Setting", "Psychological and Pedagogical Support for Children with Autism", "Teaching Children with Visual Impairments in the Mainstream School", "Teaching Children with Hearing Impairments in the Mainstream School", "Teaching Children with Intellectual Disabilities in the Mainstream School";

- the development of content "School for Parents" for their resource, legal, methodological support;

- the development and testing of a professional development course to prepare teachers to work in an inclusive educational environment.

The social and economic effect of the project is to provide algorithmic resource, information and methodological guidance to support specialists, teachers, methodologists and parents. Moreover, it shall increase the degree of inclusion of the teaching and parental community in the development of inclusive education.

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SPEECH FORMATION OF CHILDREN WITH AUTISM USING ABA THERAPY IN AN EDUCATIONAL PROCESS

Abstract

The number of children with autism spectrum disorders is growing every day. However, recently Applied Behavioral Analysis (ABA therapy) has been widely used to correct this disorder. A number of early intervention models based on ABA principles are a curriculum for teaching children with autism spectrum disorders. One of them is a model of Verbal Behavior analysis of B. F. Skinner, developing speech in ASD children. The VB approach is based on ABA research. This approach increases the child's ability to learn a functional language. This method allows children with ASD and related disorders to form and develop spoken language, focusing not only on how they speak, but also on the purpose for which the child uses speech. This article attempts a theoretical analysis and description of the use of Verbal behavior based on ABA in the development of speech in a child with ASD.

Keywords: autism spectrum disorder, ABA therapy, Verbal behavior, B.F. Skinner, operant activities.

Introduction. Autism spectrum disorder is a common developmental disorder that occurs in early childhood. The American Psychiatric Association has described autism with three main disorders: (1) difficulty communicating with other people, these strange and repetitive speech (stereotypic speech) patterns, (2) a significantly lower level of speech and language skills, even a complete lack of spoken speech, and (3) behavioral difficulties. In addition, these personalities have more difficulties in areas such as looking directly into the eyes, communicating with peers, playing skills and social or emotional interaction (Fombonne et al., 2021).

As a distinctive feature of this disorder, we can mention obvious deviations in behavior patterns

that are characterized by limited, repetitive or stereotyped activities (Campisi et al., 2018). Children with ASD may exhibit repetitive behavior, such as repeatedly placing objects in a row or stereotypical body movements (such as swaying, waving arms). They exhibit restrictive behaviors, such as consuming only certain foods (for example, only chips for breakfast and chicken for dinner) (Alsaade & Alzahrani 2022); if the actions are not performed in a certain order, they create problematic behavior. Sometimes to resist changes in the environment. For example, soft toys should be placed in certain places on the bed every night, if this is not done, the child will show behavior.

The number of children with autism spectrum disorder is increasing day by day. However, in the elimination of this disorder, Applied Behavior Analysis (ABA therapy) has recently been widely used. A number of early intervention models based on ABA principles provide a curriculum for training people with autism. Let's dwell on a few of them. The models described below were published in peer-reviewed journals and demonstrated the effectiveness of their research (Wayne et al., 2021). Since then, it has been published as commercially available guidelines in the treatment of autism. Each model has its own main differences.

Early and Intensive Behavioral Intervention

Early and intensive behavioral intervention (EIBI) is an educational program for children with ASD. Intensive behavioral intervention is characterized by a comprehensive, hierarchically organized curriculum that is carried out over several years in order to increase the overall level of functioning of the child. Procedures used to increase adaptive behavior and reduce problem behavior are based on the principles of operant conditioning (for example, reinforcement (principle of strengthening), attenuation (principle of strengthening), control, generalization). Many learning opportunities are provided by fully programmed learning procedures and reinforcement (principle strengthening). Several areas of work are carried out sequentially to improve several broad areas of skills. The educational goals of eibi programming often include pre-academic skills and the academic skills themselves, language, social skills, and self-play skills.

In recent years, researchers have focused on eibi analysis by evaluating experimental studies based on empirically established criteria (Franz et al., 2022). Several research groups have developed criteria for evaluating EIBI empirically. There are significant discrepancies between these empirically specific criteria for experimental accuracy, diagnostic testing, and procedural integrity measures in EIBI.

