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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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S.S. SEITENOVA [1], A.M. USSENOVA [2],* A.K. KAZETOVA *[1], S.S. NABIDOLLLINA [3]*

[1]Mahambet Utemisov West Kazakhstan University (Uralsk, Kazakhstan)
[2] M.Auezov South Kazakhstan University (Shymkent, Kazakhstan)
[3] West Kazakhstan University of Innovation and Technology (Uralsk, Kazakhstan)
e-mail: seitenova_ss@mail.ru

THE STUDY OF THE NEW PHILOSOPHY AND TECHNOLOGIZATION OF THE MODERN EDUCATION SYSTEM (COMPARATIVE AND STRUCTURAL ANALYSIS)

Abstract

Global changes on a global scale have influenced the fact that modern education has changed its philosophy of development. This was facilitated by completely new technologies that the society was forced to accept and include in the learning process. The COVID-19 pandemic has led to the largest disruption in the history of education systems. It has affected almost 1.6 billion students in over 190 countries and on every continent.

The purpose of the article is to present comparative data on the criteria indicators of the education system that influenced the change in philosophy and the process of technologization. The main reason is the spread of coronavirus infection around the world. We chose non-experimental methods as the main research methods (according to B.G. Ananiev): comparative and structural methods.

The results obtained are changes in the state of education before the pandemic and during it. These include: number of children affected by school closures worldwide, Funding Gap to Achieve Sustainable Development Goals (Quality Education) before COVID-19 (in US$ millions), annual fluctuations in the human development index and transition to new learning technologies. In Kazakhstan, the overall picture is presented related to distance and television learning.

Keywords: coronavirus, society, education, philosophy, technology

Introduction. The coronavirus pandemic, which began in 2020, shook the entire world, altering people's way of life and the education system. The global society faced a challenging test of life. Prolonged lockdowns during the first wave (March – May 2020) literally compelled the population to spend most of their time at home. This became the main reason for restricting interpersonal and professional communication, as well as the basis for an increase in the incidence of domestic violence against children and vulnerable individuals, and psychological stress. Public restrictions led to a significant economic crisis, placing a large portion of the population in a critical situation. For the majority of humanity, this became a reason for slowing down the functioning of the global economy, leading to an increase in unemployment. The consequences of the measures taken during the first wave of the coronavirus included the bankruptcy of established businesses, the closure of companies, and a decrease in demand for goods and services. These actions were undertaken in order to contain the rapid spread of the virus.

Everything that was happening in the world got divided into two parts – before and after the pandemic. As of the beginning of 2022, we fully realize that the way of life for all of humanity has shifted in a new direction, and the pandemic that engulfed the entire world has become a starting point for adopting a new philosophy of life, a beginning for embracing and mastering new socio-informational technologies.

Main part. The viral revolution has greatly changed one of the main social institutions - the education system - from preschool to university. Of great importance in this period was education, which is based on traditional forms of education with a small share of distance learning. This particularly affected school education, where

neither teachers, nor children, nor parents were ready. Thus, the limited conditions for teaching school subjects showed that most students forgot previously mastered learning skills. Universities, having the skills of distance learning, freely switched to this form, covering also various social networks as additional. However, world practice has shown that Internet opportunities were not up to standard everywhere, many countries resorted to television educational channels, where the main content of school subjects was broadcast.

Purpose - to present comparative data on the main indicators of the education system that influenced the change in philosophy and the process of technologization.

Let's highlight a few main arguments confirming the *scientific significance* of such an article:

1. *Actuality*: Education plays an important role in today's society and constantly faces challenges and changes. The content of this article reflects the results of a study that analyzes the latest world changes, which can help to understand how modern education can be improved and adapted to the requirements of the modern world.

2. *Philosophical aspects*: New educational philosophies may include ideas about the importance of self-organization, active participation of learners, contextual learning, and flexibility.

3. *Practical relevance*: Modern education is facing challenges such as the global pandemic, instability, inequality in access to education, the need to develop future skills, and others.

In general, the scientific significance of the article on modern education, new philosophy and new technologies lies in the fact that it contributes to the development of knowledge and understanding of new educational processes, which also contributed to their development and implementation, aimed at improving education and social progress.

Literature review. The analysis of scientific and pedagogical literature allowed us to single out the concepts of "distance education", "Internet technologies", "technologization" of education. In this direction, it is necessary to highlight different views on the essential characteristics of these concepts. So, B. G. Ananiev and V. I. Soldatkin point to the features of distance education and its implementation only in the system of higher education. V. V. Smirnov highlights the socio-psychological aspect - the phenomenon of digital dependence of society (Andreev, 2001; Soldatkin,2010; Smirnov, 2019).

In the studies conducted by A.I. Skrinnik the factors of Internet education were identified: the acceleration of knowledge transfer, adaptation to the environment, the active introduction of Internet technologies into the educational process. The author also singled out the influence of computers on the development and complication of the structure of the higher mental functions of the individual. These questions were also considered by A. Leontiev, O. Tikhomirov and other (Skrinnik,2014)

Denoting the meaningful context of the concept of "technologization" of education, O.N. Igna presented two approaches: the development, selection and use of technologies in the pedagogical process; providing the educational process with high-tech equipment. The author also highlights the concepts that determine the readiness of teachers to use various technical teaching aids - this is "technological culture" and "technological thinking" (Igna, 2010).

Research materials and methods. In our work, the research methods were non-experimental methods according to the classification of B.G. Ananiev comparative and structural. The role of the comparative method is to consider scientific works, reports of public organizations that show facts before the pandemic and during its period. The structural method allows you to systematize the received data into a single picture of the perception of integrity (Ananiev, 1980).

Comparative method and structural method, in accordance with the classification of B.G. Ananiev, are non-experimental research methods that can be used to study modern education, new philosophy and new technologies.

The comparative method allows you to consider various scientific works, reports of public organizations and other sources of information in order to compare and analyze facts and data before and during the pandemic. This method makes it possible to identify changes, trends and effects caused by the pandemic on educational processes and practices. Benchmarking can also

help identify the advantages and disadvantages of different approaches and strategies for education in a pandemic.

The structural method, on the other hand, allows you to organize the received data and information into a single picture or integrity. This method allows you to organize and classify information, highlight key topics, trends and main aspects of the study. A structural approach can be useful when analyzing different educational philosophies, new technologies and their impact on educational systems.

The use of comparative and structural methods in our work allows us to get a more complete and comprehensive understanding of modern education, new philosophy and new technologies, their changes during the pandemic and their relationship. These methods help to see educational processes in a broader context and identify key factors and trends that may be scientifically significant for the development of education (S. Seitenova, 2023).

Results. The COVID-19 pandemic has caused the largest disruption in education systems ever, affecting almost 1.6 billion students in over 190 countries and on every continent.

According to research conducted by the UN, in 2020, in the second half of April, 94% of students around the globe were transferred to a remote learning format, which included children of preschool, school and student age. In digital terms, this amounts to 1.58 billion students and pupils from more than 200 countries of the world (Concept Note: Education in the age of COVID-19,2020). Students from low-income countries were the hardest hit, with 86% of them left out of school at the primary level. In countries with a high Human Development Index, this figure was only 20 percent (Picture 1).

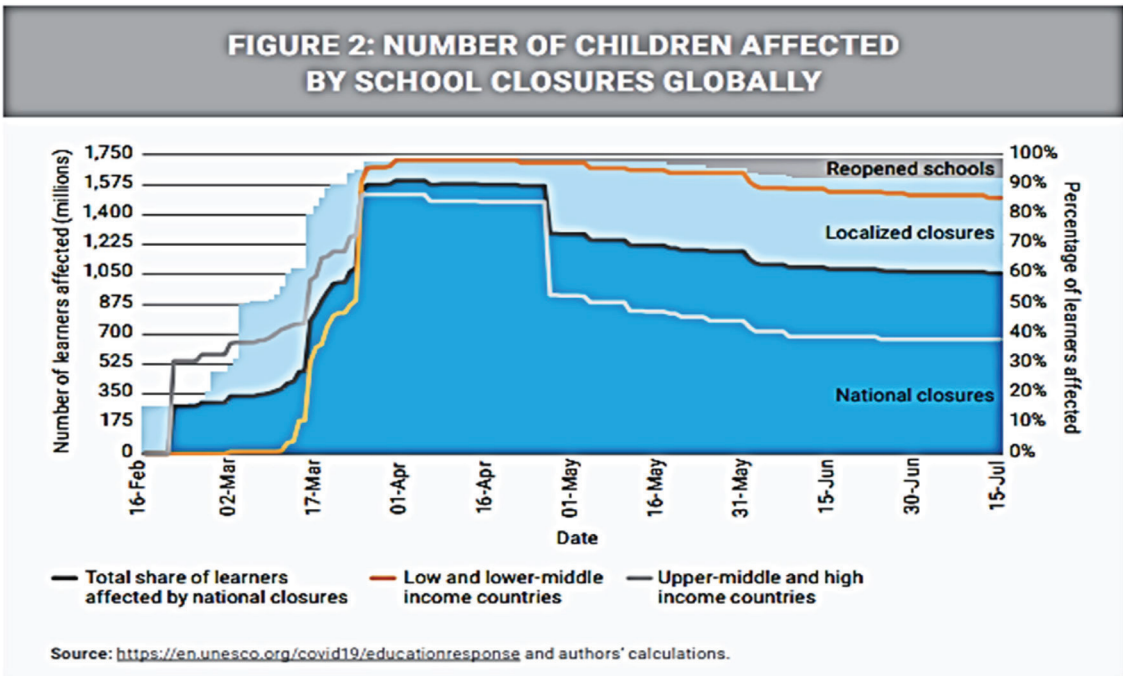

Figure 1. Number of children affected by school closures worldwide (according to https://www.oecd-ilibrary.org)

Across 33 OECD countries, the average duration of school closures was 70 days. However, significant differences could be observed in terms of the duration of school closures, ranging from 20 days in Denmark and Germany to over 150 days in Colombia and Costa Rica. Comparative assessments such as PISA found that schools remained closed longer in countries where students performed at a lower level. The analysis of the data also showed that in the conditions of remote learning, teachers conducted the educational process using social networks, information technologies and innovative methods (OECD. The state of school education, 2020).

The deficit of funds allocated annually to the education system increased by 18% (Figure 2). This shows how much illiteracy has increased in

the world among children and adults who do not have basic reading skills at all. We are witnessing how the pandemic has exacerbated this problem, where funds are allocated not only for the technical equipment of the educational process, but in this case we are talking about educational products coming to countries with a low level of quality of life, the provision of educational services to them by public organizations. The annual budget of any country also includes the allocation of funds for mandatory hot meals, which helps vulnerable segments of the population save their children from hunger (Africa, Afghanistan, Pakistan, South America). School closures during the pandemic have increased the proportion of malnourished children for almost a year, with tragic consequences.

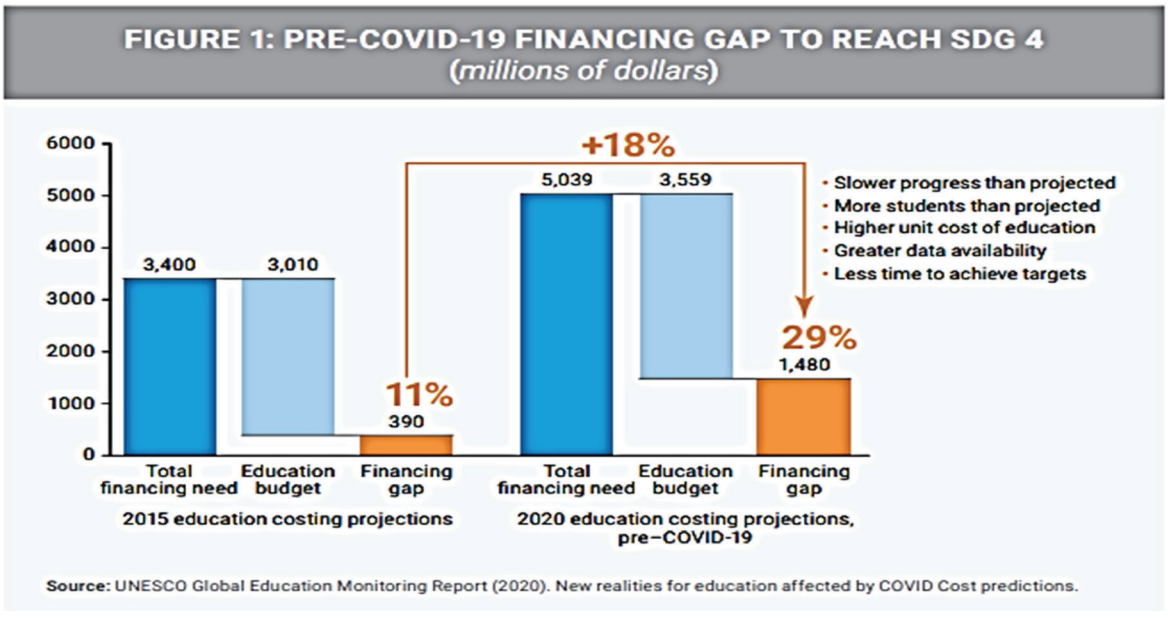

Figure 2. Lack of funds to achieve sustainable development goals (quality education) before COVID-19 (in US$ million) (according to https://www.oecd-ilibrary.org)

ll of the above and other problems have shown that the pandemic has taken the quality of life of people out of the education system, changed the human development index from the moment of perestroika (1991) and the period of the virus revolution (2020). According to Figure 3, we see that even during the collapse of the Soviet Union, education remained one of the strongest links in all countries of the former Soviet Socialist Republic, which cannot be said about the current situation.

A recent review of studies on knowledge loss during the pandemic found only eight studies that support the loss of knowledge in most cases and, in some cases, rising educational disparities. All focused on OECD countries where school closure periods were relatively short. These countries include Belgium, the Netherlands, Switzerland, Spain, USA, Australia and Germany (Anderson,2021).

Pointing out this aspect, we cannot help but dwell on such facts as violence against children, according to UN studies.

In the summer of 2020, Save the Children surveyed children and families in 46 countries. The main purpose of the study was to study the impact of the crisis on society. She focused on participants in her programs, other populations of interest, and the general public. According to the survey results, domestic violence was recorded in one third of households, while the participants of the program were predominantly vulnerable children and families. 83% of children and 89% of parents reported an increase in aggression during the first lockdown. 46% of parents reported psychological distress in their children. Among children who did not interact with their friends, 57% were less happy, 54% were more anxious and 58% felt less secure. Among children who were able to communicate

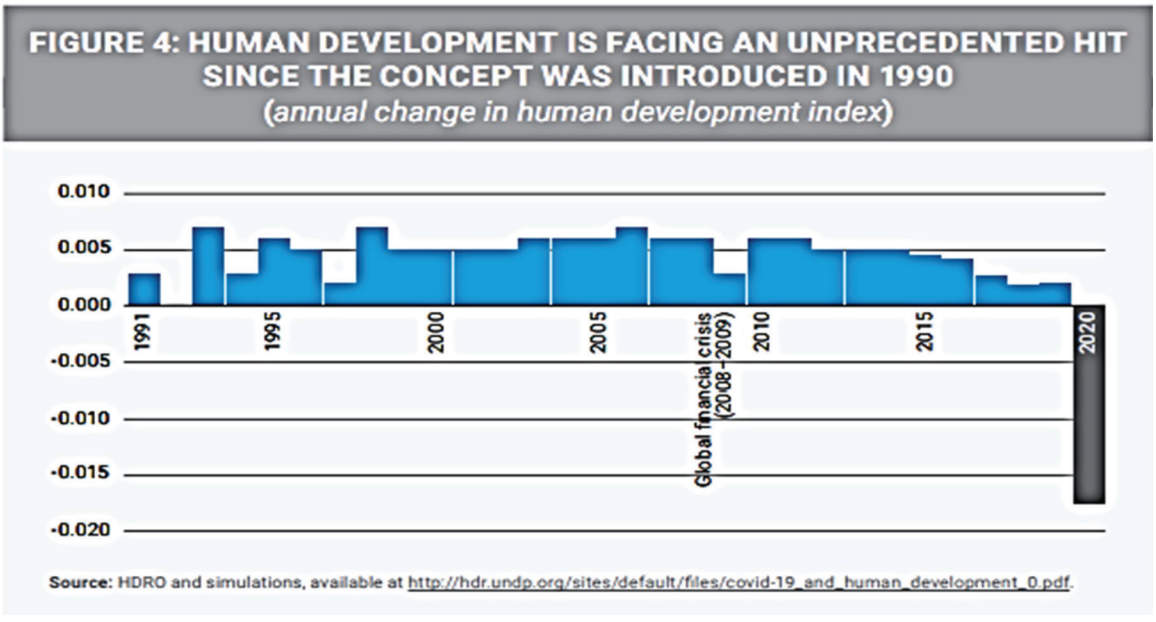

Figure 3. Annual fluctuations in the human development index (according to https://www.oecd-ilibrary.org)

with their friends, less than 5% reported similar feelings. Since the start of the pandemic, 7% of children with disabilities have experienced an increase in urinary incontinence, 17% of those surveyed have experienced unusual crying and screaming. This figure is three times higher than that observed in normal children. Children also reported an increase in household chores. Thus, among girls it is 63%, among boys - 43%. 20% of girls said that their workload in terms of household chores is so great that it does not allow them to devote time to studying, while for boys this figure was 10% (Donnelly R., & Patrinos,2021).

Against the backdrop of the emerging crisis, teaching staff were forced to quickly respond to changes and introduce Internet technologies in an experimental mode (Figure 4).

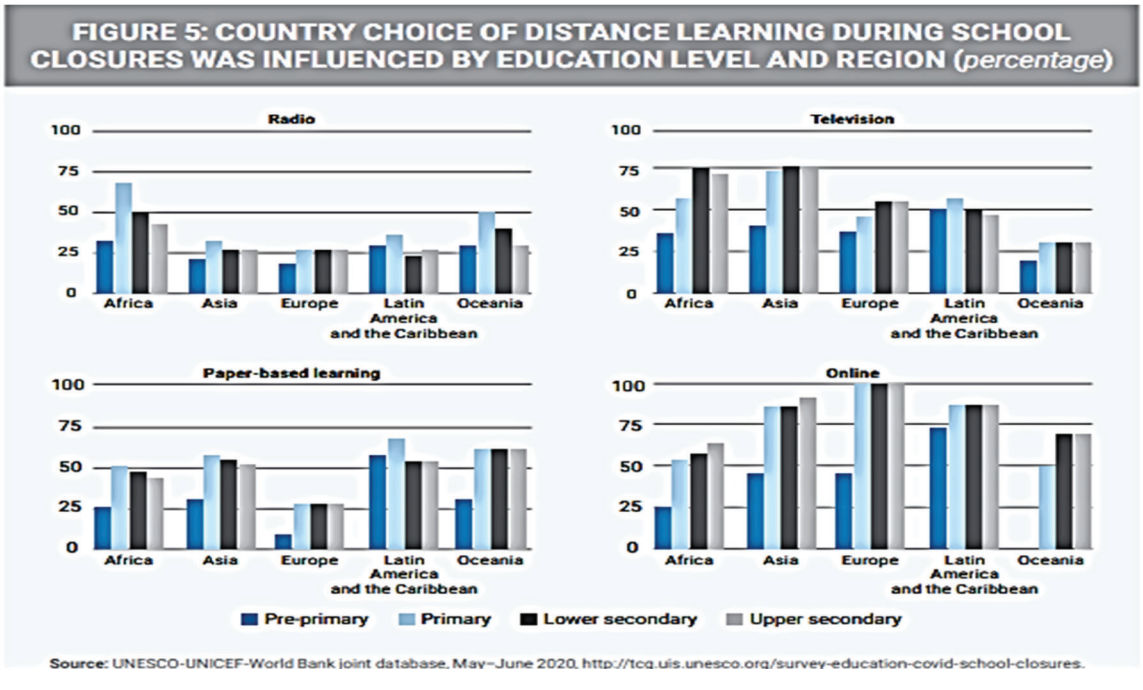

Figure 4. Country choice of distance learning method in school closure period (according to https://www.oecd-ilibrary.org)

Yaroslav Kuznetsov in his speech "The Virus Revolution: How the Pandemic Will Change Our World," expresses the opinion that we have embarked on a difficult and long path to overcome: "... The coronavirus pandemic is destroying transport and production chains at an incredible speed, forcing states to return borders and rebuild key public institutions, universities are rapidly moving to remote learning. But this is not a step into the abyss, but a path to a new reality, which is based on the technological revolution, on the achievements of industry 4.0. However, the road will not be easy ... " (Kuznetsov, 2020).

It should be noted that Kazakhstan, being a unitary state, attaches great importance in the management of education to centralized decisions. At the same time, regions, of course, have significant differences in terms of their implementation. It was decided to teach children remotely using national online platforms. Also in Kazakhstan, training was scheduled according to the broadcast schedule of TV lessons from April 6. But by April 8, 2020, the weakness of the technical preparation of this process proved to be.

From that moment on, on the recommendation of the Ministry of Education and Science, schools switched to flexible approaches to organizing distance learning (M. M.Knissarina, 2016). Teachers were given recommendations on the use of various platforms, social networks and instant messengers, any means of communication that allow the educational process to be carried out to the maximum extent possible.

Communication tools/platforms	Number of respondents	% preferences
WHATSAPP	652	84,50%
Skype	68	8,90%
ZOOM	167	21,9%
TELEGRAM	23	2,30%
Discord	31	4%
classroom	29	3,70%
e-mail	6	0,70%
Kundelik	5	0,60%
YouTube.	3	0,40%
bilimland	5	0,60%
Facetime	3	0,40%

Figure 5. Platforms and communication tools in distance learning

The presented experience of education systems in Kazakhstan shows a sufficient level of readiness of state systems for force majeure situations. Similar teaching methods could be observed in almost every country. Speaking about the chosen forms of education, many countries of the world, including our country, have chosen information and communication technologies: television learning, distance learning, open educational resources, the issue of home learning as a pedagogical technology is emphasized.

Discussion. The human society has undergone more than one wave with new mutational strains, but this has become a driving force for the discovery of scientific products - from developed vaccines, drugs for treatment to electric vehicles, the expansion of the possibilities of digital assets, blockchains, the cryptoindustry, the metaverse. Human capabilities have shown how in a short period of time it is possible to change the education system, change the form of education and basic techniques. What was considered difficult or impossible for people in a normal life period, in an emergency mode, it is still possible to find new ways to overcome the crisis in the field of education and develop a set of solutions (Reims,2021).

At the beginning of 2021, pedagogical activity has changed, strengthening the role of information competencies. In this aspect, we mean that the teacher is faced with the task of creating his own educational and information field, consisting not only of slide presentations and electronic textbooks, but also a YouTube channel, IT simulators, Instagram, WhatsApp

and telegram communities that are fluent in all functions of the Zoom platform and other similar systems (B. Kurebay, 2023). On the one hand, this complicates the work of the teacher, on the other hand, having brought everything into an orderly system, in the future he will have an excellent methodological base that will serve him for many years of learning and teaching. UNESCO also confirms our idea and introduces the concept of "delivering a knowledge platform", which is also based on IT technologies. In this case, we raise the issue of an alternative form of education - online learning. As part of such training, the implementation of cloud applications, virtual classrooms, videoconferencing, a learning management system, streaming capabilities and tools that support interaction between students, between students (pupils) and teachers are implied.

Conclusion. As you can see, the COVID-19 pandemic has become a great stress for all the inhabitants of the world, where the learning process takes a special part. The coronavirus has changed the living conditions of students and their families, giving rise to wider social problems. However, it should be noted that the world education system reacted instantly, applying a sufficient range of techniques and methods with varying efficiency and effectiveness. Education and all its innovations are reflected in public life. Teachers, parents, and the adult community have also begun to actively introduce new technologies that help them adapt to new living conditions: robotic vacuum cleaners, electric cars, Internet transfers, QR codes, block chains, video conferencing, and others. These changes became the basis for the adoption of a new philosophy by our society.

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N.R. ZHAKUPOV, A.K. SEITKHANOVA

Pavlodar Pedagogical University named after A. Margulan (Pavlodar, Kazakhstan)
e-mail: nursultanddl@gmail.com

STUDENT PREFERENCES FOR CONTENT IN ONLINE LEARNING ENVIRONMENTS: AN ANALYSIS OF ENGAGEMENT FACTORS

Abstract

The COVID-19 pandemic spurred a shift toward distance learning within education. Online courses have emerged as a prominent mode of remote instruction. While online courses existed prior to the pandemic, their focus was primarily on university students. This study examines the essential content types and features of online courses tailored for secondary school students. Additionally, it explores the alignment between teacher-selected materials and student preferences. Data was collected through lesson observations and interviews with students aged 14-17 in a UK school. Analysis suggests that students favor receiving information through videos, images, and presentations. They also value features such as progress tracking, feedback, and lesson commenting. This study's findings offer guidance to secondary school teachers in the development of online courses for core subjects or exam preparation.

Keywords: distance learning, online learning, web-lessons, teaching services, online courses.

Introduction. Moving to distance learning during pandemic situations bring a lot of problems in the educational field. Such challenges are adapting educational content to the online or web environment.

During the pandemic, teachers and students around the world switched to distance learning. This process took place at a rapid pace and rhythm (Teräs et al., 2020). While students were more digitally literate in the use of various technologies, the situation was difficult for teachers, especially those with a long pedagogical experience.

A range of studies have explored the preferences and perceptions of online learning resources. Slater (2020) found that mature online students favoured accessible, engaging, and assignment-related resources such as online lectures, course notes, primary literature, and tutors' opinion pieces. Lee (2008) extended the technology acceptance model to include internal and external-organizational factors, finding that perceived ease of use and various types of computing support positively influenced the adoption of online learning systems. Vatsala (2014) identified that adult e-learners preferred online and distance education courses, with a preference for longer videos and final assessments in the form of multiple-choice questions. Brown (2004) explored student choice in online learning environments, offering recommendations for improvement. These studies collectively highlight the importance of accessibility, engagement, and relevance in online learning resources.

The purpose of this study is to address the challenges posed by the rapid transition to distance learning during the pandemic, with a specific focus on creating effective online courses for secondary school students. The study aims to define the types of content and features necessary for these online courses, taking into consideration the preferences of students aged 14-17 in a UK school setting. By identifying the optimal content and functionalities, the study aims to provide valuable insights for secondary

school teachers engaged in the development of online courses.

The novelty of this study lies in its specific focus on secondary school students and the types of content and features that suit their preferences in the online learning environment. While online courses were already popular before the pandemic, the shift to distance learning prompted a need for more tailored approaches to suit the needs of younger students. The study also contributes to the field by exploring the relationship between the materials preferred by teachers and those favored by students, shedding light on the dynamics of effective online education at the secondary school level.

The practical meaning of this study is significant for both teachers and students engaged in distance learning. The findings reveal that students prefer information in the form of videos, images, and presentations, emphasizing the importance of multimedia elements in online courses. The identified functions, such as progress data, feedback, and commenting options, provide practical insights for optimizing the online learning experience. Secondary school teachers can use the results to create engaging and effective online courses in various subjects, as well as enhance content for exam preparation. The study thus serves as a guide for educators seeking to navigate the challenges of distance education for secondary school students during and beyond the pandemic.

Main part. The organization of the distance educational process had several types: synchronous and asynchronous learning with the use of digital tools (Shahabadi and Uplane, 2015). Synchronous learning is live, real-time (and usually scheduled), facilitated instruction and learning-oriented interaction (Hyder et al., 2007). An asynchronous teaching method was used to organize learning by providing students with information and all the necessary resources to learn the subject matter regardless of time (Ally, 2004). One option for asynchronous learning is an online course that includes different types of content and required features.

Some of the teachers tried to organize their distance teaching via online courses. But some of them just put presentations and documents in different platform and call it "online course". Kurt defined the online course such a "offer great flexibility as they offer students the opportunity to study whenever and wherever" (Kurt, 2018). There are also some different types of the online courses: synchronous, partially synchronous, and asynchronous (Grechushkina, 2018). But for our research we will use the interactive asynchronous type of the courses.

There are also a lot of research about the online courses (Brooks, 2009; Ralston-Berg, P., & Nath, 2008; Shachar and Neumann, 2010). But most of them linked to the Higher institutions rather than in school, especially about the Massive Open Online Courses (MOOC). One of the reasons is age of the participants: young school students spend time in internet not for the participation in online courses, most of them used web environment for interesting and fun things. But from other hand, students at high school spend a lot of time for the preparation to exam and they use websites with subject specific content. There are some examples of these web sites: khanacademy, seneca, bitesize etc.

To create online courses by teachers or interested individuals, there is a need to understand what type of content is most sought after and used by students to learn the school's subject. A descriptive study by Mtebe and Raisamo (2014) found out that well designed courses tended to increase learners' satisfaction with the system of online courses. Boliger (2004) investigated the main three components of students' satisfaction: instructor, technology, and interactivity. Since the main goal in creating educational content or web lessons is to convey information to students in the form and type that is most understandable and important to them.

In order to highlight the necessary type of content to include in web lessons and environments, we posed the following research questions:

1. What type of educational content should be included in web lessons in an online course for secondary school students?

2. What functions and options should the online course contain for students?

Sub-questions:

- Which online resources students use for learning purposes?

- What's difference between content and websites that different age of students prefers to use?

- Do students prefer the same type of resources which their teachers use in lessons?

Research materials and methods. The study was conducted at Saint Mary Magdalene Academy (London, UK) among 82 secondary and high school students ages 14-17 at the end of the 2020-2021 academic year. Informed consent was obtained from all subjects involved in the study.

Relevance to the research questions:

Age range: The research focuses on online learning resources and functionalities for secondary school students, so choosing participants within this age group ensures direct relevance to the research questions.

Developmental stage: Students aged 14-17 are typically in important formative years for educational practices and learning styles. This age group is likely to have experience with online learning platforms and resources, making their perspectives valuable for understanding their needs and preferences.

Transition between stages: This age range often marks a transition from middle school to high school, potentially involving shifts in curriculum, learning styles, and preferred online resources. Studying this specific group can identify crucial aspects to consider when designing online learning environments for both middle and high school students.

Accessibility: Secondary and high school students are often readily accessible for research purposes through educational institutions.

Consent: Obtaining informed consent from participants is crucial. At this age, students are usually able to understand the research process and provide informed consent, while parental consent may also be required depending on the research ethics regulations.

Generalizability:

While the findings may not be directly applicable to all age groups, studying this specific age range can provide a starting point for understanding student preferences in online learning.

Further research: This study can serve as a foundation for future research exploring online learning preferences across different age groups, building a broader understanding of student needs at various educational stages.

It's important to note that choosing a specific group also has limitations. While the findings provide valuable insights within this age range, they might not be directly generalizable to other demographics like younger children or adult learners.

Therefore, while the chosen sample group allows for a focused and relevant study, it's crucial to acknowledge its limitations and potentially conduct further research in different age groups to build a more comprehensive understanding of online learning preferences across educational journeys.

To answer the research questions, we conducted a survey among students. The survey was conducted at the end of the school year, when students had already experienced the use of digital content offered by teachers of different subjects.

To determine their experiences with participating in online courses or using web-based lessons, students were asked open questions about the web sites they and their teachers used for learning. To identify the preferred types of content among learners to achieve the learning objectives, different types of content were presented such as options to choose. Content types were identified through analysis of lessons and other online courses or web-based lesson sites. Students were asked to rate these types of content from 1 (not important) to 4 (important).

In addition, the same system was used to identify the most important features and options for high performance from the students' perspective.

Digital links to Google Forms and paper-based class questionnaires were used to collect data and survey students.

Lessons from teachers of science, physics, biology, mathematics, and English were observed to identify the websites and digital resources used by teachers.

Results. Since the study involved students from grades 7 to 12, it was decided to divide the students into two groups. 13-15 years old – 22 students and 16-18 years old – 60 students were joined to this research.

The main difference between these two groups is that the second group will take exams in the next academic year. This fact affected to the research results in some questions.

First, we identified students who already participated in online course. There are only 21 students have experience in participating to online course, while other 61 students answered that they didn't participate to any of the online courses. But if we look results in below, we can see that most of the students and their teachers used websites with online courses or online lessons. Without knowing it, the students already had experience in participating in online courses.

Because most of the students didn't participate in online courses before, we tried to identify the students' ideas and their needs about the content in online lessons. We asked them to answer the 1 question: *If there were online course of Science Subject, what would you want to see in online lesson/web-based lesson?*

Table 1 – *results of 1 Question answers*

Content	# of students	%	Rank
Types of Content			
Videos	12	14.6	1
Practical tasks (laboratory work, research etc.)	9	10.9	2
Engaging content (games, humor etc.)	9	10.9	3
Visuals (pictures, diagrams, graphs etc.)	7	8.5	4
Experiments	7	8.5	4
Interactive content	6	7.3	5
Tasks (problems, structured questions etc.)	5	6.1	6
Presentations	4	4.9	7
Subject courses			
Astronomy and Space	3	3.7	8
Physics	3	3.7	8
Chemistry	2	2.4	9
Exams			
Exam topics explaining	5	6.1	6
Exam questions discussion	3	3.7	8
Web-services	3	3.7	8

Distance learning developed teachers and students' digital literacy. During online teaching educators used various types of content: video, presentations, games, interactive boards and etc. According to that, students gained experience with acting these different types of the resources. But it is important to identify, which type of digital information are most useful for them. To find the answer for that, our second question was based on students' experiences during distance learning: "*Which type of digital information help you understand content/topic?"*

Table 2 – *Students answers for second question*

Types of Information	# of students	%	Rank
Videos	40	48.7	1
Pictures (diagrams, infographics)	11	13.4	2
Subject websites	10	12.2	3
Assessment websites	9	10.9	4
Slides	7	8.5	5
Summary Notes	7	8.5	6
Digital textbooks	6	7.3	7
Explanations	5	6.1	8
Animations	4	4.9	9
Practice questions	3	3.7	10
Demonstrations	2	2.4	11

Teachers use different subject specific websites in their work during teaching classes. Therefore, students get used to using the same material as their teachers. To identify and analyse these websites and resources we asked for students answer next question: *"Which websites do your teachers use for their lessons?"*. Additionally, we observed teachers' lessons in SMMA, especially science classes.

Table 3 – *students answer for third question*

Websites	# of students	%	Rank
Own content			
Presentations	12	14.6	4
Content Websites			
Kerboodle	17	20.7	1
PAMT	15	18.3	3
Seneca	9	10.9	5
Maths Genie	5	6.1	7
Hegarthy Maths	5	6.1	7
tutor2u	4	4.9	8
Isaac Physics	4	4.9	8
A-level PhysicsOnline	4	4.9	8
DrFrost	4	4.9	8
Web-services			
YouTube	16	19.5	2
Google services	6	7.3	6
Kahoot	4	4.9	8

Students also use different type of content web sites and web services for their self-study. To compare the content that students and teachers use for educational purposes, we asked for students answer this question: *Which websites do you use for your study?*

Table 4 – *results of students answer*

Websites	# of students	%	Rank
Content Websites			
PAMT	30	36.6	1
Seneca	16	19.5	3
Kerboodle	13	15.6	4
Hegarthymaths	7	8.5	5
tutor2u	6	7.3	6
MathsGenie	6	7.3	6
BBC Bitesize	6	7.3	6
FreeScienceLessons	5	6.1	7
drFrost	4	4.9	8
Chemguide	4	4.9	8
Web-services			
YouTube	23	28.0	2
Quizlet	6	7.3	6
Kahoot	4	4.9	8
Google	4	4.9	8

Online course contents depend on objectives and purposes of the educational material. This is a cause of different styles of online lessons and web learning environment, created by developers of the course. Trying to identify the types of resources and materials used by creator of online

courses, we have analysed some of the online courses for secondary school subjects. After that, we gave students to prioritize this type of content. They rated it's from 1 – not important to 4 – most important.

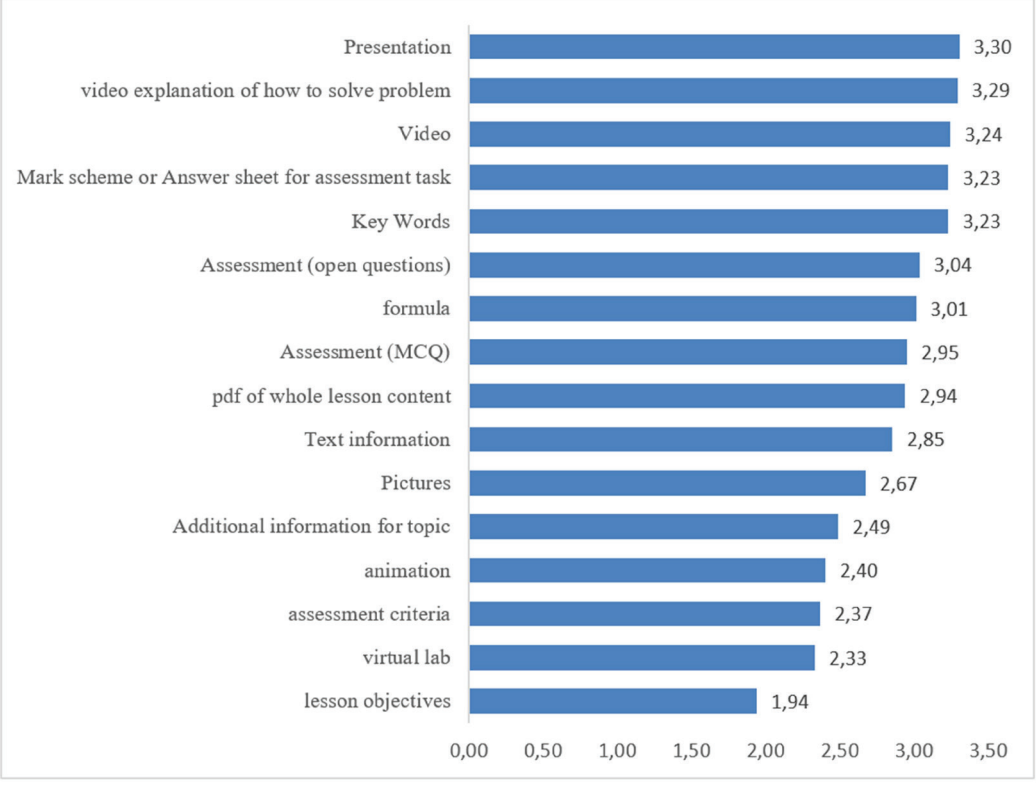

Figure 1 – students answers of type of the content

One of the important factors in using online lessons is the functions that are included when they are displayed on a website or in a virtual environment. The functions such as content can engage students to participate to online lessons. Students also rated selected types of functions and options from 1 to 4.

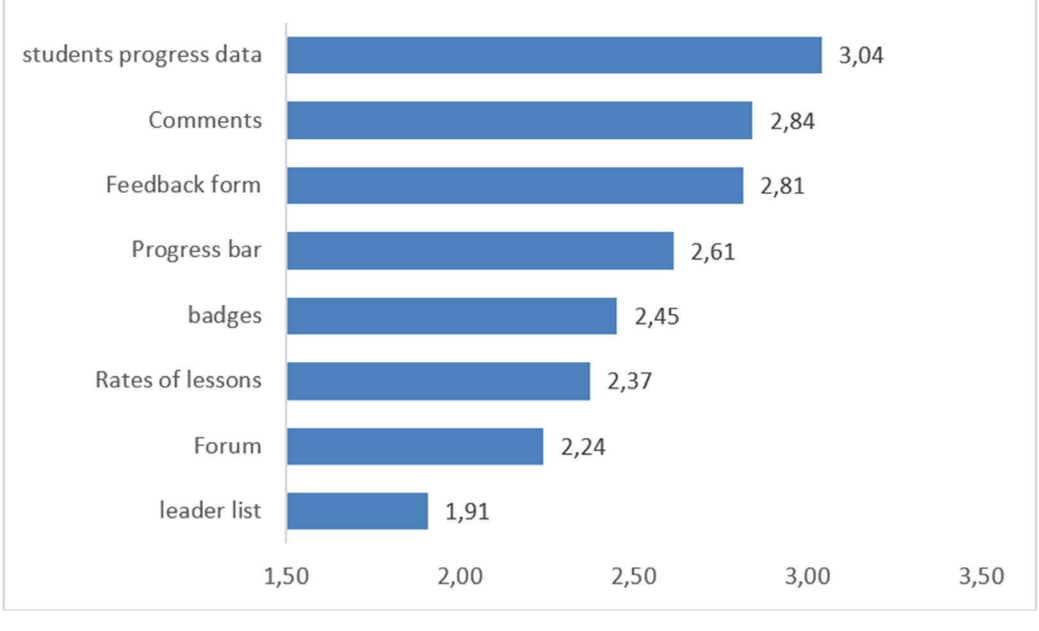

Figure 2 – students' responses of useful functions in online courses

Discussion. During analysis answers of students, we identified three main categories of what students want to see in online course (Table 1). The first category is the "Types of Content": There are identified various types of resources. The second category – Subject courses: students want to see specific subject in web-based environment. The last category is more related to our 2nd group of students, who in preparation to exam – Exams.

Students indicated the different types of resources that are most appropriate for their learning style (Table 2). Most of the students noted formats such as video and images. It can be concluded that this is also facilitated by the development of social networks, where students spend their time. For example, the social network Instagram uses images, and the most popular TikTok today uses the short video format. In addition, teens use YouTube video hosting for both entertainment and educational purposes. It is worth noting that digital textbooks are inferior to presentations and summary notes. Also, the students noted some web sites with content specific and web services for assessing and organizing knowledge.

Based on the students' answers (Table 3), we identified three types of materials that teachers use: 1) Offline content, like presentations. 2) Content websites: mainly websites provided by the publisher of books used by the school, as well as websites that host materials for exam preparation (A-Level) are used. 3) web services.

The websites used by the students were categorized into two categories (table 4): content websites with subject content, mainly for exam preparation, and web services like YouTube.

Although the students in Tables 1 and 2 indicated the primary content type as Video, they chose "presentations" in determining the most important resource type (diagram 1). This is followed by a video explanation of the solution to the problem and a video. Also, students pay special attention to materials for assessing the knowledge and acquired skills. However, lesson objectives are considered least important by students.

Analysing the students' responses by the functions that should be in the online course, "Student progress" and "comments", "feedback" were highlighted (Diagram 2). As a student, it is obviously important to see your progress as you take an online course. In addition, students note the importance of commenting on lessons and giving them feedback from teachers to adjust their knowledge or fill gaps in understanding. Although we assumed that the list of leaders contributes to their competitiveness and greater involvement in the educational process (Sobko et al., 2020).

Conclusion. This study aligns with previous research highlighting the underestimation of informal online learning among students (Paetsch, 2022). While formal online courses see limited enrollment, students actively utilize online resources to supplement their learning (Hamid, 2015). This research confirms the age-related preference for specific content types, with high schoolers favoring exam-oriented materials (Javed, 2018)

Furthermore, it corroborates the established student preference for video, presentations, and image-based content over solely textual or auditory formats (Clark & Mayer, 2023).

Additionally, the current study emphasizes the crucial link between teacher-provided resources and student preferences. This finding suggesting that educators can significantly shape student online learning behavior by incorporating preferred content types and functionalities.

This research identifies feedback mechanisms and progress tracking as crucial functionalities in online learning environments.

The findings of the review show teachers and educational organizations the most important resources and types of the content that they can use to build a web-learning environment in online course.

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*K.S. KUDAIBERGENEVA [1], M.K. BULAKBAEVA [1], E.K. BORANKULOV [2]**

[1] Kazakh National Women's Pedagogical University (Almaty, Kazakhstan).
[2] Kazakh University Technology and Business (Astana, Kazakhstan)
e-mail: erkinbek72@mail.ru

SELF-REALIZATION AS A FORM OF MANIFESTATION OF CAPABILITIES

Abstract

The article discusses the concept of self-realization. Due to the progressive development of the modern world, it is becoming more difficult for people to find themselves in some kind of activity. In this regard, the problem of personal self-realization becomes relevant in our time. The relevance of the problem of personal self-realization is undoubtedly growing in modern society - in such a large and complex world, a person needs to "find himself" and determine his life path. In modern social and humanitarian knowledge, there is a growing interest not only in the concept of "personal self-realization", but in the interrelated concepts of "self-awareness", "values", "life strategies", "life world", "living space".

Keywords: self-realization, opportunity, need, experience, innovative activity.

Introduction. In today's emerging conditions, there is less and less demand for teachers capable of performing reproductive actions. Time demands that they become "transformative intellectuals", capable of creative adaptation, and not remain adapted to the means manipulated by society or the current situation. For teachers as "transformative intellectualists", self-realization in the field of education is very important in order to create a truly new and valuable spiritual product in order to overcome stereotypical ways of acting.

One of the important tasks in the study of self-realization is the relationship between the real and the possible, the relationship between "is" and "maybe." This intellectual innovation, according to the classical studies of Piaget (1999) and his school, is becoming increasingly relevant in human intellectual life in our time. Nevertheless, the crisis of the current pedagogical situation, the requirements specified in regulatory documents, have led to the development of a contradiction between self-realization and opportunity. In some cases, the individual, based on the priority of his individuality, strives to realize himself, in others he proceeds from external influences that contradict his individuality, either - then they limit it. This makes it problematic for the emergence of a new generation of teachers with an alternative strong view, capable of being responsible to themselves for gaining choice in creative development.

The problem is to find one's place, to express oneself in the role of a creative person, to achieve which one must strive in every possible way to realize one's capabilities, which means not only the self-realization of the individual, but also recognition by society.

Representatives of different psychological schools have studied the self-realization of a person; however, today there is no single concept of self-realization. The methodological side of the problem of studying the self-realization of an individual consists in the lack of certainty of this concept. As a psycho-social being, man succeeds in getting to know himself and others, to build an ideal of life only by interacting with others and only by reference to the social-moral values specific to the historical times in which he/she lives.

An accumulated system of scientific and pedagogical knowledge that allows one to comprehend the innovative processes of secondary schools, perceive the individual in his originality, and its originality make it possible to recognize freedom for creativity as responsibility to oneself.

This situation requires, in overcoming traditions and stereotypical ways of activity, not only professional abilities reflected in regulations, but also potential opportunities aimed at creating a truly new and valuable one. This has characterized by attention to the world of

the individual, to national culture in general, and to education in particular. In this sense, the main goal of education is the spiritual development of a person. The axiology of this approach has determined by the philosophy of individual free choice by a person of his life path, the value orientation towards the free self-determination of the individual. As Bacon (1977) said, a person with universal consciousness cannot be a "cog". Innovative processes in the context of updated educational content indicate the ability of teachers to self-organize and support the innovative movement with their energy and enthusiasm. The practice of reforming education has given rise, or rather, revived such a direction of pedagogical activity as the creation of nationally oriented educational organizations. This has prompted by the idea of the socio-political orientation of society, the new government system and the structure of the economy.

The idea of nationally oriented education means such a structure of its content and teaching technologies that would allow the student has brought up in the culture of his nation, his people, master it, and contribute to its further preservation and development. This idea itself is not new. One way or another, many great personalities of the past wrote and spoke about this: Abai Kunanbaev, Sh. Kudaiberdiev, Y. Altynsarin, M. Zhumabaev and others. The great thinker Abai in his unique and deeply philosophical "Book of Words" writes: "We need to tirelessly expand the range of our interests, increase the knowledge that nourishes our souls. We would understand that the good of the soul is incomparably higher than the bodily needs, and subordinate the carnal needs to the dictates of the soul" (K.Serikbayeva & R.Seisenbayeva, 1992).

Main part. The idea of personal self-realization has its roots in the philosophical systems of the distant past. The origins of self-realization go back to Aristotle (1985), being associated with *self-improvement of spirit and body*; to Bacon (1977) and Feuerbach (1955) with *recognition of a person*; to Hegel (1975) *with self-development*; to the classic Marxists with the implementation of the essential powers of man; to foreign psychologists (Maslow, 1982) and others - with self-actualization of the individual.

Self-realization of the individual in the philosophical aspect has an ambiguous nature. This statement can be justified by the presence of different points of view about the essence of the subject under study.

In Russian philosophy, self-realization has considered based on an immanent approach, the essence of which reveals a property inherent in any phenomenon arising from its nature. One of the representatives of this approach, Uspensky (2003), develops a very characteristic idea for Russian social thought of the early 20th century about the immanent activity of man as a self-creating subject, a subject of his own self-improvement.

This idea is consonant with the concept of a self-actualizing personality. American psychologist Maslow (1982) represents a self-actualized person not as an ordinary person to whom something has added, but as an ordinary person from whom nothing has taken away. According to the author, self-actualizing individuals fully realize everything they are capable of and, through their own efforts, develop to a state that is fully adequate to their capabilities. Suffice it to recall the motto that guided the great composer Beethoven: "O man, help yourself!" As the old rule says, "help is found by those who help themselves," that is, self-help is the main beginning in personal development.

Kan-Kalik and Nikandrov (1990) not only delved into educators' teaching practices but also explored the intricate connection between educators' communication with students and self-realization, considering communication as a profound manifestation of creativity. As they meticulously outlined the broader framework of the creative process within the pedagogical realm, these scholars delineated a series of steps in a teacher's creative journey, from the inception of a pedagogical concept aimed at addressing an educational objective to the evolution of that concept, its implementation in both activities and interpersonal communication, and the subsequent analysis and assessment of the outcomes of this creative endeavor.

In essence, they underscored how the process of communication and the creative aspects of teaching contribute to a teacher's self-realization and professional growth.