There is a consensus that EIBI is an effective treatment for many behavioral disorders and, in particular, autism (Wergeland et al., 2022). The results of some EIBI studies show that the effectiveness of this intervention is closely related to the child's IQ. In addition, Reichow & Wolery said that there was no change in at least one child in the study, or regression on at least one outcome indicator. In general, recent literary reviews have shown the need for additional studies of children who have shown «good» results.

Natural Environmental Training

The main features of learning in the natural environment are methods that increase response motivation with an emphasis on interaction with children, and generalization of skills. The NET was compiled by Stokes and Baer in 1977. NET, also known as the natural language approach, usually focuses on teachers who work with the child to expand learning opportunities in a natural setting (for example, at home) (Linda, 2006). This model uses natural speech development techniques to teach functional language skills.

Incidental Teaching

Hart and Risley (1968) developed a random learning strategy based on the experience of teaching language to preschoolers in natural conditions. Random learning strategies are implemented as long as they are not structured, such as free game time in the classroom. Episodic learning is child-oriented, and the teacher uses the child's initiative, that is, interest in something, as an opportunity to learn. The tests begin when the child is interested in a topic, by showing it or making gestures (Green, 2001). The purpose of random learning is to teach a child to speak spontaneously in response to many signals in the natural environment.

Natural Language Paradigm

Koegel, O'Dell developed the NLP model in 1987 by combining speech learning and gaming skills. Learning strategies are combined

with game features to make learning fun for the child and therapist. NLP is provided by creating superior stimuli (stimulus) to prevent loss of interest in things and increase the child's motivation to react during structured learning opportunities (Goldstein, 2002). Often choosing the most suitable interests will allow the child to change for the better throughout his studies.

Discrete Trial Training

DTT was developed by Lovaas, Koegel, Simmons, Long in 1973 as a form of behavioral intervention for children diagnosed with autism. This model teaches different skills by the child and the therapist sitting at the table, dividing and correcting each disorder into smaller units. In this way, the emphasis was on a highly structured learning approach that was short-interval programmable. Especially the objects that the child is interested in (usually small edible objects) and praise is given after the correct answers. Early studies on DTT for young children with autism, showing a significant increase in IQ scores, a decrease in negative behavior, and an increase in spontaneous social interactions in autistic children. DTT is more similar to the classroom learning format than other intervention models (for example, sitting at a table and answering questions), and it is ideal for mastering certain verbal operants (for example, tact, Echo) (Hillman et al., 2021).

Applied Verbal Behavior

Applied verbal behavior (AVB) is a way of teaching children with ASD communication skills based on Skinner's theory of verbal behavior (1957). This approach emphasizes the functional units of the language. By giving importance to a «functional» way of communicating, the verbal operant focuses not only on its topographic characteristics (for example, the child saying «red»), but also on previous events that trigger or trigger a reaction (for example, a picture of a red ball was shown by the parents) and subsequent events that enhance the reaction (for example, if the parent (Cooper et al., 2019).

Skinner's taxonomy of verbal behavior includes seven simple verbal operants, and Early Autism Intervention programs usually focus on four of them: Mand, tact, Echo, and interverbal. In the correction of ASD, it usually begins with Mand exercises, since this verbal operant is important in starting a relationship with the interlocutor. Mand is a verbal operant. It is realized under the appropriate environment (e.g. walking down the street on a hot day) and the conversationalist enters into a relationship due to that situation (e.g. the child asking for a drink).

In the early stages of the speech development of an ASD child, AVB therapists often use other verbal operants as well. For example, in an AVB therapist, the child may use an interverbal operant (for example, «What do you need?») or Echo (for example,»drink») or the child may want something very much (for example, the child says «water»), and such a targeted response will be satisfied in the appropriate way. (for example, water supply). Over time, these quickly disappear due to the formation of a» pure « oral operant (Frost & Bondy, 2006).

After the appearance of Mand in the child's verbal behavior, it is combined with other operants to teach additional functions of language (for example, Mand-tact combined learning). Numerous studies have shown that the stimulus can be controlled and successfully transmitted from one verbal operant (e.g. Echo) to another (e.g. interverbal) during the conducted reading.

Skinner's theory improved the way we communicate during early intervention in ASD correction. And Mand emphasized the need for intraverbal training, emphasizing the primacy of ASD correction. The previous views would not have paid much attention to tact and interverbal learning. That is, people with autism were taught most of the objects in their environment through tact, but they could not communicate with others. By limiting learning in this way, people with ASD could not acquire the skills necessary to build relationships with their peers (Carr & Firth, 2005). Meanwhile, Skinner's theory (Mand and interverbal) has been proposed in ASD correction programs and has improved the quality of learning.

In each case, we will discuss the use of methods based on Skinner's theory in the development of speech in children with ASD.

Main part. ASD is characterized by a wide range of speech disorders. This has a negative impact on the skills of communicative, personal development, social, cognitive life of a child with ASD. Thus, work on the correction and development of speech is one of the main priorities for children with ASD. Since the ability to speak has the potential to influence other areas of the child, applied verbal behavior is best considered

as part of a large-scale and comprehensive ABA therapy for child development.

Speech correction and development work based on the scientific achievements of the ABA is considered an integral part of the complex early intervention of children with ASD. ABA-based procedures have led to the creation of highly effective procedures and programs for speech, just as they have proven to be consistently effective in meeting the behavioral needs of children with ASD. The current approaches to ABA-based speech intervention are characterized by the use of a wide range of communication techniques, a functional curriculum, and flexible learning schemes. Forty-year studies of applied interventions in the ABA have proven their lasting effectiveness in improving communication in children with ASD. Currently, there are several publications on how to use Skinner's analysis of verbal behavior in correctional and developmental work with individuals with speech disorders.

We have already mentioned that ABA therapy is based on Skinner's verbal behavior in the speech development of a child with ASD. Now we will discuss the course of functional work of this applied verbal behavior, the influence of each verbal operant on the development of speech of a child with ASD. Also, we will try to theoretically analyze and describe the features of empirically confirmed procedures from the point of view of clinical experience of researchers who used Skinner's verbal behavior in correcting ASD speech.

Research materials and methods. B.F. Skinner spent more than twenty years developing his analysis of the spoken language. He began this project a few years after graduating from Harvard University in 1931 and completed it in 1957. Its main focus is the ability of a person to communicate. According to him, talking is a habitual behavior that occurs through environmental conditions and develops in each direction. Reflecting on his work, Skinner wrote, «I believe that verbal behavior.will be proven in the future... my most important work « (p.122), which he wrote in his manuscripts. Skinner considered conversational language to be an important topic because verbal behavior is central to many important aspects of human behavior (e.g. language acquisition, communication, intelligence, academic education). His works were scientifically and extensively analyzed only in the 80s of the last century, and today Research in this area can be seen in the scientific journal "The Analysis Verbal Behavior".

In principle, Skinner's book "Verbal behavior" is the most difficult to understand. The reader must first understand the basic concepts and principles of behavior analysis. In addition, linguists have been trying to understand human communication for centuries. Skinner's work, on the other hand, can contribute to many things, starting with the difference in human behavior between linguistic form and linguistic function.

An accurate definition of the concept of language has been driving linguists at a dead end for centuries. Meanwhile, Skinner argued that actions called human communication and communication are the habitual actions of the interlocutor and listener, which are non-verbal behavior, arising from the environment and expanding, preserving and developing. For this reason, Skinner called «verbal behavior», which focuses on the interaction of the interlocutor and the listener, and not on the term "verbal or conversational behavior" (Stemmer, 1990).

Thus, verbal behavior is a behavior that is reinforced by the behavior of a person when interacting with other people. Verbal behavior is clearly defined by a function rather than a form of reaction. For example, a mother distinguishes her child's crying; we use gestures, or coughing or clapping to get someone else's attention. In some cases, we also use characters and letter writing (written speech).

The behavior of the speaker and the listener, who are doing the same verbal communication, is controlled by different but interrelated situations. It is the behavior that arises from unforeseen circumstances or themselves in a relationship, although initially simple, but quickly reaches a large-scale development. Skinner gives a personal description of the behavior of the speaker and the listener, and called their interaction verbal episodes. In a verbal episode, the speaker initiates any kind of verbal activity (speech, sign language, eye contact), and the listener (1) acts as an audience for the Speaker, (2) supports the speaker's verbal behavior, (3) responds in a certain way to the speaker's verbal behavior (Baylot & Carter, 2023). The roles of speaker and listener alternate.