The purpose of this study is to delve into the concept of self-realization in the contemporary context, particularly against the backdrop of the progressive development of the modern world. As societal complexities increase, individuals are faced with challenges in finding meaningful engagement and purposeful activities. This study aims to address the growing relevance of personal self-realization in our time, recognizing it as a significant challenge amid the vast and intricate modern society.

Research materials and methods. The specific methodology for explaining the self-realization of the individual in the psychological aspect is *the personal and activity approaches.* Activity, from the point of view of philosophy, psychology, sociology and pedagogy, comes from certain motives of the individual and has aimed at achieving certain goals. The presentation of activity as a form of activity that is capable, by its very nature, of "reprogramming" that is not limited by any externally specified framework, has specified in relation to individuality. After all, activity has many directions, but one of the most important is the activity of self-realization and self-affirmation. In such activity, the uniqueness, originality, originality and originality, independence and autonomy of the individual reveal themselves. Therefore, the activity of individuality manifests itself as self-realization and self-affirmation.

Currently, new "milestones" are being "built" to the problem of personal self-realization. Their representatives try to reasonably correlate the ideas of the polar approaches known in philosophy to explaining the essence of personal self-realization. According to modern philosophers, the concept of "personal self-realization" has revealed based on the theory of personality development and represents a hierarchical structure. The representative of this approach, Mulyar (2017), believes that personal self-realization is *an individual process of practical embodiment of essential forces.* The author believes that self-realization of the individual acts as the free disclosure of the individual's individuality, as the objectification of essential forces in the process of free activity carried out in an individual form.

Komlik (2018) and Koroleva (2018), both delve into aspects of youth development with a focus on self-realization. Komlik's exploration of the theoretical aspect of personality formation suggests an inquiry into the factors shaping individual identity during the formative years. This theoretical framework can be seen as a foundation for understanding how young individuals embark on a journey of self-discovery and realization.

In a complementary vein, Koroleva's work on the psychological features of youth within the context of new information technologies implies an examination of how the contemporary environment influences the psychological development of young individuals. The integration of technological advancements in their formative years is likely to play a role in shaping their self-perception and realization.

Both works contribute to the broader discourse on youth development by shedding light on the theoretical and psychological dimensions. By exploring these aspects, they provide valuable insights into how self-realization unfolds during the crucial period of youth, offering perspectives that bridge theoretical frameworks with practical applications in the modern context.

Modern philosophers emphasize the essence of self-realization based on the theory of personality development. Tsyrenova (2015) emphasizes that self-realization is the creativity of oneself and one's world, which presupposes the possession of the "material" of one's own existence - one's *abilities*, talents, *opportunities* and one's sociocultural content, and the involvement of the objective conditions of one's existence in the individual world of meaning, rationally justified by the search for the truths of your life. She does not deny the essential nature of personality; she identifies essential forces with the "material" of her own existence. The author also believes that the problem of a person's self-realization has directly related to his autonomy, that is, a person himself must construct for himself the meaning of his life and his activities, the nature of his relationship to other people and the world as a whole. According to Polubabkina (2019), self-realization is a process and the result of a dialectical merging of a unique individual and the objective world, which occurs because of human activity. She includes *the needs for self-realization as necessary signs of self-realization*,

and unlike others, the need for self-realization is limitless and insatiable, despite various types of activities, it can never be fully satisfied. Kulik (2012) believes that the concept of "self-realization" emphasizes a certain aspect of the process of realizing *the capabilities* inherent in the subjective personality, namely their implementation in accordance with the will of the individual.

Also, The study conducted by M. Lone, T. Strong, O. Sheredekina, and M. Bernavskaya in 2019, explores the intricate relationship between the culture of professional self-realization and the dynamics of internet communication among students in contemporary higher education settings.

The research underscores the growing significance of comprehending not just the technological aspects of internet communication but also the cultural and personal dimensions influencing students' experiences. The study's outcomes have the potential to enlighten educators, administrators, and policymakers about the multifaceted nature of student interactions in the digital age, with a particular emphasis on the pivotal role played by professional self-realization in the modern educational environment.

Conducted by M. Lone, T. Strong, O. Sheredekina, and M. Bernavskaya in 2019, the work delves into the intricate relationship between the culture of professional self-realization and the dynamics of internet communication among students in contemporary higher education. Through an exploration of the fundamental role of professional self-realization, the authors likely scrutinize how it shapes students' interactions and communication patterns in the digital landscape of higher education. Self-realization in open Internet resources has considered as a fundamental factor in Internet communication of students in the modern educational environment of a university and as a process through which people get to know themselves and develop a deep understanding of who they are, what they want from their lives, what their opportunities and dreams, what are their dislikes and shortcomings.

"Self-reflection" in the broad sense of understanding is reasoning, understanding, self-knowledge, self-analysis of personal activity within the framework of a system of relations with the world where a person is located. For example, in English there is a term "to reflect upon", which in translation from English has understood as "to reflect on ...".

Marinela (2019) in his work presents self-realization as a complex process that needs have considered from different points of view in order to get a more complex and reliable picture of how individual development occurs. According to the author, achieving self-realization includes going through certain stages, overcoming various difficulties and, above all, the practice of self-regulation of individual emotions and behavior. Education also provides a logical-scientific basis for moving beyond the stages of self-realization, providing insight and understanding, but also means transcending theoretical boundaries through personal participation in actions reflecting moral and humanistic values. Positive and proactive approaches are the paths that lead to self-realization. Practice self-regulation over individual emotions and behavior.

An analysis of philosophical and psychological-pedagogical literature on the problems of personal self-realization shows that there are different interpretations of the concept itself. In general, the presented analysis allows us to stimulate a number of the most significant, from the point of view of self-realization, provisions, which have later specified in the author's position regarding the problem under study: the essence of self-realization lies in the dialectical unity of being. In our understanding, self-realization has presented as the result of realizing an opportunity.

Philosophers have noted that the categories "possibility" and "reality" play a special role in the development of theory and practice, since reality changes in accordance with available possibilities, because of which both theory and practice must reflect not only reality, but also possibility, which it contains.

"Opportunity" as a dialectical-materialistic category reveals the essence of self-realization in the innovation process. This has evidenced by the contradictory definitions used in scientific and educational literature. Here are just a few of them:

– possibility exists within the framework of reality, as some specific reality, like a grain that needs appropriate conditions in order to grow;

– opportunity is the moment preceding the appearance of an object;

– possibility is something that exists, because in the present there are prerequisites for the future, at the same time, possibility is something non-existent, because the future does not exist in the present;

– possibility is an objectively existing tendency in the development of an object, which arises on the basis of one or another pattern of development of the object and expresses this pattern;

– possibility is a set of prerequisites as a condition for the emergence of a new phenomenon or object: every new reality arises as a possibility in the depths of the old reality;

– possibility as a philosophical category reflects the dialectical development of the objective world, various stages and stages of the emergence and development of objects.

According to dialect philosophers, possibility represents potential reality, and reality, in turn, represents realized possibility.

Kovalev (1965) studying the structure of personality, presents opportunity as a system of abilities (a set of intellectual, volitional and emotional properties) that ensure the successful implementation of activities. Rachenko (2019) in the book "Diagnostics of the development of a teacher's pedagogical creativity" believes that the most significant characteristic of an opportunity is the measure of its prospects, which acts as a natural tendency of development. In Ozhegov's (1984) dictionary, opportunity has presented as a means, a condition necessary for the implementation of something. In the Russian language, opportunity is presented as ability and is recorded in the words "to be able", "to be able", "and to be able"; is defined as "skill", as well as the ability to perform any actions.

Demchenko (2019) self-reflection has understood as "the Principle of real human thinking, which directs it to the awareness and understanding of its own forms, as well as prerequisites. Personal and objective consideration of actual knowledge against the background of a critical analysis of its content, as well as methods of cognition, involves the activity of self-knowledge, which can reveal the inner essence and specifics of a spiritually minded individual".

According to Rubinstein, it is precisely through the presence of self reflection that an individual acquires the ability to perform actions related to managing activities, as well as achieving goals. The appearance of self-reflection as a phenomenon has caused by life itself, thanks to which human activity takes the form of its indirect interaction with the world of things against the background of a certain refraction of external influences determined by the specifics of the subjective world of the individual. At the same time, self-reflection is perceived as "an internal condition that is actually included in the overall effect, mediated by a natural relationship between external and internal factors".

Because of studying this problem, it was possible to reach a common point of view on a number of issues. In philosophy, such issues as the formation of possibility and reality, the conscious choice of certain possibilities, possibility as a form of activity have received their coverage; in psychological literature - a potential, intellectual opportunity (Lutoshkin, 2002), a real opportunity for students in educational activities (Buzaubakova, 2019), in pedagogical literature - a didactic opportunity for teachers (Amirova, 2017) etc. In the works of recent years, trends have emerged in which modern teachers must fulfill new educational tasks and must have an innovative type of thinking inherent in their own capabilities. Thus, focusing on opportunity, one can imagine that self-realization, being a form of manifestation of opportunity, reveals the internal, deep, hidden side of the personality and, as a holistic process, represents external, observable, more mobile, changeable characteristics of objects and processes in interrelation and interaction.

One of the first to draw attention to the reality of opportunity was Babansky (1985), who understood by real opportunity the unity of internal and external conditions mediated by the individual and determining the potential of a particular individual in the field of educational activity. According to Babansky (1985), the study of the basis of real opportunities have based on a certain concept of personality. Characterizing real educational opportunities, he identifies six main components that reveal the integrity of the personality structure, the integrity of the process

of assimilation of knowledge by the individual, and the unity of activity. The author also notes that real learning opportunity is not absolute, that it changes under the influence of purposeful activity.

Stambekova's work in 2019, "The Use of Innovative Technologies in the Conditions of the Updated Content of Education", explores the intersection of educational innovation and self-realization. By investigating how innovative technologies are employed within the context of evolving educational content, Stambekova delves into the potential impact on educators' and learners' self-realization. The integration of modern technologies not only transforms the educational landscape but also presents opportunities for individuals to discover and fulfill their potential within this dynamic learning environment.

Real possibility is the essence of the origin of activity. Like all other categories of materialist dialectics, the category of "possibility" acts not only as a form of knowledge and objective reality, but also as a form of self-awareness and goal setting. According to scientists, the entire history of humankind is an expedient social activity, which includes two operations: goal setting and goal implementation.

The thoughts of philosophers that "some things exist both in possibility and in reality, but not at the same time and not in relation to the same thing" confirm that self-realization in relation to reality is the experience of teachers, and in relation to possibility, it is a goal, innovation movement (Figure 1).

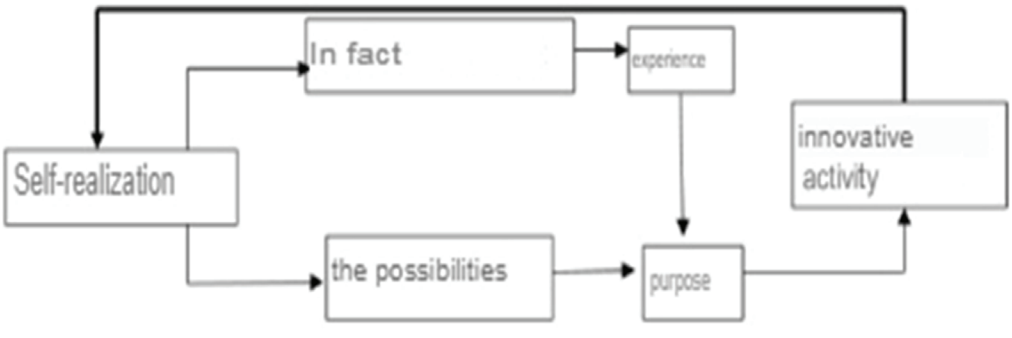

Figure 1. The essence of self-realization

As can be seen from Figure 1, the study of self-realization represents the genetic unity of experience and goals. From the point of view of dialectics, self-realization, reflecting the determination of being, indicates the direction, the path of endless deepening of activity, and innovative activity at that. According to scientists and practitioners, innovative activity by its nature is not amenable to formalization or predetermined regulation, therefore the subject of innovative activity is forced to independently work on it, achieving compliance with the characteristics of his own perception, the initial level of knowledge and skills with which he begins to create, master, and apply and the dissemination of new things. Innovative activity, according to V. Rozin (2018):

– these are focused efforts, creativity and a form of life carried out by the teaching staff;

– this is an initiative of teachers, addressed to the initiators themselves and all those who wish to participate in them.

Is a form of creativity in the lives of teachers, which reacts vividly to current situations and involves a change in their consciousness and understanding.

Having examined the self-realization of the individual based on the universal *principle of determinism,* where the individual acts as a "holistic system of internal conditions", we emphasize the specific ones from "I" to "We". It is legitimate to consider an innovation group as an environment in which the connection between an individual and a group develops.

Results. In order to further study the problem, it was necessary to have certain "reference points" for the real state of teachers' self-realization. At the first stage of the study, the following tasks have solved:

– identify the levels of teachers' readiness for self-realization in the conditions of an integrally self-governing system;

– substantiate the features of diagnostic methods for studying this education.

The search for sufficiently reliable ways to study the professional self-realization of teachers is associated with the specificity of the subject under study. Self-realization is one of the hidden areas of philosophy, psychology and sociology, which is extremely difficult to penetrate, primarily due to the unreliability of the "keys" - specific research techniques. A major role in the organization and conduct of the study has played by the quantitative assessment of the material; in connection with this, the task was set of mathematically precise determination of all the phenomena has studied; statistical and mathematical assessment procedures were used with a certain caution, which is explained by the fact that the subject of the study itself is too complex to be solved. simplify. Where the objectives of the study required bringing it closer to the sociological level, the representativeness of the sample has ensured and the conclusion was extended to the entire population. A whole series of standard coefficients obtained from the study of other phenomena has transferred to the study of teachers' self-realization. Self-realization as a special phenomenon requires a special system and numerical expression. A systematic approach to studying the conditions and patterns of self-realization of teachers provides for the possibility of using various methods and methods of research work.

Self-realization of secondary school teachers has embodied in real constructive procedures with the real activities of the subjects. However, the experiment carried out is not just a way to study some reality, but the generation of a certain real life situation. Creating a situation is not like forced "education", "formation," "influence", etc. What is required is precisely such a situation, the essence of which is not "to achieve a goal," but freely express one's creative powers. Many researchers include the most important characteristics that ensure a high level of teacher self-development in the profession: psychological well-being;

– social maturity; positive (optimistic) thinking;

– satisfaction with one's life and activities;

– focus on self-education and methodological improvement;

– highly productive activities;

– passion for work and interest in its positive results;

– a high level of meaningfulness of life and activity in a time perspective;

– ability for creativity (individual, collective);

– ability to self-determination;

– high level of communicative competence and pedagogical interaction with all subjects of the educational space.

To form the level of readiness of teachers for self-realization of potential opportunities, a technology for generating problem situations (in the joint activity of subjects and the experimenter) has developed, which has reflected in Table 1.

Table 1. *Technology for solving problem situations*

Activities	Problem situations	Interaction between researcher and subject	Stages of self-realization
Generalization of software of different categories	Defining your own goals and objectives	Mutual support	Self-knowledge
Reflective reports	Classification of empirical reports	Mutual enrichment of life experience	Self-design
Creation of a database of teachers who have completed level program courses	System analysis of a potential fund	Peer education	Self-modeling

Within the framework of these methods, methods of observation, self-assessment, and filling out information and pedagogical modules (IPM) have used.

The observation method has a number of advantages: firstly, the direct connection of the researcher with the object of his study; secondly, the absence of intermediary links, the efficiency of obtaining information. However, the information received has verified by other methods. Participant observation was used (a distinction is made between non-involved, included, random observation), where the observer is deliberately included in the object being studied, takes part in the processes occurring in it (joint holding of author's courses, seminars,

The object of knowledge is the reality of students who have completed courses in level programs: the genetic initial structure is *opportunity;* the stage of development of the initial structure is *innovative experience*, innovative movement, and professional self-realization. As research shows, discovering the possibility of self-realization is not only awareness of one's strengths, but also the basis for characterizing the nature of innovative groups formed in the process of self-realization. Therefore, it is very important that teachers are aware of their strengths and capabilities as a means of self-realization, which is characteristic of the teacher's personality.

Discussion. The article delves into the intricate and multifaceted realm of self-realization within the context of a creative personality's capabilities. The examination of self-realization is grounded in existential, immanent, and active approaches, as well as the value orientations stemming from an individual's autonomous life choices. This comprehensive analysis is underpinned by the universal principle of determinism, conceptualizing the personality as a holistic system of internal conditions.

The proposed conceptual position of self-realization introduces three fundamental dimensions: self-realization as an experiential engagement with reality, self-realization as a goal in relation to inherent potentialities, and self-realization as the manifestation of potentialities within the realm of innovative movement. This conceptual framework provides a nuanced understanding of the dynamics involved in the self-realization process, capturing its essence as a continual interplay between past experiences, present opportunities, and future innovative endeavors.

Empirical analysis is employed to identify methodological directions for studying self-realization, leveraging an individual and activity-oriented approach as a manifestation of practical identity. The article views self-realization not only as a personal journey but also as an innovative challenge, presenting new and alternative pathways of activities. Moreover, self-realization is positioned as an integral part of the system for self-management in socio-pedagogical transformations.

A noteworthy aspect highlighted in the article is the distinctive nature of the experiment. It is not merely a study of a specific reality; rather, it involves the intentional creation of a unique life situation that fosters conditions for free self-expression. The emphasis of the experiment is not solely on the "achievement of a goal" but rather on the unfolding and realization of creative abilities. This shift in focus underscores the intrinsic value of the creative process itself.

Conclusion. The presented fund of data on personal self-realization is a theoretical and methodological basis for studying the essence of this education of teachers of secondary schools. Adhering to the above interpretations of personal self-realization, let us express it this way: self-realization as a process of manifestation of the individual's potential is the result of one's own strengths, i.e. self-realization is self-realization, self-expression, which has reflected in innovative activity.

Theoretical analysis makes it possible to present the teacher's self-realization in three aspects:

– self-realization in reality as a reflection of originality, the originality of the individual, capable of responding to an innovative challenge in ever new and alternative ways of activity (personal approach);

– self-realization in reality as an innovative experience in a holistically self-governing system of socio-pedagogical transformation (activity approach);

– self-realization is actually a conscious attitude towards oneself (synergetic approach).

Thus, the genetic unity of self-realization and potential capabilities is noted and it is stated that self-realization as a system that precedes the emergence of personal experience and

goals represents a dynamic form of opportunity, which is reflected in innovative activity. With this interpretation of innovative pedagogical action, a person always remains a person, and the innovative action itself has understood not as an external organization or transformation, but as life in this movement. In this regard, it has assumed that the ability to move is a direct contact between self-realization and innovative activity. The supposed connection between self-realization and innovative activity represents the essence of self-realization and, according to Aristotle's logic, is characterized as follows: self-realization, capable of innovative movement, represents *innovative activity as the reality of the possible, revealing the essence of the past and the future*. It follows that self-realization of the individual represents the genetic unity of personal experience and goals, the implementation of which provides a continuous connection between the present and the future through the assimilation of the past. The foregoing serves as sufficient grounds for the assumption that *self-realization is a form of manifestation of the potential capabilities of the individual.*

Recommendations

Based on the conclusions drawn from the study, we have crafted recommendations for the expression of capabilities through self-realization.

1) Provide insights into how these methods were selected, their reliability, and their appropriateness for the subject under study.

2) Addressing Specific Challenges to consider proposing innovative ways to overcome these challenges, perhaps through a combination of qualitative and quantitative research methods.

3) Statistical Rigor to articulate the limitations and cautions associated with statistical and mathematical assessment procedures.

4) Population Representation to provide details on the sampling methodology and its implications for the generalizability of findings.

5) Integration of Standard Coefficients to explain how these coefficients were adapted and if there were any modifications made to suit the unique nature of self-realization as a subject of study.

6) Comprehensive Characteristic to consider providing a more in-depth analysis of the characteristics identified by many researchers as ensuring a high level of teacher self-development.

In essence, this study sets the stage for future investigations by highlighting key considerations in the design, execution, and analysis of research on self-realization and the manifestation of capabilities. By addressing these aspects, researchers can contribute to a more robust and nuanced understanding of the complex phenomenon of self-realization, fostering advancements in theory and practice.

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B. S. ARYMBEKOV [1], S. K. KODANOVA [1], K. FEDUS [2],*
Y.R. TURSANOVA [3], M.TURDALYULY [3], N. SUPRAPTO [4]

[1]Al-Farabi Kazakh National University (Almaty.Kazakhstan),
[2]Nicolaus Copernicus University (Toruń, Poland),
[3]Kazakh National Research Technical University (Almaty, Kazakhstan)
[4]Surabaya State University, (Surabaya, Indonesia)
e-mail: beckemn@gmail.com

STUDY OF COGNITIVE SKILLS IN PHYSICS LESSON WITH AUGMENTED REALITY

Abstract

According to statistics, using augmented reality in high schools in Kazakhstan is growingly higher than any other CIS countries, giving the initially promising picture of immersive technologies in Kazakhstani education; however, there is a significant underrepresentation of AR users in high schools yet. As a result, a persistent dominance of traditional teaching in the Kazakhstani schools contrasts Japanese fully metaverse high schools.

The study considers the initial physical skills of pupils as a determinant of their learning and cognitive abilities. Employing a laboratory experiment with a quantitative approach, the research sampled 175 randomly chosen 9th-grade high school students. Data collection involved administering a cognitive learning skills test during a physics lesson, with results analyzed using statistical tests like normality and Linkert tests.

The primary objective of this study is to assess the efficacy of augmented reality in enhancing cognitive learning skills during physics lessons among high school students in the Ili district. Notably, the improvement in cognitive learning skills is more pronounced among students with higher initial physical abilities. This underscores the potential of augmented reality in augmenting cognitive learning skills within the realm of physics education.

This research contributes valuable insights to the evolving understanding of augmented reality's effectiveness in fostering pupils' cognitive learning skills, particularly within physics education. The findings indicate that the use of augmented reality yields positive outcomes in enhancing students' cognitive learning during physics lessons compared to traditional teaching methods.

Keywords: education, physics, augmented reality, critical thinking, cognitive skills

Introduction. Physics is a subject that requires pupils to visualize correctly, analyze data, and make predictions based on visualization. By engaging in the process of solving physics problems, pupils can develop their cognitive learning skills (Ozdamli, et al., 2017). Physics often deals with abstract concepts and phenomena that cannot be directly observed. Therefore, students need to develop the ability to visualize these concepts accurately in their minds (Kaur, et al., 2020:881). This involves mentally representing physical processes, structures, and relationships, which is crucial for understanding and problem-solving in physics (Chen, et al., 2020). Physics is deeply rooted in empirical evidence and experimentation. Students must learn to collect, analyze, and interpret data obtained from experiments, observations, or theoretical models (Moro, et al., 2021:680). This process involves identifying patterns, relationships, and trends within the data to draw meaningful conclusions about the physical world (Chou, et al., 2021). Physics enables students to make predictions about future events or outcomes based on their understanding of underlying principles and observed patterns (Chang, et al., 2020). By applying their knowledge and reasoning skills, students can anticipate the behavior of physical systems or phenomena under different conditions, facilitating the formulation of hypotheses and the design of experiments (Demitriadou, et al., 2020). Physics education often revolves around solving problems that require critical thinking, logical reasoning, and mathematical skills (Zhang, et al., 2020). Through the process of tackling physics problems, students learn to apply theoretical concepts to real-world situations, break down complex problems into manageable steps, and

formulate systematic approaches to finding solutions (Huang, et al., 2021). Engaging in physics problem-solving activities helps students develop various cognitive skills, including analytical thinking, spatial reasoning, memory retention, and pattern recognition (Chin, et al., 2021). These skills are not only valuable in the context of physics education but also have broader applications across disciplines and in everyday life (Buchner, 2021). The statement underscores the importance of active engagement and hands-on learning in physics education, as well as the role of visualization, data analysis, prediction, and problem-solving in fostering students' cognitive development and understanding of the physical world (Arymbekov, et al., 2023). In addition, having strong cognitive learning skills can lead to better academic performance, as pupils are able to understand and apply concepts more effectively. It can also lead to better problem-solving skills, which are important in study of physics (Cai, et al., 2021). Therefore, it is important for physics teachers to prioritize the development of cognitive learning skills in their pupils, and to provide opportunities for pupils to engage in activities that promote critical thinking, such as problem-based learning, inquiry-based learning, and collaborative learning (Garzón, et al., 2020).