Skinner pointed out that the number of simple verbal actions during verbal behavior is six. This includes: Mand, tact, Echo, transcription, intraverbal action, and textual actions. He also considered public communication and text as separate activities (Luiselli, 2023).

Mand is the creation of an application.To get what you want. For example, a child asks "sweet" if the child really wants to take a sweet.

Tact is the name of objects, events, events, etc. For example, when a child says «sweet» because he sees a sweet.

Echo - repetition of one word. For example, after someone says «sweet», the child also repeats «sweet».

Intraverbal action is to answer a question or create a dialogue. For example, we asked a child "what do you like for tea?", and the child said, "sweet"

Text action means reading texts. For example, the child said "sweet" because the child saw the word "sweet".

Transcription is the recording of heard words. For example, a child hears someone say "sweet" and writes "sweet".

Let us dwell on these above-mentioned verbal actions separately.

Mand is a type of verbal action in which the speaker asks what he wants or needs. The word Mand comes from the English words command and demand. Mand is a reaction that occurs under the control of motivational operations and a real amplifier. The actual reinforcer is directly related to the motivational operation. For example, a child's indigestion 1) turns food into an effective booster and 2) causes a «give bread» reaction if this reaction is previously enhanced by taking bread (Figure 1).

Mand it is the first type of verbal behavior in children with normal development. Mand allows children to get what they want and when they want. And it will allow you to avoid what you do not want. Mand is the only verbal activity that directly benefits the child, creating an opportunity to control the social environment.

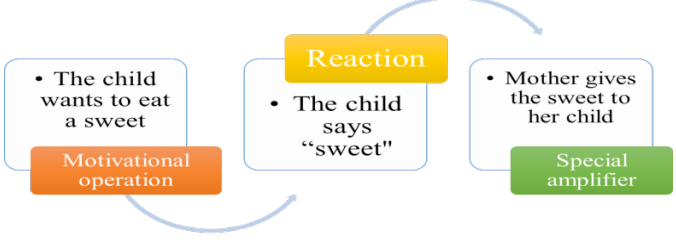

Figure 1. ***Mand verbal action***

Mand reactions are necessary to teach the social interactivity of conversation, teaching, work and all aspects of human life, strengthening the role of the listener and speaker. And also allows the speaker to perceive new information, acquire new forms of verbal behavior.

All Mand reactions occur with the help of motivational operations. These motivational operations should be such that they are interesting to receive during the training of Mand reactions. However, the power of motivational operations can change over time (the child is interested in something else), so the effect of learning is also likely to be temporary. For this reason, the teacher should be able to distinguish between the period of emergence of motivational operations and the power of interest of the child.

Tact is a form of verbal action. The speaker names objects and actions that are communicated through the senses (Figure 2). The word tact comes from the English word contact, that is, contact with the environment.

When a child looks at his roommates and calls them, he usually does the tact act. Tact refers to the speaker's ability to verbally identify aspects of the physical environment. The tact response ratio refers to a type of verbal behavior in which the reaction form is under the functional control of a non-verbal discriminatory stimulus and a history of conditioned reinforcement (for example, after seeing snow, saying "snow").

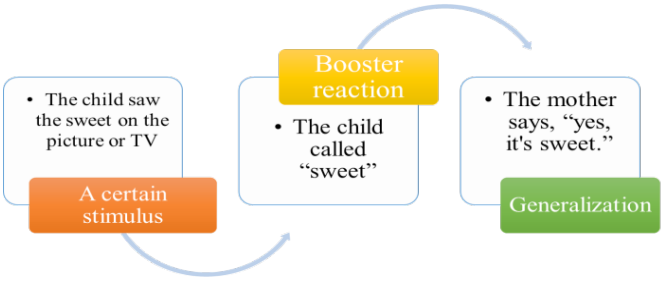

Figure 2. ***Tact verbal action***

Echo is a type of verbal action that occurs when the speaker repeats the verbal action of another speaker. Accurate repetition of the words, phrases and vocal behavior of others. The action of the Echo is controlled by a specific verbal stimulus, and it corresponds exactly to the reaction and is formally similar (Figure 3).