Main part. Research on cognitive skills in physics lessons with augmented reality aims to investigate the impact of utilizing augmented reality technology in enhancing cognitive skills among students during physics lessons. This research delves into how augmented reality, as an innovative educational tool, influences the development of cognitive skills such as critical thinking, problem-solving, and spatial reasoning in the context of physics education. Research on cognitive skills in physics lessons focuses on understanding how students develop and apply cognitive abilities during their physics education. This field of study investigates various aspects of cognition, such as problem-solving, critical thinking, spatial reasoning, and conceptual understanding, within the context of physics learning. Researchers employ diverse methodologies to explore cognitive skills in physics lessons, including experimental designs, quantitative analysis of learning outcomes, qualitative assessments of student understanding, and observations of classroom interactions. These studies aim to uncover the cognitive processes involved in physics learning, identify effective instructional strategies, and enhance students' cognitive development in the subject. Through empirical investigations, theoretical frameworks, and educational interventions, research on cognitive skills in physics lessons seeks to advance our understanding of how students acquire and apply knowledge in the domain of physics. By elucidating the cognitive mechanisms underlying learning, this research informs the design of curriculum, teaching practices, and educational technologies aimed at promoting effective physics instruction and fostering cognitive growth among students. The study employs various methodologies, including experimental designs, quantitative analysis, and assessments of cognitive learning outcomes. It examines the effectiveness of augmented reality applications in comparison to traditional teaching methods, focusing on factors such as engagement, comprehension, and knowledge retention. By exploring the relationship between augmented reality and cognitive skill development in physics education, this research contributes valuable insights into the potential benefits and challenges of integrating emerging technologies into the classroom. It sheds light on the opportunities for optimizing learning experiences and improving educational outcomes through innovative approaches to instruction.

Literature review. Augmented reality has the potential to enhance the learning experience by providing a more immersive environment for pupils (Thees, et al., 2020). By combining real-world situations with virtual objects, pupils can better visualize and understand abstract concepts, leading to improved learning outcomes (Eldokhny, et al., 2021). Augmented reality technology offers a unique opportunity to revolutionize the learning experience by blending digital content with the real-world environment (Arymbekov, 2023). We study elaboration on how AR can enhance the learning process. AR creates an immersive learning environment where virtual objects are seamlessly integrated into the physical world (Guntur, et al., 2021). By superimposing digital content onto real-world objects or scenes, AR allows students to interact with and manipulate

virtual elements as if they were part of their immediate surroundings (Marini, et al., 2022). This immersive experience captivates students' attention and fosters active engagement in the learning process. Many scientific concepts, particularly in subjects like physics, can be abstract and difficult for students to grasp through traditional teaching methods alone (Hsieh, 2021). AR technology enables students to visualize these abstract concepts in a tangible way by overlaying virtual models, simulations, or animations onto physical objects or environments (Sahin, et al., 2020). For example, students can explore the structure of atoms, observe the motion of celestial bodies, or interact with complex machinery through AR applications (Lee, et al., 2021). By combining real-world situations with virtual objects, AR facilitates a deeper understanding of complex concepts. Students can manipulate virtual objects, conduct experiments, and observe simulations in real-time, allowing them to explore cause-and-effect relationships and visualize the consequences of their actions (Christopoulos, et al., 2021). This hands-on approach promotes active learning and encourages students to actively construct their knowledge. Research has shown that integrating AR technology into educational settings can lead to improved learning outcomes. AR enhances students' motivation, engagement, and retention of information by making learning more interactive, personalized, and enjoyable (Wahyu, et al., 2020). Additionally, AR provides immediate feedback and scaffolding support, enabling students to learn at their own pace and receive tailored assistance when needed. AR experiences often leverage multiple senses, including visual, auditory, and tactile feedback, to create a rich and multisensory learning environment (Alqarni, 2021). By engaging multiple senses simultaneously, AR stimulates different areas of the brain and enhances information processing, memory formation, and knowledge retention (Arymbekov, et al., 2023). This multisensory approach accommodates diverse learning styles and preferences, making learning more inclusive and accessible to all students. augmented reality holds immense potential to transform education by offering immersive, interactive, and personalized learning experiences (Nurbekova, 2020). By bridging the gap between the physical and digital worlds, AR empowers students to explore, experiment, and discover in ways that were previously unimaginable, ultimately leading to enhanced learning outcomes and a deeper understanding of complex concepts (Elmira, et al., 2022). The use of augmented reality in education can provide a more engaging learning experience, which can help to maintain pupil motivation in the subject matter. This can be particularly beneficial in physics where pupils may struggle with understanding (Arymbekov, 2023). Furthermore, the use of augmented reality can help to overcome the limitations of traditional classroom-based learning, such as limited resources and access to real-world scenarios (Afnan, et al., 2021). With augmented reality, pupils expose to a wider range of scenarios and experiences that would otherwise be difficult or impossible to recreate in the classroom (Weng, et al., 2020). The use of augmented reality in education offers numerous benefits, including the skills to provide an interactive and immersive learning experience that can improve pupils' understanding of abstract concepts (Arymbekov, 2023). Augmented reality can also help to build pupils' interest in learning by creating a more engaging and interactive environment (Sugandi, et al., 2022). Moreover, augmented reality provides a medium for educators to communicate with pupils, providing feedback and distributing messages that can help to facilitate an effective and efficient learning process (Arymbekov, et al., 2023).

The use of augmented reality in education has the potential to transform the learning experience by providing a more engaging, immersive and interactive environment that can enhance pupils' understanding, motivation, and interest in the subject matter (Saitnabieva, et al., 2023). Augmented reality can help to enhance pupils' cognitive learning skills by providing an interactive learning environment. This research studies have focused on the application of augmented reality in learning, including identifying its potential for introducing building objects and serving as a learning medium (Suhaizal, et al., 2023) . In addition, research has been conducted on the relationship between problem-based learning models and cognitive learning skills, as well as the development of cognitive learning questions based on local

wisdom (Eldokhny, et al., 2021). Therefore, it is important to examine the improvement of pupils' cognitive learning skills during physics lessons using augmented reality. By using augmented reality media, pupils can engage in an interactive and immersive learning experience that can enhance their cognitive learning skills. This allows pupils to visualize 3D objects, which can help to reinforce their understanding of abstract concepts of problem-solving abilities. Overall, the use of augmented reality in education has the potential to improve pupils' cognitive learning skills in physics lesson (Aviandari, et al., 2023).

Research materials and methods. The research method is described a physics laboratory experiment with nonequivalent control group design. The study aims to investigate the effect of using mobile augmented reality application with Unity3D on the cognitive learning skills of ninth-grade pupils in three high schools. The study compares experiment group, who receive the mobile augmented reality application, with the control group, who receive pupil worksheets. This research design allows for an investigation into the effect of mobile augmented reality application on cognitive learning skills in a controlled setting, while also considering the influence of initial physical skills. By comparing the experimental group to the control group, the study aims to determine whether the use of mobile augmented reality application is an effective method for improving cognitive learning skills in physics lessons.

Motion in a vertical circle refers to the movement of an object along a circular path in a vertical plane, such as a roller coaster or a pendulum swinging back and forth. This type of motion involves changes in both speed and direction as the object moves around the circle. In order to keep an object moving in a circular path, there must be a force directed towards the center of the circle. This force is known as the centripetal force. In the case of motion in a vertical circle, gravity provides the centripetal force necessary to keep the object moving in a circular path. For objects connected to a string or rope that moves in a vertical circle, tension in the string plays a crucial role. At the top of the circle, tension must be greater than gravity to prevent the object from falling. At the bottom of the circle, tension decreases as gravity assists in providing the centripetal force.

Due to changes in speed and direction, objects in vertical circular motion experience acceleration. At the top of the circle, the object experiences centripetal acceleration directed downwards, while at the bottom, it experiences centripetal acceleration directed upwards. As the object moves up and down the vertical circle, its kinetic energy (due to motion) and potential energy (due to height) change. The total mechanical energy (sum of kinetic and potential energy) remains constant if only conservative forces, like gravity, are acting on the object. Understanding motion in a vertical circle involves analyzing the forces acting on the object, including gravity, tension, and centripetal force, and applying principles of kinematics and dynamics to describe the object's motion accurately (Figure 1).

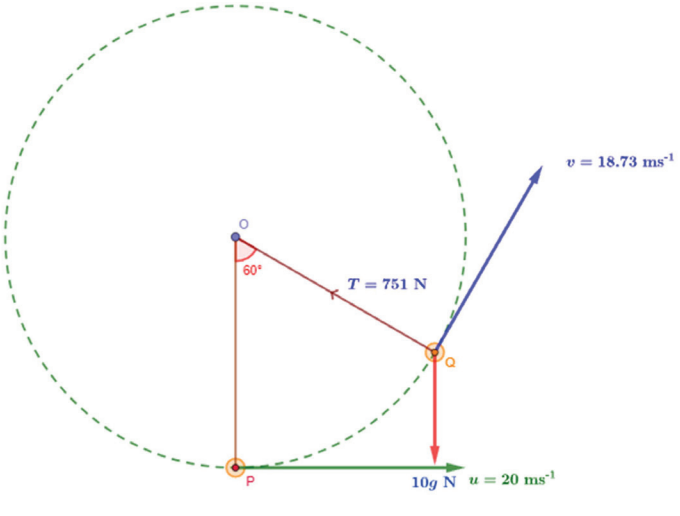

Figure 1. Motion in a vertical circle

The use of a validated test, as well as statistical analysis, increases the validity and reliskills of the study results. Overall, this research design is a rigorous and systematic approach to investigating the impact of mobile augmented reality application on cognitive learning skills.

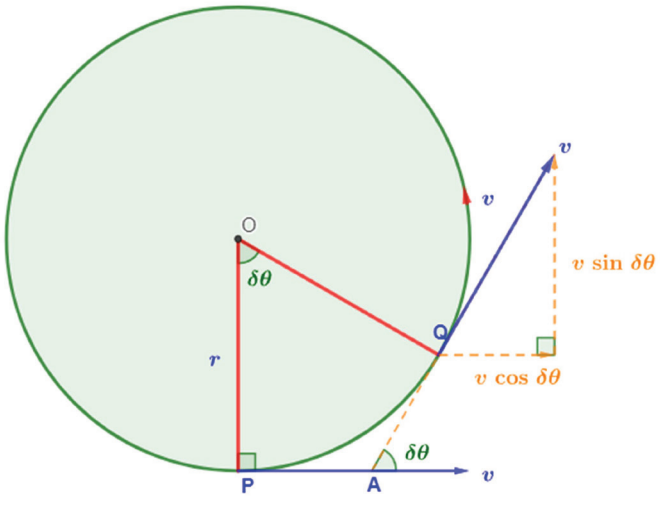

Figure 2. The acceleration of a part moving on a circular path

When a body moves with uniform motion on a circular path, it experiences centripetal acceleration. Centripetal acceleration is the acceleration directed towards the center of the circular path, which keeps the object moving in a curved trajectory instead of a straight line (Figure 2.). In uniform circular motion, the speed of the object remains constant, but its direction changes continuously. Therefore, the magnitude of the velocity remains constant, and only the direction changes. As a result, the centripetal acceleration it remains constant in magnitude but continuously changes in direction, always pointing towards the center of the circular path. It is important to note that centripetal acceleration is not a velocity; it is an acceleration. It represents the rate of change of velocity (in direction) of an object moving in a circular path.

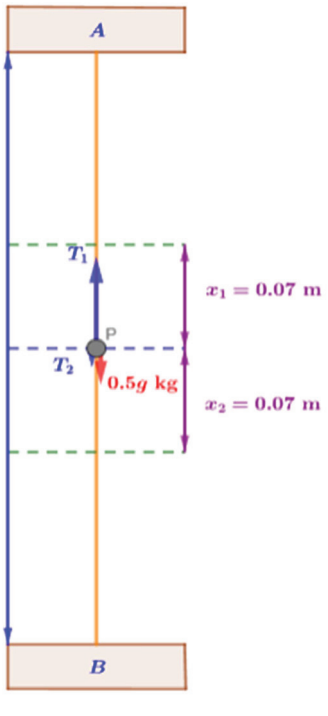

Figure 3. Hooke's law with more than one string

Using Hooke's law with more than one elastic string involves applying the principle of superposition (Figure 3). Hooke's law states that the force required to extend or compress a spring is directly proportional to the displacement of the spring from its equilibrium position. x is the displacement from the equilibrium position. When dealing with multiple elastic strings, each string obeys Hooke's law independently. Therefore, to determine the total force exerted by multiple springs, you simply sum up the forces from each spring individually. It is important to note that this approach assumes that the springs are connected in parallel or series, depending on the setup. If they are connected differently, such as in a complex network, the analysis would involve considering the specific arrangement of the springs and their interactions.

Augmented reality has been increasingly used in education to enhance learning experiences. AR technology involves overlaying digital information, such as 3D images, videos, and sounds, onto the real-world environment, creating an immersive and interactive experience for learners. There has been a growing body of research on using AR in lessons, and the results have been largely positive (Table 1).

Table 1. *Expected reseach area in this study*

#	Learning Indicator	Assumted Reseach Results
1	Increased engagement	AR can make learning more engaging and interesting by providing a more interactive and immersive experience
2	Improved understanding	AR can help learners visualize abstract concepts or complex topics, making it easier to understand and retain information
3	Personalized learning	AR can be tailored to individual learners' needs, allowing them to learn at their own pace and level
4	Enhanced creativity	AR can encourage learners to be more creative and innovative, as they explore and experiment with digital content in a real-world context

Science and engineering: AR can be used to visualize scientific concepts, such as the structure of atoms or the movement of the solar system. It can also be used to simulate engineering projects, allowing learners to test and refine designs in a virtual environment. History and geography: AR can bring historical events and landmarks to life, allowing learners to explore and interact with them in a more meaningful way. It can also be used to simulate virtual field trips to different parts of the world. AR can be used to create immersive language learning experiences, allowing learners to practice their skills in a real-world context. Research suggests that AR has great potential to enhance learning experiences and improve learning outcomes. However, it is important to consider factors such as accessibility, cost, and technical requirements when implementing AR in education.

Results. This study aims to examine, describe, and compare the differences in the improvement of cognitive learning during the physics lesson skills between pupils who receive learning using augmented reality media with Unity3D and Vuforia and conventional learning based on pupils' initial physical abilities. Initial physical skills of pupils consists of three categories, namely: high category, medium category, and low category. The following is the distribution of the research sample (Table 2).

Table 2. *The Data Distribution of Research Results*

IMA	Conventional Learning	Experiment with Augmented Reality	Amount
High	15	15	30
Medim	15	15	30
Low	15	15	30
Total	45	45	90

The summary statistics presented in the table provide information about the distribution of pupils' initial physical abilities based on their previous learning outcomes. The mean is the average score of all the pupils, while the standard deviation is a measure of the variskills or spread of the scores around the mean. The minimum and maximum values represent the lowest and highest scores, respectively. By analyzing the descriptive statistics, we can get an idea of how the pupils are distributed across the different categories of initial physical skills. If the mean is high and the standard deviation is low, then it indicates that most pupils have similar scores and are clustered around the mean. On the other hand, if the mean is low and the standard deviation is high, then it indicates that the pupils have widely varying scores. The descriptive statistics provide a useful summary of the distribution of pupils' initial physical abilities, which can be used to analyze the results of subsequent statistical tests (Table 3).

Table 3. *The Data Description of Pupil Initial Physical Skills*

Descriptive Statistics	Control	Experiment
N	15	15
X	81,52	80,45
Sd	6,64	6,12
Maximum	98	100
Minimum	64	65

In the table above, the normality test results for both the control class and the physics Laboratory experiment class show that the value is greater than 0.09, indicating that the data is normally distributed. Therefore, the test is used to test the equivalence of the initial physical abilities between the two learning groups. However, the homogeneity of variance test using the Linkert test showed that the p-value is less than 0.09, indicating that the variance of the initial physical skills data is not equal between the two groups. As a result, the test, which is a modification of the t-test that takes into account unequal variances, is used to test the equivalence of the initial physical abilities between the two learning groups (Table 4).

Table 4. *Normality Test of Pupil Initial Physical Skills*

Kolmogorov	Control	Experiment
N	73	79
TP	0,51	0,71

In the table 3 above, it shows that the probskills value of the data on conventional learning and augmented reality media with Unity3D and Vuforia is more than 0.09. This means that H_0 is accepted, so it can be concluded that the sample data for the two groups came from a normally distributed population. Furthermore, the homogeneity of the variance of the initial physical skills of the two groups will be tested using Levene's test. The results of the homogeneity test of the data for the initial physical skills of pupils in the two learning groups are presented in the following table (Table 5).

Table 5. *The Test of Pupil Initial Physical Skills*

Levene-test	Data	Criteria
N	30	H_0
DR	0,19	Accepted

In the table above, it shows that the probskills value (sig.) of the data is greater than 0.05. This means that H_0 is accepted, so it can be concluded that the data variance of the two groups is homogeneous. Furthermore, the equality of the initial physical skills data will be tested using

the t-test. The results of the data equivalence test of pupils' initial physical abilities based on learning are presented in the following table (Table 6).

Table 6. *The Equivalence Test of Pupil Initial Physical Skills*

t-test	Data	Criteria
N	370	H_0
DR	0,51	Accepted

In the table above, it shows that the probskills value is greater than 0.05, so H0 is accepted. Thus, there is no difference in skills between pupils who receive learning using augmented reality media with Unity3D and Vuforia and pupils who receive conventional learning. This further strengthens the statement in the previous table 2 that, overall, there is no significant difference in the description of the initial physical skills of the control class and the physics Laboratory experiment class. Then to see the difference in increasing cognitive learning during the physics lesson skills of pupils who receive learning using Augmented reality media with Unity3D and Vuforia based on pupils' initial physical abilities, a prpbskills test will be carried out. In order to obtain an overview of the quality of cognitive learning during the physics lesson skills of the two groups of pupils, the data were analyzed descriptively so that the mean, standard deviation, minimum value, and maximum value could be known. The summary of the results of the descriptive analysis of pupils' cognitive learning during the physics lesson skills data in the two lessons is presented in the following table (Table 7).

Table 7. *The Description of Data Pupils' Cognitive Skills*

Learning	Skills	Mean	SD
Augmented reality	Extraordinary	0.71	0.15
	Mediocre	0.62	0.11
	Squat	0.99	0.19
Traditional	Extraordinary	0.74	0.15
	Mediocre	0.93	0.07
	Squat	0.90	0.09

In the table above we have provided a description of a research study on the comparison of cognitive learning during a physics lesson between pupils who received conventional learning and those who received learning using augmented reality media with Unity 3D and Vuforia. The results of the data analysis suggest that the cognitive learning skills of pupils who received learning using augmented reality media with Unity 3D and Vuforia was better than those who received conventional learning based on initial physical skills. Before testing the average difference, the data normality and homogeneity of variance were tested. The Kolmogorov test was used to test the normality of the data. However, you have not provided the results of the normality test for the cognitive learning during the physics lesson skills data for the two learning groups. Please provide the results of the normality test so that I can help you further in following table (Table 8).

Table 8. *The Normality Test of Data Gain Pupils' Cognitive learning Physical Skills*

Kolmogorov-Smirnov	Control	Experiment
N	91	79
TY	0,11	0,33

From the table above, it shows that the significance value of the cognitive learning during the physics lesson skills of the two learning groups is greater than 0.05. This means that the

null hypothesis is accepted. That is, the data on pupils' cognitive learning during the physics lesson skills for both the control class and the physics Laboratory experiment class is normally distributed. Furthermore, the homogeneity of the variance of cognitive learning skills of the two sample groups will be tested using Linkert's test. The results of the homogeneity test of the data variance of pupils' cognitive learning during the physics lesson abilities in the two learning groups are presented in the following table (Table 9).

Table 9. *The Homogeneity Test of Data Gain Pupils' Cognitive learning Physical Skills*

Linkert-test	Data	Criteria
N	75	H_0
TY	3,07	Accepted

From the table above, it seems that the results of the homogeneity test of the data variance goes up. Skills of pupils who received learning using augmented reality with Unity3D and Vuforia and conventional learning showed a significant value greater than 0.07, indicating that the null hypothesis is accepted and the variance is homogeneous. Since the data meet the assumptions of normality variance, the next step is to test thesignificant difference between the average cognitive learning during the physics lesson. Skills of pupils who received learning using augmented reality media with Unity3D and Vuforia and pupils who received conventional learning and whether there is an effect of the interaction between the learning used and the initial physical skills on pupils' cognitive learning during the physics lesson skills. This will be tested using two-way probskills. However, we have not provided the calculation results for the probskills with the following table (Table 10).

Table 10. *The probskills test of Data Pupils' Cognitive learning Skills*

Indicator	Total	Dk	Average square	F	ERR	H_0
Learning	1642,80	1	1642,80	54,69	0,003	Rejected
IFT	7942,06	2	3971,03	132,22	0,005	Rejected

Table 11. *The skills test of Data Pupils' Cognitive learning*

Indicator	Total	Dk	Average square	F	ERR	H_0
Interaction	300,20	2	150,10	4,99	0,01	Rejected
Error	720,80	24	30,03			
Total	125678,00	30				

From the table above (Table 11), it shows that the initial physical skills factor used by each learning group has a significant influence on pupils' cognitive learning during the physics lesson skills. This can be seen from the significance value obtained at 0.00,7 which is smaller than 0.09. It seems that your statement is discussing the findings of a study on the use of augmented reality in physics education. The study revealed that the use of augmented reality, specifically using Unity3D and Vuforia, has a significant impact on pupils' cognitive learning skills during physics lessons compared to conventional learning methods. The use of augmented reality has several advantages, including the skills to visualize 3D models and create new experiences for users. The study shows that augmented reality has great potential and benefits in the learning process, and its use in education has been proven to have a positive impact on pupils' cognitive learning skills.

Discussion. This statement suggests that augmented reality can be an effective tool in enhancing physics education and improving pupils' learning outcomes. The following is the process of implementing and answering pupil test results in the experiment class. Additional information about the indicators of cognitive

learning skills used in the study. The study found that pupils who received learning using augmented reality media with Unity3D and Vuforia had better cognitive learning skills during the physics lesson compared to pupils who received conventional learning based on their initial physical abilities. The study also found that the use of augmented reality in learning has several advantages, such as creating 3D models that are difficult to visualize in traditional classrooms, on computers, or in the minds of pupils. Augmented reality also has great potential and benefits in the learning process. The study provides evidence that augmented reality can have a significant influence on increasing pupils' cognitive learning during the physics lesson skills based on their initial physical abilities. It also highlights the importance of identifying relevant information, formulating problems into physical models, and using principles to deduce conclusions in developing cognitive learning skills. It can be concluded that learning using augmented reality media with Unity3D and Vuforia has a positive effect on pupils' cognitive learning during the physics lesson skills, especially on flat-shaped material. The use of augmented reality in learning provides several advantages, such as the skills to create 3D models that may be difficult to visualize in the classroom, on a computer, or in the minds of pupils, and the potential to create a new and exciting learning experience for pupils. However, there are still some challenges to be addressed in the implementation of augmented reality in the classroom. The transition process for pupils to feel comfortable with the augmented reality media format and platform is still considered new to the school, and some pupils may be rigid in using the application at the beginning of learning. Additionally, some types of cellphones may not be able to install augmented reality applications, and pupils may experience application errors. The study shows that augmented reality has the potential to improve pupils' cognitive learning during the physics lesson skills, and further research can explore the use of this technology in other subjects and contexts. The challenges in the implementation of this technology in the classroom should also be addressed to ensure its effective use in supporting pupils' learning. The use of augmented reality media in the classroom has been shown to be beneficial in improving cognitive learning skills and enhancing the learning experience of pupils. By merging the real and virtual worlds, providing an interactive and real-time experience, and incorporating three-dimensional objects, augmented reality can engage and captivate pupils, leading to more focused and regulated learning. Augmented reality can be particularly helpful in teaching complex concepts, such as atomic physics, where visual aids and interactive tools can aid in understanding. Additionally, the study suggests that gender should be taken into account when implementing augmented reality in the classroom, as male pupils may be more enthusiastic about using augmented reality and may benefit more from its use in developing cognitive learning abilities. It is important to note that while augmented reality can be a valuable tool in education, it should not be used as a replacement for traditional teaching methods. Instead, it should be used as a supplementary tool to enhance the learning experience and provide pupils with a more engaging and interactive way of learning.

Conclusions. Based on the findings presented in the article, it can be concluded that the use of augmented reality media with Unity3D and Vuforia in physics lessons leads to better improvement in cognitive learning skills compared to conventional learning methods, especially for pupils with different initial physical abilities. However, it is important to note that the magnitude of improvement may vary among individual pupils, and further investigation is needed to determine the effectiveness of this approach for developing higher-order thinking skills beyond cognitive learning in physics lessons. We suggest that the implementation of augmented reality (AR) technology, specifically utilizing platforms like Unity3D and Vuforia, in physics education offers several advantages over traditional teaching methods. AR technology overlays digital content onto the real world, providing an interactive and immersive learning experience for students. In the context of physics lessons, this means that students can visualize and interact with virtual objects and phenomena in a more engaging manner. Unity3D is a popular game development platform known for

its versatility and ease of use, while Vuforia is a software development kit (SDK) for creating AR applications. By leveraging these tools, educators can create customized AR experiences tailored to their physics curriculum. The use of AR media in physics education has been shown to enhance cognitive learning skills among students. This includes abilities such as problem-solving, critical thinking, spatial reasoning, and visualization. AR allows students to interact with complex physics concepts in a hands-on way, facilitating deeper understanding and retention. The research suggests that AR-based learning outperforms traditional teaching methods in terms of improving cognitive learning skills. This could be attributed to the immersive nature of AR, which actively engages students and provides them with opportunities for experiential learning. Importantly, the benefits of AR in physics education extend to students with varying initial levels of proficiency or physical abilities. AR can accommodate different learning styles and preferences, making it accessible and inclusive for all students. Overall, the findings indicate that integrating augmented reality media, particularly through platforms like Unity3D and Vuforia, into physics lessons holds great promise for enhancing learning outcomes and catering to diverse student needs in the classroom. Overall, the results suggest that augmented reality learning media with Unity3D can be a valuable tool for enhancing the quality of physics education and promoting pupils' cognitive development.

Recommendations. Based on the insights gleaned from the study, we have developed suggestions for integrating AR into physics education: Here are some recommendations for integrating augmented reality (AR) into physics lessons:

1) Ensure that the AR experiences are closely aligned with the learning objectives of the physics curriculum. Identify specific concepts or topics where AR can enhance understanding and provide meaningful learning experiences.

2) Use AR to create interactive simulations that allow students to manipulate virtual objects, conduct experiments, and observe phenomena in real-time. Provide opportunities for students to explore cause-and-effect relationships and make predictions based on their observations.

3) Integrate AR experiences that contextualize physics concepts within real-world environments. For example, use AR apps to overlay physics principles onto familiar objects or situations, such as motion tracking in sports or understanding the physics of roller coasters at an amusement park.

4) Foster a spirit of exploration and inquiry by giving students the freedom to explore AR content at their own pace. Encourage them to ask questions, make hypotheses, and test their ideas within the AR environment.

5) Promote collaborative learning experiences by incorporating multiplayer AR activities where students can work together to solve physics problems or complete challenges. Encourage communication, teamwork, and peer-to-peer support within the AR environment.

6) Leverage the interactive nature of AR to provide immediate feedback to students as they engage with the content. Use features like virtual annotations, tooltips, or pop-up explanations to reinforce correct concepts or provide guidance when students encounter misconceptions.

7) Use AR to differentiate instruction and cater to the diverse learning needs of students. Provide multiple entry points and levels of challenge within AR activities, allowing students to choose paths that align with their abilities and interests.

8) Use AR as a formative assessment tool to gauge students' understanding of physics concepts in real-time. Design AR activities that require students to demonstrate their knowledge through problem-solving, data analysis, or hypothesis testing.

9) Encourage students to reflect on their learning experiences with AR and engage in metacognitive processes such as thinking about their thinking. Provide opportunities for students to articulate their strategies, identify areas of growth, and set goals for further exploration.

10) Stay informed about the latest AR technologies, apps, and resources available for physics education. Explore online platforms, educational app stores, and professional development opportunities to discover new ways to integrate AR into your lessons effectively.

By following these recommendations, educators can leverage the immersive and interactive nature of augmented reality to create engaging and impactful learning experiences for students in physics lessons.

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T.N.FOMINA [1], P.M.KARIMOVA [1], I.I. KOSTIKOVA [2]

[1]Pavlodar Pedagogical University (Pavlodar, Kazakhstan)
[3] Kharikov National Pedagogical University named after G.S.Skovorodi (Kharkiv, Ukraine)
e-mail docent_t_n@mail.ru*

DEVELOPMENT OF CHILDREN'S CREATIVE POTENTIAL IN ART CLASSES THROUGH THE CONTINUITY OF AGE LEVELS OF STUDENTS

Abstract

The article reveals the problems of modern education in the development and education of a child's creative potential at different age levels. The working tasks of the research, the system being tested are set and disclosed. Relevance and practical significance of the research work are substantiated. A brief literary review of the problem under study is given. The article reveals the theoretical analysis of methods of teaching creativity in the modern education system, which determined the problematic nature of a number of educational and methodological and educational tasks. If correctly in the system to determine the way of development of creative potential of growing up preschooler - schoolchild - student, it is possible to get the opportunity of professional orientation and, as a result - the achievement of professional higher education with a creative bias - designer, architect. The methods and techniques used in organizing and conducting classes in creative disciplines are revealed. The importance of continuity in the education of creative personality is substantiated. Examples are given on the basis of the work of the school of children's creativity "Өner". The purpose of the research work is revealed. Its results are analyzed.

Keywords: continuity, methodology, pedagogical process, creativity, creative potential.

Introduction. The new time of technocratic century puts before the modern system of preschool, school and higher professional education revision and transformation of work in this area. Scientists, pedagogical innovators are searching for new methods and techniques of teaching. Any progress in the development of society is, first, the process of active assimilation and multiplication of cultural values by the learner. Undoubtedly, the moment of revival of patriotism and humanization of society is important. I so art plays a great role in solving all these tasks. It is necessarily important in pre-school and junior school age, when the foundations of children's world understanding and outlook are laid; in middle and senior school students, when professional orientation and skills for entering college and higher educational institution of creative orientation are laid.

However, the analysis of methods in teaching iso-art in the modern allowed determining the problematic nature of a number of teaching, methodological and educational situations

Scientists consider creativity as creation by a person of any new product of practical activity. It is the novelty that determines the result of creative activity of children, adolescents, and creative youth. When a kid or a schoolboy draws, sculpts, cuts or glues something, he always discovers something new for himself.

Analyzing the pedagogical experience in the practice of modern school, we can conclude that it is an organized mutual understanding between the teacher and students, aimed at achieving the goal and to lead to a change in the personal properties and qualities of the inner world of children, which develop over time and within a certain educational system (Fomina, 2011)

The purpose of the problem considered in the study is highlighted in the article and consists in the following: to justify the system of determining the way of development of the natural creative potential of the younger generation, which will undoubtedly provide an opportunity for professional orientation and, as a result - the achievement of professional higher education with a creative bias - design, architecture.

A number of contradictions have arisen that require analysis of the research and, accordingly, work tasks in this direction have been determined:

- between the social requirement of modern society to prepare a personality working in

the field of creative development, and the apparent insufficient organization of the child's cognitive activity in self-knowledge, his not high motivation for self-learning and self-education. Hence the main working task is to study, analyze and give an analysis of the positions of education in this time stage;

-between the need to organize the educational process of activating children's creative activity at art lessons in preschool and school and insufficient development of this problem in pedagogical practice. Hence, the next working task is to reveal, analyze and justify the system of organizing the educational process by age levels in different-age educational institutions;

- between the need to organize training, providing positive dynamics of creative development of children, and insufficient development of methodological material, providing this process in practice. Hence, the next working task is to analyze and develop a system of development of child's creative potential through continuity, where each previous age level should become the basis for the next (Solpan et al., 2020), (Muksiyeva, 2016).

Main part. Teaching visual literacy to children of preschool and all school parallels always requires the search for means and methods of activation of their creative activity laid down by nature, at all stages of development.

It is in the fine arts activity that contains a great potential for activation of children's creativity of preschool and junior schoolchildren, and subsequent parallels of the school. Recently in the theory and practice in education there have been quite a lot of approaches to the problem of visual creativity of students. This is justified, first of all, by the complexity of this phenomenon, the hidden mechanisms of the creative process. The issues of children's development in art classes, their importance in the pedagogical process were considered in the works of E.A. Flerina, K.D. Ushinsky, V.S. Kuzin and others.

Socio-economic changes in modern society have led to a change of value orientation in education. And, now the leading goal in the educational process is not the amount of learned knowledge and skills, but the harmonious multifaceted development of personality, determining the realization of the unique natural abilities of the child, teenager, preparing them for life, as well as psychological and social adaptation. The task of kindergarten and school is to create such conditions of education and upbringing of a child, in which it is possible to eliminate the disproportion between intellectual – theoretical, artistic – aesthetic, moral and emotional development of the younger generation.

Selection and justification of cognitive interest: mutual understanding of the teacher with students, manifestation of pedagogical optimism, providing feedback between the teacher and students, organization of the competitive process for the best creative works, organization of master classes, organization and support of goodwill in the team.

Therefore, one of the urgent problems at the present stage of pedagogical system development is the activation of creative activity of students through its natural potential.

Pedagogical practice has shown that a high level of learning is in direct correlation with the level of student's activity in this process. What does this activity consist of? Creative cognitive activity is defined as the quality of the learner's activity, which can be seen in his/her attitude to the content and process of creative learning, in the desire to effectively master knowledge and activities (Rybkina, 2010).

Research materials and methods. Justifying the investigated problem, we can say that creative activity is, first of all, the result of the work of basic interests and needs, aptitudes and aspirations as a creative individuality that determines the success of the developing personality of a kid - teenager - young man. Artistic creativity requires the development and constant growth of the intellectual level of a person. It is one of the most accessible and effective forms of mastering the world by children, because they are given such qualities as: curiosity, manifestation of will, perseverance in achieving their goals.

The predominant type of art is Iso Art, which has a great developmental and educational impact on preschool children and schoolchildren. Therefore, it is one of the important links in the system of general and aesthetic education, one of the types and means of art education. The habitat is intended to contribute to the formation and improvement of the child both as a subject

and as an object of cognition at all age levels (Lubchenko, 2018).

Creative development of children is ensured by the interrelation of pedagogical conditions:

- The level of aesthetic perception of reality by students;

- Artistic and imaginative thinking of children;

- An environment for the child's creative activity in the ever-changing conditions of modern education.

Pedagogical conditions of child development in the modern education system:

- perception of the environment in terms of aesthetics arises and develops on the basis of the manifestation of feelings in the practical activity of the child. The creative process is one of the main ways of child development, allowing the development of aesthetic understanding of reality, the development of creative, imaginative thinking, visual memory, artistic abilities (Gladysheva et al., 2018).

- Imagination and thinking are primarily mechanisms of the creative process that are shaped by creative tasks. Knowledge from different sources helps children to transform life materials into visual images;

- the emergence of any artistic image is connected with spatial imagination and logical thinking. The teacher needs to teach children to convey sensual emotions by means of artistic means;

- contemplation of works of art, purposeful perception of an artistic image lead children to the emotional and sensual sphere, where each has its own artistic and aesthetic character. The more often a child is at the level of emotional development, the stronger is the need to communicate with art. A child with developed emotional sensorics expresses emotional-value judgments about the world around him, strives to communicate more with art, is ready to show himself in the artistic-creative direction (Dubnitskaya et al., 2017).

In our understanding, the environment is a means of development and education. For the organization of art classes the most important are technologies that are oriented to the creative development of the child. It is necessary to be based on both basic traditional and new sensual knowledge, which have experience through time. The obligatory condition for improving the quality of children's knowledge is the targeted interaction of traditional and innovative approaches to the creative process of the child.

The modern system of education is an ideological socio-professional orientation, which is based not on the orientation to the choice of a profession for a particular profession, but on the orientation of the individual to the desired for him social situation in society and the search for ways to achieve it through the chosen one. The school of children's creativity "Oner", because of which we conduct research, just - so clearly shows the continuity of the younger pre-school groups of studio classes "Malyshok", the art school itself and the older studio groups, which are already professionally oriented and children consciously chose the creative profession of designer, architect, HUDGRAPH.

Since creative professional development in education is an active process, it is necessary to take as a basis those forms and methods of work that require the direct participation of children in obtaining information and possibly try themselves in a creative profession.

Confidence in their creative abilities is developed through overcoming temporary difficulties: performing creative work, gaining knowledge of graphic literacy, vision of drawing composition (Parfenova, 2017). To guide students to achieve a high level of creativity is the ability to identify creative abilities, to participate and win in exhibitions of children's creativity, as well as to solve the problems of their professional self-development, i.e. conscious and independent choice of creative profession in the future.

Based on the above stated, it is possible to substantiate:

-creative development of the child at the classes on iso-art in preschool institution, school becomes feasible, if it is provided by the system of pedagogical conditions, which show the level of creative perception of reality by students;

- imaginative representation and artistic thinking of children; the condition created by the educational institution for the development of creative learning of students; competence in professional activity under constantly changing conditions; methods of education and development of children in the formation

of creative high development to achieve the learning goal;

- the creative process is one of the important ways in the development of human personality, allowing the formation of aesthetic perception of the environment, the development of imaginative and creative thinking, visual memory, artistic ability, emotional and aesthetic attitude to reality. Imagination and thinking are mechanisms of the creative process, which are formed in the process of performing creative tasks (Sharonova, 2019), (Tsoi et al.,2023).

Artistic and creative activity of students is connected with the acquired theoretical and practical knowledge and skills in graphics and arts and crafts, painting, composition, where at a certain level spatial representations and imagination are formed; creative thinking is developed, acquisition of stylization skills, acquisition of the language of a particular technique at a certain age level (Vakhrameeva, 2021).

The lesson has always been the main organizational stage of transferring knowledge and skills from teacher to students. The teacher needs to organize the learning process in such a way that the student could get the appropriate level of knowledge, which can be implemented in creative activity and should give a good result in the end. The basic condition for high formation of students' creativity in art classes is to raise the interest of all participants of the learning process to the art (Ruzanova, 2018).

I will conduct research on the development of a child's creative potential on the basis of the children's art school "Өner", where different age groups work: 3-4 years old, 5-6 years old, 7-8 years old; art school from 9 years old; adult studio for teenagers and applicants. Children move from one age level to another and, after graduating from the art school, enter colleges and universities.

I will allow myself a little to show the work of the school - studio, which works in the system of accumulation of knowledge, skills and abilities by levels of different age groups, which undoubtedly gives its high result not only in the development of children, but also directs them as they grow up to creative specialties. Children of toddler groups also participate in competitions and exhibitions and are prize-winners of international contests of children's creativity. Graduates of the school of children's creativity "Oner" are laureates and winners of international competitions and exhibitions, enter colleges and universities not only in Kazakhstan, but also in neighboring republics. Moreover, the knowledge base laid at school is a good basis for them in post-school education in creative specialties. All age stages organized in the school have an initial course and a reflexive one, so the results are well visible at the subsequent stage.

Figure 1: Creativity of 3-4 years old children

Figure 1 shows different creative directions of kids - gouache work and plasticine work. The teaching task is the ability of figurative representation through the compositional idea. The techniques of execution are different: this is gouache in the composition "Bunny in the summer meadow" - here the hare itself was built by children, despite the age of 3 years, and colored in different colors.

The phonation was done following the teacher, but they drew the meadow itself as they imagined it for a moment with their eyes closed.

And the common theme gave a great result of creativity, the drawings were very different from each other. Working in the technique of plasticine painting, the children learn to mix colors of plasticine, stretching it on the cardboard, making a textured composition, in this case, the sea. The name of the composition is “Sailboat in the sea.” They learn to make a differently textured background of the sky and the sea with the help of stretching and stack technique. And the picture “comes to life”. This age level has a peculiarity of inattentiveness and increased activity, so the main condition in the organization and conduct of the lesson is the organization of the change of activity when working on the composition.

Figure 2: Creativity of kids 7 and 5 years old

Figure 2 shows the work of kids 7 and 5 years old. As in the first mentioned case, different compositions and techniques of execution are presented here. In the first case - work with gouache, brush and cotton swabs, composition “Hedgehog in the meadow”, where again the children build and color the hedgehog following the teacher, who clearly voices and demonstrates the execution of each stage, phonation they already do themselves only on the verbal instruction of the teacher. The composition of the meadow itself is done by the children themselves, having received a clear instruction - a summer meadow. At this stage the teacher only observes the creative process. The second photo shows a mixed technique: salt dough applique and gouache work. The composition “Semitsvetik Tsvetik”. The flower petals are made of salt dough and glued on cardboard. The children do the phonation themselves. Then they color them according to the story they have read and write the stem, leaf and grass with gouache.

Figure 3. Children’s creativity at the plein air. Age 5 and 4 years

Figure 3 shows the work of toddler groups at the plein air in the courtyard of the university. Having a basic basis of compositional construction in the classroom, kids, despite their age, are happy to write on the plein air. Here freedom of thought in compositional construction and sculpting with color have no limits. Free possession of the brush, bold color solution, inherent in this age, do their job. They work confidently and creatively, because they know how to compose on the sheet, what the phrase "fill the whole format" means. And they accomplish this by using the technique of "phonation." It's like the art school concept of "underpainting". Children's works are alive, filled with air, sunshine, with that beauty, the disclosure of which depends on the disclosure of the inner world of the child, the creative potential inherent in them from the first steps.

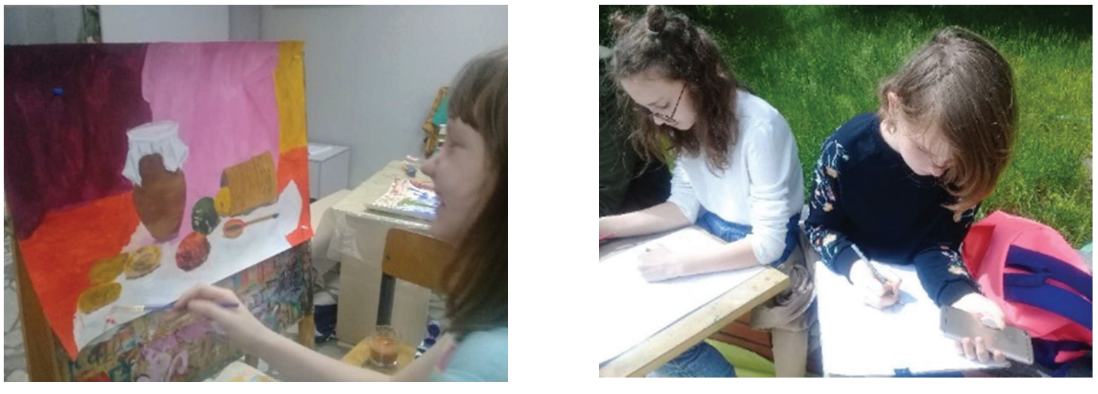

Figure 4: Art school, age 9-15 years

Figure 4 shows pictures of art school children coming from the toddler's studio mentioned above. These groups work all within the framework of the children's art studio "Өner".

Results and discussion. It is easy to work with children because they have a basic foundation of knowledge, skills and abilities prepared in the system. In art school, of course, they work within the framework of the training program. But at the lessons of drawing, painting and composition, I often organize cross-cutting themes. The purpose of such direction of work is to analyze the perception of the teacher's explanation, the solution of educational and creative tasks in accordance with the age level. At summer plein air practice the children practice the knowledge and skills acquired in the classroom.

Figure 5. Work of the adult studio and preparation for university entrance

Figure 5 shows the work of the senior studio, the children of which are engaged in purposefully oriented to a particular university. These are graduates of the art school "Өner", who, after its graduation, continue their studies in the adult studio already professionally oriented. Someone

goes for 2, and someone for 3 years. The result of such work gives a very high result. Their works get the highest score at admission.

The technology of teaching fine arts through the development of artistic interests in preschool and primary classes, middle and high school of modern school includes structural - content (block-modular creation of the educational process, as well as - its methodological support), procedural (forms, methods and techniques in education, diagnostics, analysis and corrective actions of the educational process) aspects (Pojaskova et al., 2021).

Conclusion. In our study, we have thoroughly substantiated the significance of continuity in the development of the creative potential of the individual - from a child - toddler, to an adult who has decided on the choice of profession, having in his mind a good solid platform of knowledge, skills and abilities.

It is clear from the works and explanation that the base of knowledge accumulation, according to the age category of the audience, should pass the way from the game to seriously set tasks. On the basis of children's studio we have substantiated and by practice confirmed the importance of continuity as a single link of the general system of development and education of the child's creative potential: from a baby to a consciously formed personality (Aspanova, 2018).

Having studied and analyzed the new requirements of the standard, we came to the conclusion that its novelty in the educational area "Art" consists first of all in the fact that the direction of specialized goals of art education is defined, for which the main is the development of both artistic and cultural skills of children, namely - the expansion of their world understanding, development of associative-critical thinking, imaginative, obtaining artistic creative experience, as well as the definition of techniques of all cultural development. Thus - the skills and abilities obtained on the basis of the discipline "Fine Arts" in the working system can become the basis for spiritual, aesthetic and moral, education of the child's personality, its socialization on the basis of universal values (Sharonova, 2019).

Today in preschool and elementary school the basis for the development of a child's learning activity is laid - a system of educational and cognitive forms, the ability to receive, save, perform learning tasks, the ability to plan, analyze and evaluate learning stages and plan the result. This can undoubtedly be a basic foundation for middle and high school, and for some (attending additional classes in art school or studio) after graduation - the first step to the choice of profession and development of the formed platform of basic knowledge of academic drawing, painting, composition.

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*D.E. ASSYLZHANOVA *, A.K. SADYKOVA*

Kazakh Ablai Khan University of International Relations and World Languages
(Almaty, Kazakhstan)
E-mail: dn01@bk.ru

THE USAGE OF INTERACTIVE METHODS FOR THE FORMATION OF FOREIGN LANGUAGE COMMUNICATIVE COMPETENCE OF PRIMARY SCHOOL STUDENTS

Abstract

This article is devoted to the problem of the formation of foreign language communicative competence of primary school students based on interactive methods. The authors use communicative exercises and game tasks, as well as information and communication technologies, interactive electronic book, which can be effectively applied both in the classroom and in extracurricular activities, as the main didactic tools for the formation of the communicative competence of primary school students. The foreign language communicative competence of primary school students is most effectively formed in specially organized group work based on cooperation by using interactive methods and information-communication technologies. The purpose of this article is to determine the effectiveness of interactive methods in forming the foreign language communicative competence of primary school students. Experimental work was carried out in three stages (ascertaining, forming and control)

on the basis of secondary school-gymnasium №86 named after Mukhtar Auezov in Astana. The experiment involved thirty 4th grade students. The developed methodology and complex make it possible to increase the communicative and cognitive activity of students. The obtained data showed the effectiveness of the methodology in the formation of foreign language communicative competence of primary school students. The analysis of the results of the experiment allowed us to conclude that the majority of young learners have developed foreign language communicative competence and communication skills, the ability to coordinate efforts in the process of organizing and implementing cooperation.

Key words: English teaching, foreign language, interactive methods, communicative competence, electronic book, primary school, young learners.

Introduction. In the period of socio-economic and political changes that are currently taking place in our country, much attention is paid to improving the education system. One of its main tasks is to form a national elite capable of interacting with the world as efficiently as possible and able to bring the economy and culture of the Republic of Kazakhstan to a qualitatively new level. Since the 1990s, many countries have decided to start teaching English as a second language or foreign language from a young age as a foreign language policy in order to adjust to some of the effects of globalization (Assylzhanova D.E. et al, 2022). Classes in which English is taught as a foreign or second language differ in terms of student motivation, choice of activity, use of technology, use of mother tongue and classroom culture (Chehimi & Alameddine, 2022; Krieger, 2005). Thus, it is possible to say that English is taught as a foreign language in our country where English is not used for communication purposes in daily life and is taught as a lesson in schools (Assylzhanova D.E. et al, 2022). The rapid development of information and communication technologies in the world in the last quarter-century and globalization affect all countries in many ways, especially, social and cultural life. Many countries have included English in their curriculum including primary school. However, teaching English did not occur at the same pace as described in the curriculum, and there were some difficulties in teaching (Jabali & Walker, 2021).

Our life is inherently dependent on communicative activity. Cognition, reflection and activity of personality are impossible without communication. This process is characterized by interaction between people. It is generally recognized that the productivity of cognitive, mental activity, the overall viability of a person largely depends on his ability to communicate, on the level of formation of communicative competence. That is why the formation of a person's communicative competence, the sufficient level for communication in certain communicative areas, determines the relevance of our study. The society demands an active, communicative personality. As the main didactic means for the formation of the communicative competence of primary school students, the authors use communicative exercises and game tasks, as well as Information and communication technologies that can be effectively applied both in class and in extracurricular activities.

Primary school age is a significant stage in human development. With the beginning of schooling, the child's social status and social role change. He begins to engage in socially useful activities, his actions become socially significant and evaluated. The leading activity in primary school age is an educational developing game. The cognitive and intellectual sphere of activity is changing, the formation of volitional qualities is taking place. Along with all new activities, a young learner very often experiences difficulty in solving communicative problems until he formulates his difficulties aloud. The process of thinking out loud facilitates the task and forms thinking itself. In general, communication is a sign of constructive interaction between people in the process of obtaining information. On the other hand, communication is a type of relationship that is characterized by the attitude of partners towards each other as equals and necessarily endowed with signs of subjectivity. It is necessarily an interaction that involves feedback, the activity of both parties (dialogue). The need for communication is vital for every person and arises already in an infant, gradually differentiating with age.

Communicative competence acquires special significance in primary school. At age of 6-9,

inner speech, monologue speech is finally formed, the foundations of written speech are laid. The formation of communicative competence in primary school is a condition for the success of teaching a foreign language to young learners. The concept of "competence" came to us from foreign countries. It is believed that the competence-based approach to learning came from the United States. Competence is the willingness to use the acquired knowledge, skills and abilities, as well as ways of working in life to solve practical and theoretical problems.