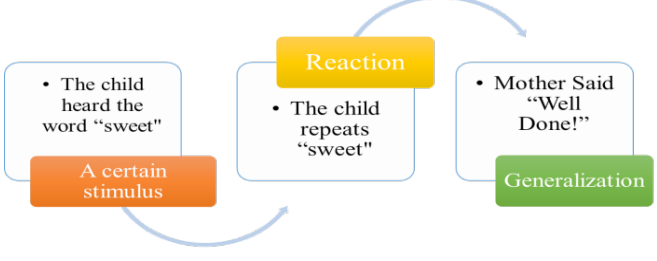

Figure 3. ***Echo verbal action***

The child's ability to repeat other people's phonemes and words is very important for learning, recognizing objects and actions. Echo verbal behavior plays a key role in complex forms of verbal behavior, such as random verbal learning, derived relational response, combined control, bidirectional naming, and problem solving.

Intraverbal action is the verbal action of the Speaker, different from other verbal actions. This includes answering questions, comments, and explanations. The intraverbal effect is enhanced by a generalized amplifier (Figure 4).

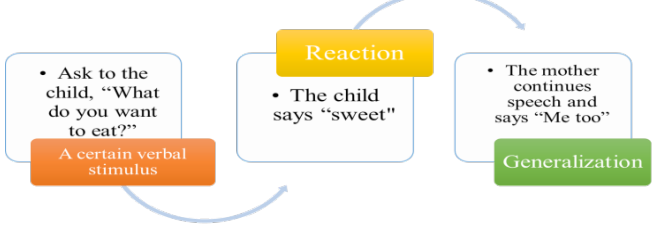

Figure 4. ***Interverbal verbal action***

The intraverbal repertoire contributes to the acquisition of other verbal and non-verbal skills. Intraverbal actions prepare the speaker to respond quickly and accurately to the requests of others and play an important role in the development of conversational skills.

Text actions. Skinner defined the text as reading, not related to reading comprehension (Figure 5).

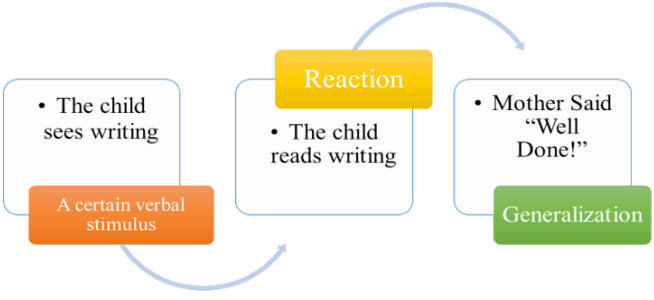

Figure 5. *Textual actions verbal action*

Reading comprehension includes other verbal and non-verbal activities, such as intraverbal and receptive (understanding instructions). Textual action has a clear correspondence between the stimulus and the reaction. Echo and textual actions are very similar, they are controlled by a specific verbal stimulus, amplified by a generalized conditional amplifier, and have an exact match.

Transcription consists of writing and pronouncing a word with a letter (Figure 6). Transcription is a type of verbal action in which the spoken word is monitored by writing or sign language translation response.