Thus, the purpose of the study is to develop a methodological model for the formation of foreign language communicative competence of primary school students by means of interactive methods of teaching a foreign language.

Main part. The concept of "communicative competence" was introduced into scientific use by the American linguist D. Himes (in 1972). Teachers consider communicative competence from different positions. D. I. Izarenkov interprets communicative competence as a person's ability to communicate in one or more types of speech activity, which is a special personality trait acquired in the process of natural communication or specially organized training (Izarenkov, D.I., 2010).

L. Bachman and A. Palmer proposed another model of communicative competence, the components of which are: language competence, strategic competence, psychomotor skills (Bachman et al, 2016). Gez N.I. offers his own model of communicative competence, including the following components in its structure: verbal and communicative competence; linguistic competence; verbal-cognitive competence.

After analyzing the definitions of communicative competence of various authors, we can see that it is not definitively defined and has a dynamic character. We fully share the point of view of researchers, since communicative competence is a set of skills, knowledge that makes it possible to develop abilities, navigate in any situation, primarily in communicative ones, and finally form the communicative characteristics of a person. Each student should be able to introduce himself, write a letter, questionnaire, application, ask a question, lead a discussion (Gez N. I., 2016). Thus, the foreign language communicative competence of a primary school student is a basic integral characteristic of a personality, reflecting the level of a student's practical skills to interact, or communicate, with other people. Communication competence is necessary for the correct assessment of communication in social communication situations, by the goals, rules of conduct, the role system characteristic of the situation, the repertoire of elementary actions, and the available concepts that define the situation, their understanding, their environment, language and speech means (Alimbayeva A.T. et al, 2020). It provides the young learners with an effective flow of the communicative process, orientation in various situations of communication; mastery of social reality with the help of communicative mechanisms; makes it possible to effectively influence one's own behavior and the behavior of others in the environment where communication takes place. Communicative competence as a result of primary foreign language education includes the following structural components: cognitive, social-perceptual, interactive, empirical.

Considering communicative competence as a result of primary foreign language education, we will discuss the requirements for mastering the ideas about the methods of communication, subject and universal communicative actions of students, the positive experience of their application and the system of motives, relationships and values of the communicative activity of younger students (Batyreva S.G., 2017). A.G. Asmolov identifies the following communicative actions: listening and engaging in dialogue, participating in a group discussion of problems, making dialogical and monologue speech, expressing thoughts, managing the partner's behavior, resolving conflicts, asking questions and identify ways to interact, determine the functions of the participants in the interaction, determine the goals of the participants in the interaction, planning learning collaborations, build productive interaction with adults, build productive interactions with peers. The formation of communicative universal educational actions will allow the student to choose and use the method of interaction to achieve the communicative goal. Ways of interaction of a

younger student include: monologue, dialogue, polylogue, message, statement, discussion, performance, argumentation, question, denial, letter, telephone conversation. In turn, N.B. Inkhanyan understands communicative activity as a system of consistently implemented actions, each of which is aimed at solving a specific problem and constitutes a "step" towards the goal of communication. In other words, it is a complex multi-channel phenomenon of human interaction (Inkhanyan, N.B., 2015).

Many currently existing modern pedagogical technologies (technology for the development of critical thinking, technology for educational problem research, technology for interactive learning, etc.) are based on the principles of educational cooperation that are key for our study, the implementation of which allows each participant in the educational process to become a subject of learning. When organizing cooperation between young learners in group activities, the following main features of joint activities should be taken into account, namely: the presence of a common goal, increasing the motivation of each student to work together, division of activities into separate interrelated operations and their subsequent distribution among all participants in the interaction, coordination and management of individual activities. Group work in foreign language lessons in primary school have a serious impact on the formation of the communicative competence of young learners due to the fact that the receipt of information by students in the educational process is an extensive network of interactions along the lines: teacher - student (students); student - student in a pair or mini groups; group interaction of students (in the whole class).

Thus, the foreign language communicative actions of primary school students can be divided into groups according to three main aspects of communicative activity: 1) communication as interaction (provides for the formation of communicative actions in younger students aimed at taking into account the position of the other intellectual aspect of communication); 2) communication as cooperation, the content "core" of which is the coordination of the efforts of young learners to achieve common goals, to organize and implement joint activities, i.e. acquiring the skills of social interaction between young learners and a group of peers, ensuring the well-being of his personal development; 3) communication as a condition of internalization provides for the communicative and speech actions of primary school students, which are a means of transmitting information to other people and contributing to the formation of reflection (Musyrmanova A. 2019). Discussion methods, quizzes and games, communicative situations and projects, individual and group works are very effective in this context.

Research material and methods. Among the interactive methods used in the process of forming the foreign language communicative competence of primary school students, we especially note the game methods: simulation games, role-playing games, didactic games. The main components of the game are: a scenario (characterizing the game organization and the rules of the game (i.e., the composition and description of the roles of its participants), the game environment and regulations (defining the general requirements for the game mode and instructions). The fundamental tool of the game is the behavior of its participants. The organization of the gaming communicative activity of young learners is based on the following interdependent psychological and pedagogical principles: 1) simulation of the content of a particular activity, specific conditions and dynamics of the process; 2) recreating a problematic communicative situation typical for this type of activity through a system of gaming tasks that include certain contradictions and cause some difficulties for schoolchildren; 3) active student-student interaction and dialogic communication of game participants in simulated learning situations in order to prepare and make agreed decisions. Communicative game tasks stimulate active mental activity and encourage young learners to express their opinions. N.I. Gez, A.A. Mirolyubov consider communicative-situational tasks as a goal set in certain conditions of communication, from which it is clear who, what, to whom, under what circumstances and why is speaking. Communicative-situational tasks help to take students beyond the scope of educational activities due to a predetermined role (Gez N. I., 2016).

Role playing activity is one of the most effective means of pedagogical influence on the development of a child's personality. It affects the creative manifestations of younger students, contributes to the development of children's imagination, the emergence in their imagination of vivid images of literary heroes, fairy-tale characters. Theatricalization of a fairy tale in teaching a foreign language: contributes to the formation of communicative competence, develops the cognitive interests of students, improves their mental processes (memory, imagination, thinking), expands verbal communication. All of the above features of interactive activities determine each other, constituting a single set of attributes that are the content and technological basis for the development of the subjectivity of each of the participants in such interaction. These features are the basis for the classification of active pedagogical methods that contribute to the formation of foreign language communicative competence of young learners. Teaching methods in cooperation provide for a logically built combination of individual and group work, a close correlation between the activities of the teacher and students. Among these methods, we can distinguish: "Cross groups", "Brainstorming", "Mosaic", "1x2x4", "Aquarium", "Interview", "Round table", etc. Methods for developing critical thinking are aimed at mobilizing creative potential, to stimulate active mental activity, to perform a variety of mental operations. They are "Interview", "Logic chain", "Colored figures", "Whose is it?" and ect. Creative methods involve the formation of cognitive skills and their own individual meaning in younger students regarding the phenomena and problems being studied, as well as the interchange of these meanings and the development of its new content by the participants in group interaction. Among the creative methods are the following: "Associations", "Alphabet", "Complete the phrase", "Composing a fairy tale", "A minute of speaking", etc. The methods of reflexive activity help the participants of group interaction to fix the states of their development and the causes of these states, to assess the effectiveness of the interaction that took place. Among the methods of this group, there are such as "Charging", "Reflexive circle", "Keyword", "Islands", "Swap places", "Complete the phrase", etc.

In the Educational concept of Kazakhstan, it was mentioned that "Informatization of the educational system requires preparation of new teaching technologies. First of all, they include electronic publications, electronic textbooks, multimedia educational tools and electronic records (audio-video-recordings) recorded on various devices" (Concept of education development of the Republic of Kazakhstan for 2022-2026).

Thus, the use of computer-assisted environment, electronic educational tools and e-books is implemented to a high degree in the teaching process. Formation of the necessary knowledge, skills and abilities, as well as application training is carried out. Moreover computers can create shapes, sounds, graphics, etc. It can contribute to individual learning by increasing the motivation of students with software supported by audio-visual elements (Gurgenidze, 2018; Paudel, 2021). Students can spend hours with computers outside of school, and the intrinsic motivation provided by computers is effective (Al-Ghasab, 2022). In a study conducted by Erbas, Çipuri & Joni (2021) on students of a primary school studying in a foreign language, the effect of computer-assisted learning method and traditional method in English learning was compared. It was found that computer-assisted learning environment is more effective than the traditional method in learning English. It is seen that what is learned with the use of computers in primary schools is more permanent, lessons become more enjoyable, concretization is made and the world of imagination develops (Chang, 2012; Demirer, Cintaş & Sünbül 2010; Erbas, Çipuri & Joni, 2021; Kibici & Sarıkaya, 2021).

The use of electronic educational tools in the general educational process was the basis for creating favorable conditions for the success of the educational process for both the student and the teacher. The mentioned electronic book was implemented as an effective educational tool that can be accessed at any time of the study period and can be used online. The main differences of the interactive electronic books from the traditional textbooks provided with theoretical and practical materials are: 1) the possibility of accessing the

textbooks in other places (even the possibility of using the textbooks used in other cities through the global network); 2) the possibility of using animated, multimedia situations.

Thus, the intensive foreign language communicative activity of the interaction participants in obtaining and processing information is the most important procedural attribute of these methods and contributes to the successful formation of foreign language communicative competence of primary school students.

Results and Discussions. The methodical experiment was carried out in three stages: ascertaining, forming and control. The experiment was carried out on the basis of the secondary school-gymnasium № 86 named after Mukhtar Ayuezov in Astana in the 4rd grade. The experiment involved 30 people. The purpose of the experiment is to identify the effectiveness of the methodology for the formation of primary school students' foreign language communicative competence in English lesson. We have organized experimental work by means of interactive methods of teaching English through information and communication technologies. The lessons for controll group were conducted through an interactive electronic book "English for Fun. Play & Learn" designed by the author (Assylzhanova, 2022) together with traditional lessons. An intellectual property registration certificate of the form of the Ministry of Justice of the Republic of Kazakhstan dated November 30, 2022 N30734 was issued for this interactive electronic book for primary school students.

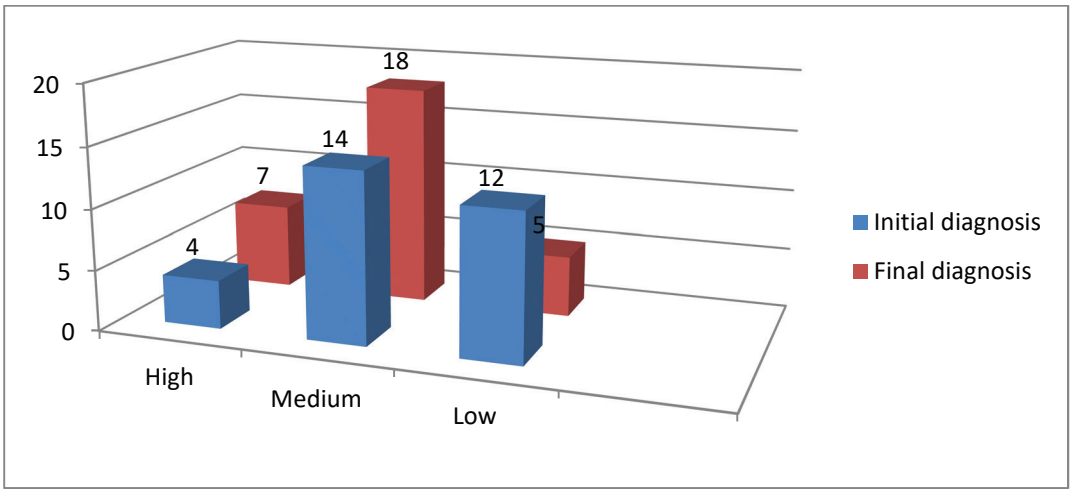
Picture 1. First pages of the interactive electronic book «English for Fun. Play & learn»

With the rapid development of technology and its increasing usability in education, reading habits are changing. Printed books are being replaced by digital books prepared in digital environments. Many printed materials such as books, newspapers and magazines are published in digital media and a large database is created. When we look at the literature, interactive e-book, digital interactive book, interactive book, interactive book, digital-interactive book, z-book are concepts used interchangeably. These books are installed on computers, tablet computers, smart phones, e-readers and used in daily life and educational life (Gulim Karimova, Pirmagambet Ishanov, Saulesh Mukanova, 2023).

The measurement of the formation of the foreign language communicative competence of primary school student was carried out by us according to the identified criteria, which include: 1) value-motivational criteria that reflects the desire and motives for participating in communicative activities in the information and educational environment of primary school, the value of communication; 2) activity-practical criteria that involves the formation of the skills of communicative interaction among younger learners and their active application in practice; 3) reflective-evaluative criteria includes the focus of student on the reflection of their own and peer activities in order to assess its effectiveness (the ability to choose alternative ways to solve educational problems, the ability to assess the quality of group interaction when transmitting information and adjust their communicative activity). On the basis of cluster analysis, these criteria are combined into an integrative criterion "The formation of foreign language communicative competence (FLCC) of primary

school students", which goes through three levels in its dynamics - receptive or low; reproductive or medium; and productive - high.

For a visual comparison of the results of pre- and post-experimental diagnostics, we presented them in the following graph



Graph 1. Levels of formation of FLCC of primary school students at the initial and final stages of experiment

The levels of formation of the components of the foreign language communicative competence of young learners were determined in the first stage of experiment. The following methods were used to form the cognitive component of communicative competence: explanation, listening, Socratic conversation method. The interactive component of foreign language communicative competence was formed using such methods as conversation, role-playing game, etc. Students learned how to ask questions correctly and produce answers, formulate messages, statements, argue, etc. Primary school students were given the opportunity to learn how to evaluate not only their foreign language communicative activity and its results, but also the communicative activity of classmates according to criteria common to all. The data obtained in the research allow us to state that in the process of the formation of FLCC of primary school student in foreign language lessons, there is a steady trend towards an increase in the number of students with a productive level of formation of all components of FLCC, and a reduction in the number of students with a receptive (low) level of its formation.

Conclusion. An analysis of the results of experimental work led to the conclusion that the majority of primary school students have formed FLCC and communication skills, the ability to coordinate efforts in the process of organizing and implementing cooperation. The diagnostics carried out shows that there is a need to apply methods and techniques of teaching in cooperation in foreign language lessons in order to increase the level of formation of foreign language communicative competence (FLCC).

In the process of conducting the research, we analyzed the literature on the topic of the study, and found out that the factors influencing the formation of foreign language communicative competence in foreign language lessons are: 1) taking into account the psychological characteristics of younger students; 2) acceptance of a younger student in communication as a subject; 3) a differentiated approach to the formation of foreign language communicative competence, 4) taking into account the individual characteristics of younger students; 5) emphasizing the process of forming foreign language communicative competence on the positive experience of communicative activity of young learners. We have identified didactic means for the successful formation of foreign language communicative competence of younger students. Moreover, selected and tested modern active methods aimed at the formation

of foreign language communicative competence of primary school students in foreign language lessons. Methods and techniques of teaching in cooperation, game forms of organizing the communicative activity of primary school students in foreign language lessons, using of ICT during the lesson allow the formation of all components of foreign language communicative competence: cognitive (ideas about the types and purposes of communication), interactive (interaction in different ways) and empirical (positive experience of interactions).

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Y. ZHUMANKULOVA, G.ORAZAYEVA, G. SALGARAYEVA*

Kazakh National Women's Pedagogical University (Almaty, Kazakhstan)
e-mail: zhumankulova.yerkyn@qyzpu.edu.kz

CONFLICT AS A COMPONENT OF ADOLESCENT DEVELOPMENT

Abstract

The article discusses the influence of intrapersonal conflict on the formation of asocial behavior of teenagers. Attention is paid to the specific behavior of adolescents with special needs who are studying in conditions of inclusion. Ways of overcoming asocial behavior, through the work of a psychologist with teenager, family are considered.

The article provides a brief analysis of the studies of conflict and the role of the family in the prevention of antisocial behavior of adolescents. An analysis was made of statistical data on offences committed by children in the Republic of Kazakhstan and the number of families with low subsistence levels. Based on the results of the analyses, the article provides a comprehensive program of work with asocial teenagers and their families for the prevention and correction of asocial behavior.

Keywords: conflict, asocial behavior, teenager, family, psychological assistance, asocial behavior correction, special needs, inclusion.

Introduction. In psychology, a sufficient number of studies (L.S.Vygotsky, E.Eriksson, J.Piaget, Z. Freud, etc.) in which the postulate of the inevitability of age crises, which leads to conflict. Every person, as a component of society, is in constant interaction with other members of society. The most important component of society is reciprocity of expectations and predictability of behavior of the person, group, social community. Therefore, various contradictions and conflicts arise during interaction. In adolescence, these contradictions become more acute and fleeting.

The categories of conflicts, including intra-personal and interpersonal conflicts of particular significance for teenagers, unite conflicts consisting of a clash of different personality formations represented in the teenager's consciousness by certain experiences (Dedousis-Wallace et.al., 2021). The concept of inner, personal, intrapersonal, personal and psychological are used to describe conflict in psychology.

In the family the main spheres of interpersonal conflict manifestation include the relationship «Parent - Children», which may be caused by restriction of freedom, activity and actions, deviant behavior of one of the participants of the relationship, presence of opposite interests, material problems, etc.

In the philosophical encyclopedia, conflict in the broad sense is considered as a «extreme case of aggravation of contradiction» (Philosophical Encyclopedia, 1960-1970). L.Kozer's theory played a major role in defining the conflict, which allowed analysis of the conflict from the point of view of realization of its positive functions. After analyzing the conflict between individuals and groups, Kozer points to the need to distinguish between conflict and hostility, thus defining conflict as «struggle over values and claims due to lack of status, power and means in which the goals of opponents should be neutralized, damaged or limited by their rivals» (Kozer, 1968).

As one of the scientists conducting fundamental research in the field of conflicts, Levin proposes a field theory combining the concepts of topological and vector psychology, including the analysis of cases of collision of two fields, equal but opposite in strength. The research of K.Levin in the field of conflicts is still fundamental, which allows connecting the inner world of man with the real world. These studies make it possible to understand the mechanism of human behavior as a reaction of internal conflict resolution, which leads to external activity, with the possibility of interpersonal conflict (Levin et al., 1982).

According to Boulding (1988) and Kalemci (2019), the conflict is seen as a rivalry situation in which the incompatibility of possible positions is realized, and each side seeks to take a position incompatible with that which the other wants to take.

Another well-known researcher Zaprudsky (1992) defined the conflict as an obvious or hidden state of confrontation of objectively divergent interests, goals and tendencies of development of social objects, direct and indirect confrontations of forces against existing public order.

Adolescence is one of the most frequently researched ages in science, and at the same time poorly studied in the field of behavioral characteristics. Professor of the Department of Differential Psychology MSUPU Novgorodtseva (2006) and researchers Abdulla et al. (2017) in their article on internal conflicts in adolescence, highlight the peculiarity of adolescence as the age of the most intensive development of the personality - manifested in significant qualitative inpersonal grouping and associated with a multitude of internal conflicts.

According to Zakharov (1988), the most pronounced internal conflict of adolescence is the conflict of unity «I», «the contradiction between feeling and duty, emotional and rational sides of psyche». According to the author, the internal conflict of a teenager is defined as the deep fear of «being not myself».

Developmental psychologists believe that crises are inevitable (Z. Freud, A.Freud, A.Adler, E.Erickson, L. Vygotsky and others), in connection with this, the concept of crisis ages arose. However, developmental psychologists notice that when creating an adequate environment, conditions for resolving intrapersonal conflicts, the age crisis is overcome without interpersonal conflicts (Grist et al., 2019).

The issue of adolescents with disabilities, learning difficulties, attention deficit and hyperactivity is also in the focus of the topic under study. The implementation of inclusion principles in the Republic of Kazakhstan has revealed a number of problems in children with special educational needs regarding their interaction and communication with peers (Salgarayeva et al., 2021). According to the latest data from the National Scientific and Practical Center for the Development of Special and Inclusive Education, 7,487 students are enrolled in secondary schools of the republic, among them students with mental retardation, visual, hearing, speech, emotional and volitional disorders. [https://special-edu.kz]. It should be noted that these categories require close attention from both teachers, psychologists, and parents, since conflicts are inevitable without the preparation of the social environment.

Thus, one of the conditions for preventing interpersonal conflict is the creation of a favorable society, one of which is the family and school.

Main part. In the article, we discuss the role of the family in resolving the conflict situation of teenagers. The family is the main institution of education, where the child forms in childhood, which preserved throughout his life. One of the main advantages of the influence of the family on the child is unconditional love and care and at the same time, no social can harm in the upbringing of children, as much as the family can do (Noel et al., 2020).

Children tend to replicate family behavior, family attitudes and learn family values in relation and relationships. Negative behavioral patterns among adults are a key driver in the emergence of asocial behaviors, and adolescents generally fail to find solutions to their interpersonal conflicts (Godleski et.al., 2020). These families are dominated by unfavorable asocial and psychological conditions (harsh treatment, asocial lifestyle, pedagogical incompetence, etc.). The conditions lead to the disruption of socialization and adaptation of the teenager to the adult society, and thus to the exacerbation of intrapersonal conflict, which leads to interpersonal conflict, and sometimes to conflict with society (Andreas et al., 2023).

To date, Kazakhstan has no scientifically-based system for working with families at risk. In the case of families raising adolescents with developmental, hyperactivity and learning difficulties, the issue of conflict resolution is particularly acute. Among the organizational number of social institutions, the family occupies one of the first places. The influence of the family on adolescents is unequivocal; it is in the family that the foundation of future social life laid. It

is only in the context of family upbringing that a teenager can fully exercise his emotional and intellectual abilities. A healthy family is the basis of a teenager's well-being. Thus, close attention must be paid to family well-being.

There is a statistical data of the National Bureau of Statistics of the Strategic Planning and Reform Agency of the Republic of Kazakhstan on the dynamics of juvenile delinquency (https://stat.gov.kz/official/industry/67/statistic/7.). Data are provided in table 1.

Table 1 - *Number of convicted juveniles*

	2017		2018		2019	
	Total	convicted juveniles	Total	convicted juveniles	Total	convicted juveniles
The Republic of Kazakhstan	31 950	443	31 309	413	27 460	422
Akmola	1 493	12	1 271	8	1 229	11
Aktobe	1 695	30	1 437	28	1 337	21
Almaty	2 278	26	2 459	25	2 468	29
Atyrau	1 057	16	972	9	875	10
West Kazakhstan	1 450	18	1 403	12	1 284	25
Zhambyl	1 717	22	1 600	13	1 770	23
Karaganda	2 671	27	2 597	26	1 778	25
Kostanayskaya	2 419	24	2 265	32	1 734	17
Kyzylorda	1 195	30	1 291	21	1 081	49
Mangystau	1 256	8	1 523	9	1 652	11
Pavlodar	1 558	10	1 563	22	1 054	6
North Kazakhstan	1 286	6	1 091	11	787	4
Turkestan**	3 288	106	2 038	84	1 659	44
East Kazakhstan	2 749	22	2 781	36	2 246	18
Nur-Sultan	2 350	27	2 558	27	1 810	25
Almaty city	3 034	52	2 945	38	2 719	35
Shymkent	-	-	1 027	11	1 378	65
Military personnel	227	-	176	-	238	1
Central office	225	7	310	1	361	3

Statistics show that the evolution of juvenile crime has not changed dramatically in the last three years, the number remains between 413 and 443. Common causes of delinquency among adolescents are family troubles, among them: alcoholism of parents, domestic problems, lack of stable work and earnings of parents. It should be noted that, since 2019, a new medical and social register for minors and dysfunctional families registered with the police has been introduced. The essence of supervision activities is to provide the necessary timely medical, psychological and social assistance to minors and dysfunctional families. Under the supervision of specialists, this measure will help the family to leave a difficult life situation will ensure control over families at risk.

The category of socially orphaned adolescents is of great concern. Social orphanhood is a problem both in economic and human development of the country. According to UNICEF, 8,000 families in difficult living situations and 13,000 children living in such families had been registered by 2019 (United Nations Children's Fund (UNICEF) Annual Report in Kazakhstan. These data were confirmed by the data of the newspaper *«Liter»,* which notes that every year about 2,000 parents are deprived of parental rights, and 80% of children in children's homes, in fact, are orphans with living parents, which leads to an increase in the number of social orphans. The common contributing factors are diminish in moral values in the family; change in family values; increased divorce and single parent families; the increase in psycho-emotional stress in adults, which directly affects children; and economic instability.

According to the statistical collection of RK «Children of Kazakhstan 2014-2018» the

proportion of the population with incomes below the subsistence minimum is higher in families with four or more children, that is, large families (19.6 per cent) (Deti Kazakhstana, 2019).

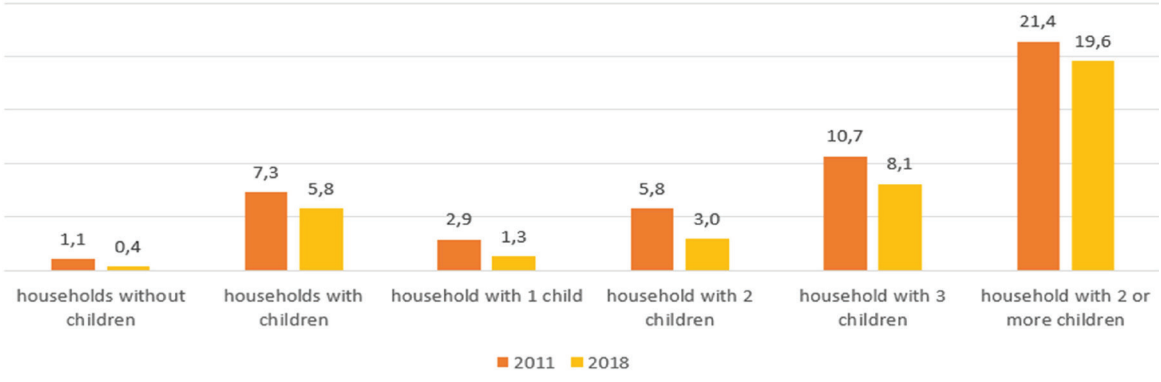

Figure 1. Proportion of population with incomes below the minimum subsistencelevel with the presence of children (%)

Dysfunctional family is a family in which the structure, value or absence of basic family functions, child abuse are impaired. Every child strives for self-preservation and psychological comfort. However, its absence creates persistent emotional discomfort and rejection of reality.

The psychological condition of children belonging to the group of social orphans is several times more alarming than that of a round orphan. The main reasons are clear and obvious: answering the question to myself, «Why am I an orphan? » the child finds the answer: a round orphan - «absence of parents»; social orphans - «Parents abandoned/refused», «Parents deprived of parental rights». In the first case, the child perceives the state of orphanhood as an unavoidable fact and psychologically perceives it as a tragic state or circumstance in life (the authors do not mean, in any case, the ease of perception of this fact by the child), whereas in the second case, awareness of the unnecessary and alienation of the closest people, parents, leads to an internal personal conflict and this conflict forms a basic distrust of the entire surrounding society. This condition becomes a prerequisite for antisocial behavior of children.

The main goal of the children's asocial behavior is to try to solve the interpersonal conflict. By their asocial behavior, the child strives to achieve a certain goal. No one in the world, does aimless actions. If parents/educators understand the child's purpose, the child will have the key to understanding his or her actions. Asocial behavior is dangerous in its consequences, in the absence of timely intervention in the correction of such behavior, the society will receive an unbalanced, exposed to various influences of personality. Unable to find a solution in their familiar environment, particularly in the family, an asocial teenager tries to find him in groups in which he can improve his social status, such groups can be asocial groups, communities, or he immerses in the virtual world, where it is possible to reach certain levels, which also gives it a certain status (Uberto et al., 2019).

The problem of providing assistance to adolescents with developmental disabilities, studying in conditions of inclusion and their families, is a new and urgent task at the present stage. This categroy of children «breaks out» from the concept of the norm, respectively conflict situations and associative behavior are manifested much more often.

Most researches on the study of the influence of the family on the formation of antisocial behaviour among adolescents Buyanov M.I., Zakharov A.I., Lichko A.E., Mendelevich V.D., Rogers K.R., Satir V., Festinger L., Horny K., Spranger E, Yung K. and others reveal the main types of family education that have a negative impact on an asocial teenager and contribute to the exclusion of the teenager from the family:

– juvenile neglect - parents' lack of interest in the young person's needs, control of his or her behaviour and participation in his or her daily life;

– emotional rejection of parents - parents provide material support for the teenager, but the teenager does not receive emotional support;

– hyperprotection - on the part of parents excessive control, suppression of the wishes of the teenager, or as opposed to over-control, upbringing in the family is carried out on the principle of teenager «family idol»;

– spartan education - on the part of parents there is a requirement of strict compliance with the regime established in the family, the suppression of any arbitrary decision on the part of the teenager, often this type is formed in military families.

A sufficient number of works are devoted to the study of interpersonal relationships in families, as well as to the psychological portraits of parents raising adolescents with developmental disorders. As also parents can be categorized as neurotic, authoritarian, psychosomatic, researchers clearly believe that both adolescents and parents need psychological help.

Educators and psychologists working with families raising adolescents with developmental disabilities note the following problems as the most difficult to solve:

– negative attitudes towards adolescents with psychophysical disabilities;

– inadequate parental attitudes and educational models;

– adverse interpersonal relationships in families, etc.

The appearance in the family of a child with problems acts distressingly on the parents, causing psychological stress, which leads to conflicts in the family, deterioration of intra-family relations (Jones et.al., 2021).

All the above types of families form a stable state of intrapersonal conflict in adolescents. If there is no exit from this condition, the teenager projects his condition on others. Thus, timely work is needed to prevent the conflict situation of adolescents.

Considering the family as a factor of upbringing, it cannot be said that not every family performs this function, and the main criterion of this factor is the unfavourable socio-psychological climate in the family, negative attitude towards the child. One of the social institutions that can shape the institution of the family is the school. In his article Zh.K.Dusikeeva emphasizes that today it is advisable to determine such characteristic components of education, such as the involvement of students in a variety of activities, during which the education and development of the personality: cognitive, value-oriented, artistic, social, work, Sports, free communication» (Dyusikeyeva, 2018).

Each school in its own state has a school psychologist who can organize his work in two directions:

1 Family education for adolescents - psycho-pedagogical support for adolescents, where it is possible to effectively implement preventive work and help adolescents to correct asocial behaviour.

2 Providing parents with psychological and pedagogical knowledge - developing skills of caring for each other's children and other family members, creating a favorable environment in the family (Vakhrusheva et al., 2016).

Knowing the main reasons for the antisocial behavior of a teenager, the school psychologist builds his relationship with him and his parents. The main task of a psychologist is to form the concept and convince parents of the importance of building trust in the family and close communication with it. In a teenager it is necessary to formulate the belief in the importance of the institution of the family and in the fact that parents want only good and support. To do this, the psychologist uses several ways:

– improving the psychological literacy of the adolescent with regard to intrapersonal problems;

– explaining personal and family opportunities in resolving internal conflicts;

– working with family.

Materials and methods. The study included the collection and analysis of data on the dynamics of juvenile delinquency in the Republic of Kazakhstan and the analysis of their families (age, region, social status of families). Analytical analysis of the problems of families with special needs. The primary mathematical processing of the obtained data was carried out. In an empirical study with a family and adolescents, the "Family Sculpture" technique was used, consisting of 3 stages, which allowed to identify conflict situations in the family. Target group was parents

and adolescents at risk. The age of teenagers was 13-14 years old.

Results and discussion. There are some types of works based on well-known methods developed by well-known psychologists T.Y.Khabarova, N.N.Chaikina and L.A.Kutashova, described in the work «Psychocorrection work with deviant teenagers and their parents».

The types of work performed by researchers with adolescents include:

– the formation of adequate self-esteem, the ability to be critical of oneself (Informing, Establishing logical relationships, Assistance in reacting unconstructive emotions, internal negotiations, social trials) (http://cscb.su/n/020901/020901021htm);

– the development of the emotional sphere of the person: the formation of will, the ability to manage oneself, to respond adequately to the effects;

– inclusion in socially significant activities, creating a situation of success in the type of activity chosen by the child;

– prevention of neurotic disorders and pathological attractions (character accentuation, neurosis, suicide, kleptomania, etc.);

– ensuring a favourable socio-psychological climate in the family.

Consider the Adolescent Psychosocial Intervention Programme and recommendations for the family.

The programme consists of three parts: a programme for adolescents, a programme for parents and a programme for joint work. The work areas of the Programme are presented in table 2.

Table 2 - *Psycho-correctional programme for asocial children (Vakhrusheva et al., 2016; Rozhkova, 2001; Butuzova, 2005)*

Direction of work	**Techniques** (Vakhrusheva et al., 2016; Rozhkova, 2001; Butuzova, 2005)
1. Working with antisocial teenagers	
Informing	Conversation
Emotional contagion	Method of “Associative or emotional transference” “Comparing “yesterday’s” self with “today’s”””
Help in responding to unconstructive emotions	«Fairy tale therapy»
Internal negotiations	«Attitude towards yourself» «Awareness of Attitudes»
Transformation of personal history	“Fairy tale therapy” “In the afternoon I saw a program on TV...”
Social projects	«Work on resources» «Goal Setting»
2. Working with parents	
Informing	Conversation
Awareness of the conflict and awareness of the teenager’s problem from the parent’s point of view.	«Free chair»
Formation of comfortable communication skills with children	«Tender name»
Reducing emotional stress and developing non-blaming communication skills.	«I-statement»
Formation of skills for organizing conversations with children	Rules for talking with a child
3 Collaboration between teenagers and parents	
Building empathy between parents for their children	«Imagine yourself as a child»
Formation of communication skills with your children.	“Do not say anything, absolutely nothing unpleasant to your loved ones”

Association game	"Happiness is when you are understood"
Understanding nonverbal communication between parents and children.	«Family sculpture» «Family Photography»

Each area given in the table play an essential role in the proposed program.

Informing. The main task of the psychologist is to inform the teenager and parents about the possible dynamics of behavior of both the teenager and parents. The psychologist should also inform the teenager and parents about what will happen during the session and how confidentiality will be maintained. Information also includes increasing psychological literacy in the area of the issues under discussion.

Emotional birth. Establishing logical relationships involves restoring sequences of events, identifying the influence of internal factors on what is happening and their relationship. This will allow the teenager and his parents to establish the root cause of the events occurring.

Help in responding to unconstructive emotions: this method will allow you to regulate your emotional state. Through laughter, tears, reprimanding, active action - any action that allows you to relieve tension that causes negative emotions.

Internal negotiations are aimed at resolving internal conflicts. The work of a psychologist is to organize and visualize the problems that arise in a teenager or parents. Visualizing or objectifying the problem will allow the teenager or parents to organize internal negotiations that can lead to a compromise. After targeted training, the teenager or parents are trained to negotiate with the "problem".

Transformation of personal history (I want and need, fairytale therapy, transformation of a figure) consists of immersing oneself in one's own history for the mental completion of unfinished events in the life of a teenager. Mentally replaying the situation will allow the teenager to change the course of events or complete the unfinished part of an event. This behavior will relieve the tension caused by the unfinished action.

Social projects allow a teenager to better understand their own capabilities and form new forms and modes of behavior. An antisocial teenager lacks positive behavior skills, which form the basis for successful adaptation to society. Social projects form a socially positive orientation of a teenager's personality, which will allow them to compensate for behavioral deficits. For such children, according to PhD research by Dr. M.K. Kurbanalieva is characterized by impulsiveness, quick temper, good nature, they often act under the influence of the situation, and they also have a tendency to show aggression. They find it difficult to control their emotions and tend to engage in risky behavior (Kurbanalina, 2016).

Working with parents consists of recommending antisocial behavior when communicating with a teenager. The main vector of work with parents is the parents' awareness of the need to organize a comfortable environment to resolve intrapersonal conflicts. In the family, a teenager must find answers to all the contradictory questions that arise on his way.

Thus, the main recommendations for parents:

– consistency in the actions of parents;

– emotional comfort in the family;

– refusal of physical violence;

– providing independence while simultaneously stimulating the desire for exemplary behavior and initiative;

– refusal to compare with other people;

– organizing a comfortable communicative space for discussing teenagers' issues.

When consulting parents on resolving conflict situations with a teenager, it is necessary for parents to be aware of the fact of live interaction with the teenager. It is important to note that many negative manifestations of a teenager have their origin in his past ideas and feelings. The experience that a teenager has, the reaction of parents to this or that offense play a great influence on his subsequent actions. If there is aggression on the part of the parents, the teenager will avoid discussing any actions with the parents, assuming a similar reaction.

If in the early period a teenager felt a lack of love, understanding and trust, he will strive to compensate for these emotions in communicating with peers or other groups, or he will have

difficulties communicating with others, and in the end he may become an outcast in the team. This can be especially noticeable in relation to children with disabilities and deviant behavior.

Let's look at some techniques that can be used to work with teenagers and parents. The most popular, in our opinion, is the "Family Sculpture" technique. The author of this technique is V. Satir. The essence of the technique is that the arrangement of people and objects should physically symbolize intra-family relationships at a given time, and assess the degree of psychological closeness between family members.

We made a sample of families in which there were problems in relationships between adolescents and parents. A total of 9 parents (8 mothers and 2 fathers) and 9 adolescents aged 13-14 years took part in the study. A preliminary characterization of families and adolescents was obtained from teachers and a psychologist. As it turned out, 3 families were single-parent; mothers were raising teenagers. In conversations with parents, it turned out that there is misunderstanding and disobedience on the part of teenagers between parents and teenagers. 2 teenagers were registered with local police inspectors for juvenile affairs. One teenager systematically experienced conflicts with classmates, so-called bullying, according to his mother. The mother explained this situation by the fact that the teenager has problems of an autistic nature. Classmates did not accept the teenager's uniqueness and "strangeness."

The essence of the technique is that the location of family members and objects indicates the characteristics of the family structure and intra-family relationships from the point of view of the "sculptor", which may be a teenager.

The method, or so-called technique, is carried out in three stages:

1 Creation of a sculpture of a family, reflecting the characteristics of the real situation in the family;

2 Sculpture discussion stage;

3 Creation of a sculpture of a family, reflecting the "sculptor's" idea of an ideal family.

At the first stage, the teenager portrays his parents as if from clay in the form of a living sculpture in such a way that their poses and location in space reflect actions and feelings in relation to each other. It is important that family members allow the teenager to handle the "material" freely.

If the "sculptor" finds it difficult, then leading questions are asked: "Here is your mother. Where will she be located? Will he stand or sit? Where will he look, what will his facial expression be? Is this the father? Where will he be located? Will he sit or stand? What expression will he have on his face? Where will you be located? etc. (Sherman et al., 2001).

The second stage is discussion. It is important to get answers to the questions: Name of the sculpture? How do you feel in this place among your relatives? Did this sculpture surprise you? What surprised you the most? Do you agree that your family is exactly as depicted in the sculpture? What would you like to change in the life of your family?

At the third stage, the coach asks to depict an ideal family in his understanding. Thus, each member of the composition plays and physically feels the real state of affairs, and how the teenager ideally sees it.

In the practical part of one of the methods for identifying anxiety and attitudes towards conflicts, a survey was conducted "What feelings does conflict cause?", in which parents and adolescents took part.

Table 3 – *Data on the results of working with families on conflict resolution*

Outcome indicators	Before working on the problem		After working on the problem	
	parents	child	parents	Child
Negative emotions	6	7	4	5
Neutral emotions	2	2	4	3
Positive emotions	1		1	1

Thus, the study identified some family problems. The techniques used in the study made it possible to confirm the correctness of the chosen work strategy. The positive effect,

manifested in the reduction of negative emotions and the emergence of positive emotions in both parents and adolescents, allows them to confirm the need to continue working.

At the same time, the analysis of intra-family relationships should not be based only on the results of the techniques used, as indicators often have a subjective nature, the subjective reality of the teenager's inner world, which can lead to erroneous conclusions and recommendations.

Conclusion. Thus, based on the analysis of psychological and correctional work to resolve intrapersonal conflict, it should be noted that with proper organization of effective work with families, it is possible to reduce the antisocial behavior of adolescents. Along with working with the family, the psychologist must develop a program of work with an antisocial teenager, during the implementation of which the teenager will receive answers to the questions that arise independently in a constructive manner. This will be facilitated by his skills in transforming personal history, internal negotiations, as well as adequate self-assessment of his own capabilities and development prospects.

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A.U. IBRAYEVA [1], U.M. ABDIGAPBAROVA [2], Y. GELISLI [3]*

[1] Hodja Ahmet Yasawi International Kazakh-Turkish University (Turkestan, Kazakhstan)
[2] Abai Kazakh National Pedagogical University (Almaty, Kazakhstan)
[3] Gazi University (Ankara, Turkey)
e-mail: assylzat_ibrayeva@mail.ru

FEATURES OF STRESS RESISTANCE OF TEENAGERS PARTICIPATING IN THE ACTIVITIES OF THE THEATER CLUB

Abstract

The discourse undertakes an examination of the imperative task of fostering stress resilience among adolescents engaged in theatrical endeavors. The cultivation of individual stress resilience is facilitated through the intermediaries of emotional and social intelligence. The involvement in expressive pursuits, such as the performing arts, affords adolescents extensive opportunities for the enhancement of self-reflective capabilities and artistic proficiency. Predicated upon the empirical data procured, it can be posited that active participation in a theatrical ensemble contributes significantly to the augmentation of an individual's overall stress resistance. This phenomenon is ostensibly attributable to the amelioration of the adolescent's emotional intelligence. To substantiate this conjecture, an evaluation of emotional intelligence levels was conducted within both control and experimental cohorts. The findings reveal heightened levels of emotional intelligence among participants in the acting group, particularly in the domains of interpersonal emotional intelligence and emotion management. These facets of emotional intelligence undergo active refinement during rehearsal sessions and public performances. The study's outcomes signify that adolescents engaged in theatrical pursuits encounter comparable stress and anxiety as their counterparts but exhibit superior self-regulation mechanisms vis-à-vis anxiety, thereby evincing a capacity for more efficacious decision-making.

Keywords: stress resilience, theatrical creativity, adolescent development, emotional intelligence, stress management.

Introduction. Stress tolerance denotes an individual's capacity to effectively manage adverse environmental influences while preserving psychological and physical well-being. It encompasses not only the ability to surmount stressful situations but also the adeptness to adapt to them without compromising performance and emotional equilibrium. The significance of stress resistance is underscored by the prevalent encounter with diverse challenges and unforeseen circumstances in the contemporary world. Proficient stress management facilitates enhanced functioning amid conditions of uncertainty, concurrently sustaining decisiveness and the capacity for judicious decision-making. This attribute contributes not only to the amelioration of overall physical and mental health but also affords avenues for personal growth and development.

Adolescence emerges as a particularly susceptible phase wherein the foundational social and characterological traits of an individual take shape. The inherent challenges during this developmental stage necessitate the

maintenance of internal equilibrium (Koltsova et al., 2021). Stress tolerance in adolescence may undergo substantial perturbations, potentially leading to the onset of maladaptive processes and the manifestation of neuroses. Simultaneously, adolescents traverse a trajectory of progressive emancipation, complicating the timely identification and intervention in cases of neuroticism. Optimal assistance is often indirect, allowing adolescents the autonomy to resolve their predicaments independently, fostering a sense of accomplishment and instilling fundamental self-regulation skills.

Main part. A pivotal factor in fortifying individual stress resistance is the cultivation of emotional and social intelligence. These dimensions of intelligence facilitate not only effective socialization but also the mastery of regulating one's emotional states. Engagement in creative pursuits emerges as a potent catalyst in fostering emotional stability and, consequently, resilience to stress. Through the acquisition and refinement of specific creative skills, adolescents find ample opportunities for sublimating personal frustrations and honing advanced abilities in self-analysis, practical application, and artistic expression.

The principal aim of this study is to scrutinize the issue of augmenting stress resistance in adolescents through training in the performing arts. The research hypothesis posits that participation in acting training engenders a developmental impact on an individual's level of stress resistance.

Research materials and methods. The present investigation employed the following research methodologies:

1. Utilization of the "EmIn" D.V. Lucina emotional intelligence questionnaire: This instrument facilitates the assessment of adolescents' emotional intelligence levels and the differentiation of its constituent components. The methodology encompasses various scales, including "Understanding other people's emotions," "Managing other people's emotions," "Understanding your emotions," "Managing your emotions," "Control of expression," "Interpersonal emotional intelligence," "Intrapersonal emotional intelligence," "Understanding emotions," and "Managing emotions." These primary scales enable the inference of nuanced characteristics pertaining to the manifestation of emotional intelligence in teenagers. The pivotal scale for this study is the sole secondary scale, namely, the "General level of emotional intelligence," derived from the aggregate of all primary scales. This composite scale provides a comprehensive depiction of a teenager's emotional intelligence, facilitating characterization at three distinct levels: high, medium, and low.

2. Application of Spielberger Ch.'s diagnostic tool for situational and personal anxiety: This technique serves to evaluate both situational and personal anxiety levels. Situational anxiety reflects the immediate anxiety level experienced by the teenager, while personal anxiety gauges the individual's predisposition to manifest anxiety. Elevated values signify a proclivity towards anxiety expression. In this investigation, personal anxiety assumes significance as an indicator of the adolescent's adaptive capacity. A heightened level of personal anxiety signals ongoing maladaptive processes and a diminished level of stress resistance.

The study encompassed adolescents aged 13–15 years. All of them are students of Turkestan city school. The total sample size consisted of 32 students, with an equal gender distribution (50% boys, 50% girls). Fourteen students participated in the amateur creative activity group known as the "Theater Club" (experimental group), while 18 students were non-participants in such clubs (control group). The research design incorporates a comparative analysis of stress resistance and emotional intelligence levels among participants in the control and experimental groups.

Results and discussion. Stress Tolerance in Developmental Stages: Stress tolerance, denoting an individual's capacity to adapt and effectively navigate various stressful circumstances while maintaining both psychological and physical equilibrium, holds paramount significance in the contemporary milieu replete with a continuous influx of challenges, uncertainties, and pressures.

The empirical segment of the study aims to validate these assertions quantitatively. To test the experimental hypothesis, participants from the school acting club, "Theater Club," were compared with students of similar age who did not partake in such activities. Diagnostic assessments

revealed that individuals attending the "Theater Club" exhibited lower levels of personal anxiety compared to their non-participating counterparts (refer to Figure 1).

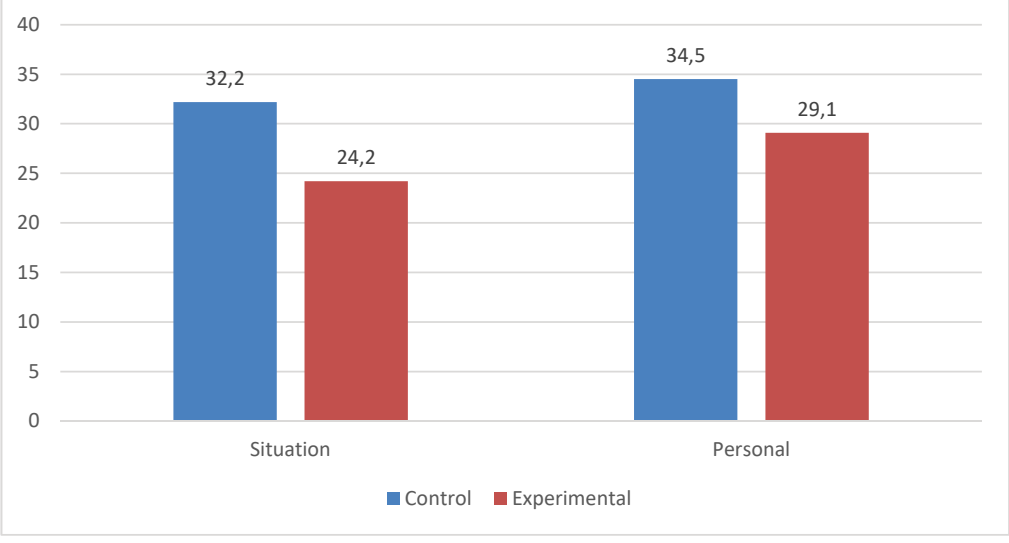

Figure 1. Level of anxiety in the control and experimental groups

Personal anxiety is characterized by persistent worry and preoccupation with oneself, one's personality, and the future. Individuals experiencing this form of anxiety often avoid social situations due to the fear of judgment, and they are prone to perfectionism and self-criticism, leading to feelings of inadequacy. The constant apprehension about the future, coupled with the fear of negative scenarios and uncertainty, is accompanied by physical symptoms such as muscle tension, sleep disturbances, and headaches. Trait anxiety may also manifest as pessimism and difficulty making decisions.

In contrast, adolescents engaged in acting activities exhibit lower levels of situational anxiety compared to their counterparts in the control group. This difference can be attributed to the development of social interaction skills and a heightened readiness for public speaking among the participants. The nature of stage performances necessitates effective self-presentation, and the cultivation of these skills during acting practices contributes to anxiety reduction in various social contexts.

Through the acting process, individuals develop effective communication skills, further aiding in anxiety reduction during interpersonal interactions. The systematic work on diverse roles during theatrical preparation allows actors to express and regulate their emotions, thereby contributing to emotional regulation and diminishing the intensity of anxious experiences in everyday life.