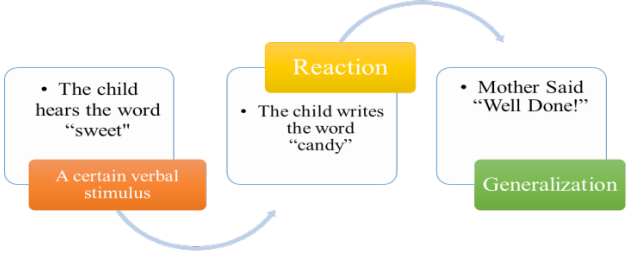

Figure 6 ***Transcription verbal action***

Results and Discussion. The analysis of verbal behavior carried out by Skinner was able to serve as the basis for assessing speech. The Verbal Behavior Assessment Program includes identifying the features of simple verbal operants, the listener's actions, the possibilities of self-knowledge in the course of a conversation, the ability to repeatedly answer questions in parallel with self-control and the interaction of the speaker and the listener in the development chain in a conversation situation. These are all based on ABA training procedures. Barbera & Rasmussen 2007; Carr & Miguel 2012; Dixon, 2014; Greer & Ross, 2008; LeBlanc & Dillon, 2009; McGreevy et al., 2012; Partington, 2006; Schramm, 2011; Sundberg, 2014, 2016B; Sundberg & Michael, 2001; Sundberg & Partington, 1998; Weiss & Demiri, 2011 and other researchers have currently made several publications on how Skinner's analysis of verbal behavior should be used in working with people with speech defects.

A number of studies have shown that corrective methods based on the analysis of Skinner's verbal behavior are effective for the development of speech in children with ASD. For example, Duker, Dortmans, & Lodder, 1993; Hartman & Klatt, 2005; Yamamoto & Mochizuki, 1988 researchers studied speech-mediated requests for help in ASD children using the Mand action. Carr & Durand, 1985; Shafer, 1994 was able to reduce various difficult behaviors in ASD child through the analysis of verbal behavior. Arntzen & Almas, 2002; Carroll & Hesse, 1987; Nuzzolo-Gomez & Greer, 2004 researchers have shown the effectiveness of

other operants, such as tact, in the formation of speech. In addition, many researchers (Naoi, Yokoyama, & Yamamoto, 2007; Partington, Sundberg, Newhouse, & Spengler, 1994; Sundberg, Endicott, & Eigenheer, 2000) have done their research on the use of the tact operant in children with ASD.

Arntzen & Almas, 2002; Carroll & Hesse, 1987; Lamarre & Holland, 1985; Ross & Greer, 2003; Tsiouri & Greer, 2003; Twyman, 1995; Williams, & Greer, 1993, Arntzen & Almas, 2002; Greer, Yuan, & Gautreaux, 2005; Nuzzolo-Gomez & Greer, 2004 found that it is possible to develop a child's speech by using two operants (mand and tact) together in the speech development of children with ASD.

Conclusion. The Verbal Behavior or VB approach is based on all ABA studies, but also increases the child's ability to learn a functional language. VB is included in the Applied Behavior analytical approach to teach all skills, including, most importantly, children with autism and related disorders. This method provides for the formation of speech and the ability to develop it, paying attention not only to what the child says, but also to the purpose for which he uses speech.

The VB approach is a very new and popular approach that has emerged from the basic teachings of the ABA over the past 20-25 years. B.F. Skinner's 1957 book The Verbal Behavior follows the basic concepts, principles, methods in this area. However, this book is very complex. For this reason, it has been neglected for decades. Only Dr. When Jack Michael and his graduate student at Western Michigan University (WMU) Mark Sundberg began using concepts of verbal behavior to teach speech to children with various developmental disabilities, they focused on Skinner's concepts of verbal behavior.

The first few VB evaluation projects were developed in the late 1970s by WMU and the University of Kansas and tested with the great influence of Joe Spradlin. Mark Sandberg's doctoral dissertation "Developing a Verbal Behavior Repertoire using Sign Language and Skinner's Analysis of Verbal Behavior" was published in 1980.

It was only in 1998 that Dr. Sandberg and Partington became interested in the VB approach in correcting ASD children after publishing three book collections. The main book «teaching language to Children with Autism or Other Developmental Disabilities» was published in 1998. But the most popular book in the trio was the Assessment of Basic Language and Learning Skills, often referred to as ABLLS.

ABLLS can be used as an assessment of the child's abilities, a training program, as well as a form of skill control, consisting of several sections that need to be completed by an adult who is well acquainted with the child. An initial assessment using a diagnostic condition can take three to four hours. ABLLS is a great tool for a teacher who is proficient in the VB approach, but it is very likely that it will be very difficult for a parent who has no experience in ABA.

Thus, Skinner's concept of verbal behavior has been widely studied in recent years and scientific work is being done. His methods play a significant role in the development of speech in children with autism spectrum disorders and are the basis for effective work. These ABA and VB-based diagnostic and training programs for autistic children have spread to all corners of the world and are being used to correct the autism spectrum disorder.

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