Analysis of the experimental data supports the conclusion that participation in a theater arts club contributes to the overall development of an individual's stress resistance. This development is likely associated with the observed increase in the level of emotional intelligence among teenagers engaged in acting activities.

To substantiate this hypothesis, an evaluation of emotional intelligence levels was conducted in both the control and experimental groups. Dimensions such as interpersonal emotional intelligence (IEI), intrapersonal emotional intelligence (InEI), understanding of emotions (UE), and management of emotions (ME) were assessed. The results indicate a higher average level of emotional intelligence in the experimental group when compared to the control group (refer to Figure 2).

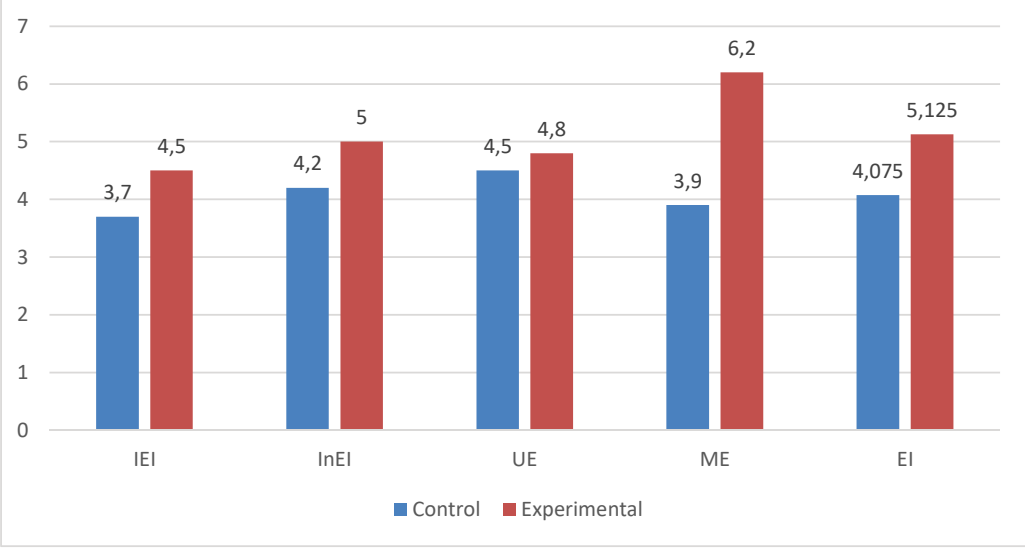

Figure 2. Results of diagnosing the level of emotional intelligence in the control and experimental groups

The most pronounced distinctions are observed in the expression of Interpersonal Emotional Intelligence (IEI) and Understanding of Emotions (UE). Interpersonal Emotional Intelligence encompasses the ability to comprehend and proficiently regulate emotions not only within oneself but also in others. This facet of emotional intelligence concentrates on interpersonal relationships, social interaction, and the discernment of emotions in others. Individuals with developed IEI often exhibit heightened success as leaders, demonstrating efficacy in group management, inspiration, and motivation of others. IEI encapsulates skills related to fostering and supporting others, including the capacity to motivate, facilitate personal development, and sustain the emotional well-being of others. Conversely, individuals with a heightened level of UE demonstrate the ability to make deliberate decisions even in challenging and emotionally charged situations, ensuring that emotions do not distort their analytical and rational thinking. Developed UE encompasses the acceptance and recognition of a diverse array of emotions, both in oneself and in others, fostering a more tolerant and inclusive attitude towards feelings.

The discerned findings indicate that participants in the acting club exhibit a superior level of emotional intelligence, particularly evident in the domains of Interpersonal Emotional Intelligence and Emotion Management. These characteristics are substantially honed during rehearsals and live performances before an audience. To elucidate the correlation between emotional intelligence and stress resistance, a Spearman correlation analysis was conducted. The outcomes of the analysis reveal a discernible relationship between indicators of situational anxiety and emotional intelligence (refer to Table 1).

Table 1. *Identification of the relationship between the level of anxiety and EI*

Indicator 1	**Indicator 2**	***r* - Spearman**	***R***
Situational	UE	0.59	0.05
Personal		0.37	–

The cultivation of resilience commences at an early age, progressing throughout childhood and adolescence, as children acquire fundamental emotion regulation skills under the guidance of parents and close adults. The establishment of primary coping strategies is facilitated through interaction with a supportive environment (Bobrovnikova, 2021).

As individuals progress through growth and development, facing challenges related to

academics, social interactions, and personal identity formation, the development of more sophisticated stress coping strategies becomes apparent (Urusova et al., 2022). The transition to adolescence signifies a pivotal phase wherein individuals, undergoing changes both internally and externally, gradually form coping strategies, accompanied by heightened self-awareness and emotional management (Khlomov, 2022).

Role of Creative Activities in Stress Resistance: Creative activities assume a pivotal role in fostering stress resistance among children by providing avenues for emotional expression, fostering creative thinking, and reinforcing psychological resources. Engagements such as painting, sculpting, music, or dancing serve as positive channels for emotional expression, enabling children to comprehend and process their emotions effectively, thereby enhancing control over emotional reactions in stressful situations. Moreover, creative pursuits stimulate the development of innovative problem-solving skills, offering valuable tools for adaptation and creative resolution in challenging circumstances. Through creative endeavors, children gain a deeper understanding of themselves, their interests, and values, thereby fortifying personal identity and augmenting self-awareness, integral components of stress resistance (Andronov, 2022).

Features of Stress Resistance in Adolescence: Adolescent stress resistance exhibits distinctive features aligned with the specificities of this developmental stage. Personal identity formation during adolescence becomes a pivotal determinant influencing stress-coping abilities. Adolescents undergo processes of self-determination, experiencing shifts in their attitudes towards themselves and the surrounding world, which subsequently shape their strategies for adapting to stress. The prominence of peer relationships during adolescence underscores the significance of social interactions in resilience, emphasizing the need for effective engagement in the social milieu, establishment of supportive relationships, and conflict resolution (Dennen et al., 2020). Adolescents grapple with heightened emotional intensities linked to self-redefinition and societal integration, with social stress assuming a particularly prominent role during this phase (Immordino-Yang et al., 2020).

Emotional Intelligence and Adolescent Resilience: Given that social interaction emerges as a principal stressor in adolescence, the cultivation of emotional intelligence emerges as a pivotal contributor to resilience during this developmental stage. Emotional intelligence encompasses the ability to recognize, comprehend, manage, and employ one's own emotions, along with empathy and adeptness in navigating the emotions of others. It encompasses self-regulation skills, indicative of the ability to manage one's emotions and reactions effectively. Adolescents possessing advanced emotional intelligence demonstrate enhanced capacity to navigate emotional pressure in stressful situations, with the ability to empathize aiding in improved social interactions and the formation of supportive relationships, constituting a vital element in resilience. The development of emotional intelligence further fosters positive thinking, enabling teenagers to discern meaning and perspective even in challenging circumstances (Baranov et al., 2019).

The creative process affords individuals the means to articulate their emotions and experiences through artistic expression, facilitating the recognition and processing of feelings – a pivotal facet of resilience. Teenagers, through creative endeavors, can manifest their uniqueness and individuality, fostering the development of a robust self-identity crucial for navigating stressful situations. Notably, this study accentuates the significance of acting within the creative spectrum. Acting demands self-assurance and the ability to articulate one's thoughts and emotions, cultivating confidence pivotal for stress coping. The collaborative nature of theatrical performances cultivates teamwork, interpersonal interaction, and conflict resolution skills, essential for effective conflict management and cooperation (Azimova, 2020).

Participation in acting activities emerges as a catalyst for the development of emotional intelligence among teenagers. Engaging with various roles exposes adolescents to diverse emotions, enhancing self-understanding and empathy. The immersive nature of empathizing with characters extends to real-life interpersonal relationships (Azimova, 2020). Acting prompts

self-awareness as actors scrutinize their emotions and motivations, while emotion management becomes paramount in aligning with the script's demands. Interacting with fellow participants hones social skills and effective communication, concurrently stimulating cultural development and adaptability – an asset in daily teenage life (Gurenko, 2021).

In summary, stress resistance constitutes a pivotal component of an individual's psychological well-being, particularly pertinent to teenagers facing diverse stressors, potentially leading to processes of personal maladjustment. Communication and social aptitudes assume significance, as their development significantly influences teenage social success. Elevated emotional intelligence correlates directly with emotional and communicative competence, contributing to an overall increase in stress resistance. Creative activities, as a conduit for developing emotional intelligence, play a vital role in comprehensive individual development, fostering self-presentation skills. Acting, as a form of creative self-expression, empowers teenagers to cultivate emotional and social competencies, ultimately enhancing their overall stress resistance.

Conclusion. Emotional intelligence emerges as a pivotal factor contributing to the development of stress resistance within the context of acting classes. The comprehensive training provided in acting empowers teenagers to cultivate greater self-assurance, a heightened understanding of emotional nuances in various situations, and the ability to strategically choose appropriate behavioral responses. This, in turn, substantially diminishes the level of situational anxiety, enabling the selection of judicious behavioral strategies when needed. Notably, the level of personal anxiety did not exhibit a significant correlation, underscoring its challenging nature for regulation. Personal anxiety is inherently intertwined with enduring character traits and temperament, presenting difficulties in alteration. Consequently, individuals engaged in acting experiences and confront anxieties similar to their peers; however, actors demonstrate superior control over their own anxiety, enabling them to make more effective social decisions.

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S. KUMARBEKULY [1], I.T. GAISIN [2], Zh.T. IGISSINOVA [1], G.Zh. KALELOVA [1]*

[1] Sarsen Amanzholov East Kazakhstan University (Ust-Kamenogorsk, Kazakhstan)
[2] Kazan Federal University (Kazan, Russia)
e-mail: skumarbekuly@vku.edu.kz

USE OF EDUCATIONAL-ACTIVITY ROLE GAMES IN FORMING UNIVERSAL COMPETENCIES OF FUTURE SCIENCE TEACHERS

Abstarct

This article considers one of the fundamental goals of the systems-activity approach to learning to be to arouse students' interest in the subject and the learning process, to develop skills for self-education and research activities, to form functional literacy and professional and universal competences. All this is possible only when learning activities are based on the principles of cooperation and differentiated learning.

Business role-play games as one of the types of system-activity approach brings its «revitalization» to the training session, helps to perform new tasks related to design, planning, reflection. It gives an opportunity to develop communicative skills of students, to work in a team, to set and solve project tasks. It is quite an effective professional method of a teacher, which is used to solve a certain range of pedagogical tasks.

Every day a teacher is faced with various situations in which he/she cannot be only an executor, but in each particular case must make independent decisions, be a creator of the educational process. Pedagogical activity always implies creativity. Among various active methods that are used in educational practice, we would like to single out a business role-play game, as it activates thinking activity and develops creative abilities of students.

Play activities help to activate students' creative and intellectual potential, to gain experience that can come in handy in life. Role-playing gives children a unique opportunity to imagine themselves in different life situations, to model their behavior depending on the role they have taken on. It brings learning closer to the real reality, requiring from the student interaction, creativity and initiative. Game accompaniment of the study of the material allows you to maintain a constant high interest in students to the content of the course, activates their independent activity, forms and strengthens the practical skills.

Keywords: active active learning method, business role play, universal competences, contextual learning, modular learning, pedagogical measurements, critical thinking.

Introduction. The modern educator is, first and foremost, a professional with a capital letter. No matter how the technology of education changes, the teacher's role in his/her spiritual influence on students does not diminish. For this reason, issues of professional training of future teachers have always been and are given increased attention.

One way to increase the interest of students of pedagogical universities in their future profession is to include in the educational process special courses of pedagogical orientation, which will help students gain pedagogical experience and a sense of self-confidence.

The main directions of improving the quality of the educational process include its intensification and optimization, involving the introduction of forms, methods and means of active learning. The requirements of intensification and optimization are fundamental in the higher education institution as well. Therefore, a great role in the educational process becomes the use of the method of modeling and analysis of pedagogical situations within the framework of business (pedagogical) games.

One of the main tasks of professional education today is the implementation of competence-based approach, which is associated with the ever-increasing requirements of the state, society and employers for training specialists, including those for the education system. This, in turn, leads to a new understanding of the

quality of professional pedagogical education, the need to find and update mechanisms for its implementation and tools to improve the educational process.

The state educational standards of higher education at different levels and areas of training, along with general professional competences, include universal competences, which are the most important element of the aggregate educational outcome of higher education. Universal competences are understood as the ability of a specialist to establish connections between the available knowledge and real life or professional situation, to make the right decision, to choose the right direction of activity, to develop an algorithm of action (Shenderei et al., 2021). Universal competences are such skills in future specialists, mastering which contributes to their implementation both in the profession, professional interaction, and other spheres, successful adaptation to constantly changing conditions, ensuring comfortable existence in society (Vaganova et al., 2021). Therefore, the formation of universal competences in the process of students' professional training is a task that is difficult to solve through traditional teaching methods alone.

Main part. In order to improve the training of in-demand, mobile and competitive teacher, modern active teaching methods that activate cognitive activity of students and based on their creative and critical thinking are necessary. A special place in this belongs to game methods and learning technologies. The educational game is a specific way to manage the educational and cognitive activity of a student (Numonjonov et al., 2020). One of its variants is business role-play game. Numerous studies and publications of local and foreign educators are devoted to the development and use of business rople-play games in educational activities.

A huge body of research devoted to the use of business role-play games in the professional training of specialists has been made by foreign scientists S.V. Kibakin, T.A. Novolodskaya, N.V. Zhukova, E.V. Zmievskaya, V.A. Trainev and local educators as V.K. Omarova, Z.M. Sadvakasova, B.T. Ziyabekova, Z.B. Madalieva, G.D. Urastaeva, A.K. Mynbaeva, Sh.T. Taubaeva, D.M. Jusubalaeva, Z.A. Isaeva, etc. Pedagogical innovators have developed and formulated basic psychological and didactic principles of designing and using business role-play games in the educational process of professional educational organizations, the typology of business rople-play games, etc. In a number of works business role-play games are considered as a means of developing cognitive activity of students.

There are many definitions of the concept "business role-play game". As noted by Dufourny, Danens, A.Fito-Bertran, A.Hernandez, E.Serradel-Lopez, business role-play games are learning educational tools used in training to develop and improve professional competencies. These tools immerse learners in a virtual environment and help them acquire professional skills (Dufourny et al., 2016; Fito-Bertran et al., 2014)

According to Kibakin (2016), "collective discussion of the issues forms the participants of the game attentiveness and respect for the opinion of other participants, restraint and criticism" (Kibakin, 2016).

In connection with the above, we share the opinion on the essence of business role-play game with Novolodskaya (2011), who emphasizes that the essence of business game in terms of pedagogical science, is primarily the need to create an atmosphere of creativity, activation of thinking processes of students, their ability to respond independently to emerging topical life and other issues. In addition, a business role-play game contributes to the expansion of students' variability of thinking, because it answers the question: "what will happen if you do this...".

In the work of Akimbekova (2014), the business role-play game is presented as an active form of education and improvement of professional training of students, which combines theoretical and practical training of students into a single whole.

Verbitsky (2013), connects the use of business role-play games in the learning process with the formation of students' professional consciousness, believing that an educational business game is used to provide participants' understanding of the process simulated in the game, and through this - the formation of their professional consciousness. The business role-play game is also a tool for expanding the

boundaries of professional consciousness, as there is a new awareness of their capabilities, professional problems, means and ways to solve them, when the content of the game becomes a quasi-professional activity, including role behavior, professional positions and values, elements of institutional interaction.

Guillen-Nieto & Aleson-Carbonell (2012), said that the effectiveness of learning when using a business role-play game depends on the right balance of different aspects: learning content, duration of the game, discussion of results, understanding the educational value of the game, transfer of learned skills and intrinsic motivation.

Research materials and methods. In the scientific work was used a set of research methods as: analysis and synthesis, synthesis and interpretation of pedagogical, psychological and methodological literature; generalization of the experience of leading teachers, psychologists and methodologists; experimental work; modeling the educational process.

Thus, the training business role-play game is a purposeful active method of learning, which involves solving training tasks in the form of a game, where students are offered roles in accordance with the established rules. During the game they perform professional functions, imitating professional activities. With all this, an important point is simulation. Business role-play games are a form of contextual learning, which includes learning quasi-professional activities, i.e. activities as close to professional as possible, and other simulation and social learning models (Rizayeva, 2021). The purpose of such training is to form a holistic structure, mastered by students of professional activity.

Analysis of scientific research of the problem of application of business role-play games in the educational process of vocational education by different authors allows us to conclude that they all tend to the fact that:

- business role-play games cause the interest of their participants in the profound meaning of the topic under study;

- actualize the creative potential of the student's personality;

- ensure the integration of the processes of training and education, contributing to the formation of personal qualities such as discipline, commitment, responsibility, a sense of duty, the ability to work in a team; contribute to the formation of systematic and critical thinking;

- increase the effectiveness of learning in general.

In psychological and pedagogical literature there is a great variety of typologies and classifications of business role-play games. Depending on the type of activity practice recreated in the game and the purpose, there are business educational, research, management, certification games. There are also such classification features as time of games, their final result, the nature of the game process, the nature of simulated situations, etc. (Gamage et al., 2022).

Designing and conducting training sessions in the form of business role-play games is a very time-consuming activity of a teacher. It requires a deep understanding of the learning process under new conditions, using besides professional skills, also special knowledge from different areas, suggesting reference to such areas of knowledge as psychology, methodology, organization theory, management theory, information theory, activity theory, etc. (Fernández-Raga et al., 2022; Kumarbekuly & Abdimanapov, 2022).

Designing a business role-play game for its subsequent use in the educational process usually consists of three stages: the preparatory stage, the stage of the game and the final stage.

The preparatory phase is very important because the quality of preparation determines the course of the game and its results. It includes:

- formulation of the theme, goal and objectives of the game;

- determination of its structure, taking into account the goal and objectives;

- development of a scenario - a conditional representation of the situation to be played out;

- definition of the composition of participants; distribution of roles taking into account the level of students' subject preparation for the current moment in time;

- definition of the rules of the game;

- diagnostics of objective circumstances (place, conditions of the game);

- preparation of didactic support;

- development of evaluation criteria for students' activity, the main of which is the

successful application of theoretical knowledge in practice;

- preparation of a list of recommended literature for students.

The game, as usual, is preceded by lecture material. Preparatory work on the part of students consists of studying the recommended literature.

The stage of the game is a planned course of the game in accordance with the script, which does not change, but in some cases the teacher can adjust the actions of the participants, without suppressing their initiative and independence, giving them the opportunity to express and defend their point of view.

The teacher acquaints the participants with the situation, conditions and rules of the game, criteria for evaluating their activities, directs their actions, and the participants play their roles, carrying out quasi-practical professional activities.

The final stage is the stage of analysis, synthesis and evaluation. It includes a detailed analysis of the game, exchange of opinions, defense of the conclusions formulated and decisions made, a final assessment of the results of the business role-play game, evaluation of the degree of achievement of the goal of the game, analysis of mistakes in the actions of the participants, as well as their causes, that were revealed in the course of the game. The goal of the stage is to lead students to the understanding of the most effective solutions that could have been made in a particular situation.

The effectiveness of the game depends on many circumstances, in particular, on the level of subject preparation of students, the degree of their activity, experience of participation in training sessions of a similar format, the degree of preparation for a particular business role-play game, etc.

Business role-play games are a pedagogical tool and an active form of learning, which intensifies learning activities, simulating managerial, economic, psychological, pedagogical situations and makes it possible to analyze them and develop optimal actions in the future. Business role-play game is the best of the active methods of classes. Unlike other traditional methods of training, allow you to more fully reproduce the practical activity, to identify problems and causes of their occurrence, to develop options for solving problems, evaluate each of the options for solving the problem, make a decision and determine the mechanism for its implementation.

Let's consider the experience of designing and using educational business role-playing games during the professional training of geography bachelors in pedagogical direction in the East Kazakhstan university named after Sarsen Amanzholov. Within the framework of studying the discipline "Modern means of pedagogical measurements in geography", the study purpose of the discipline is the formation of systematized skills and abilities to create and apply modern pedagogical means in the future professional activity of students. The discipline participates in the formation of a universal (UC) communication - UC 1, which belongs to the UC category «System and critical thinking» when a student is able to carry out a critical analysis of problem situations on the basis of a systemic approach to develop a strategy for action (Randles et al., 2022; Kumarbekuly et al., 2022). System thinking is characterized by a holistic perception of objects and phenomena in their interrelation, it contributes structure understanding of any system and ways of its management, teaches to integrate knowledge from different scientific fields, allows to comprehensively see and evaluate the object of its mental activity as a system with its inherent properties, relationships, patterns.

A specialist with systemic thinking is able to competently formulate goals, find optimal ways to achieve them, identify patterns of current phenomena, predict their further development, and solve emerging problems. The ability to observe, analyze, draw conclusions, evaluate observed objects and phenomena are components of critical thinking.

The main aspect of critical thinking is critical analysis, which is an action aimed at determining the reliability of the information presented, requiring analysis and evaluation, identifying advantages and disadvantages on the basis of which one develops one's own clearly reasoned position. For a modern specialist, the need to develop systematic and critical thinking is an urgent necessity.

The best option to promote the development of these qualities in students is to give them the

opportunity to be involved in quasi–professional activities with making their own decisions, justifying them, including them in a creative search, arguing their point of view within the framework of training sessions, using the means of specific academic disciplines involved in the formation of certain competencies. Based on the scientists' research in the field of gaming technologies, we believe that the most appropriate method of teaching to achieve this, is the use of educational business role-playing games in the preparation of students.

In the discipline content "Modern means of pedagogical measurements in geography" includes such a section as "Theory and practice of creating tests and test tasks in geographical education". When studying the section, students are provided with educational activities related to the design of test tasks for measuring and evaluating learning outcomes in one of the sections of any course (at the student's choice) of school geography. Students design not only author's multi-level test tasks, but also criteria for evaluating open-type tasks, instructions for students to complete tasks, forms of answers to questions, scales for converting test scores to a mark on a five-point scale, answer keys, determine the time allotted for measurements, develop a specification. At the same time, students should adhere to didactic and technological requirements for the quality of test materials created, as well as be guided by a number of principles concerning the selection of educational content intended for testing.

The implementation of these activities is preceded by lecture material, seminars, analysis and evaluation of published certified test tasks on various topics and sections of school geography courses, collections of tasks for unified school geography testing for different years. At the same time, the compilation of high-quality test measurement seems very difficult, time-consuming and not always successful kind of activity not only the student, but even an experienced teacher.

Not all the measuring devices designed by the teacher as a result can be suitable for practical use. In this regard, their expertise is a prerequisite, during which they are tested and evaluated for suitability and compliance with certain quality criteria. The examination must comply with the general methodological principles of consistency. Working in educational organizations future geography teachers implies and sometimes requires the ability not only to design measuring devices for local application, but also to conduct examination of colleagues' test materials. Therefore, in order to teach students expert skills within the framework of the formation (UC-1), the educational business role-play game «Examination of test measurements of local application» was designed, where the role of experts are students. The purpose of the game is to conduct a simplified examination of test measurements and to prepare an expert opinion on its results. When designing and further application of the game a number of principles were taken into account, such as:

- content simulation modeling of the students' professional activity;
- problematic content of the educational business game;
- collective joint activity of students in the role relation context;
- dialogue as a means of resolving educational problems;
- adoption of agreed decisions (Pászto et al., 2022).

The analysis during the game is subject to tests of the closed type of basic level which was designed by students of the group. Expert groups consisting of three people are formed to conduct the game. Each group reviews the measurement devices of one of the group's students. The main condition - the expert group does not include the developer of tasks submitted for examination. The examination is preceded by the completion of tests to be examined by each member of the expert group. At the first stage, the examination of each test item is carried out, at the second stage - examination of the test work as a whole. Each expert group is provided with expertise material, which includes a list of middle-level training requirements, a form for expert advice and recommendations. The work of the experts requires hours to determine the time spent on tasks, as well as to determine the optimal length of time allotted to tasks by their developer. Moreover, each expert receives an expert list, which describes the requirements related to

such aspects as the content of the test tasks, the validity of their formulations, the acceptability of answer options for multiple choice tasks, etc. Since students are offered a simplified version of expertise, it is necessary to give an expert assessment on a scale (compliant, partially compliant, non-compliant). In the expert list for evaluation of tasks there are a number of requirements for their content and design, namely:

- task content complies to the purpose of testing;
- task content complies to the controlled section;
- task has an acceptable degree of difficulty;
- task has a basic level of difficulty;
- task includes significant content of the tested section;
- task content complies to the modern level of science (is not controversial in science);
- tasks content complies the form of its presentation;
- task is formulated in accordance with the rules of the Kazakh/ Russian language;
- task formulation contains the optimal amount of information for the answer (lack of excess information / lack of information);
- question formulation does not lead to difficulty in understanding it;
- contains one correct answer;
- answer options are approximately the same length;
- optimal number of possible answers (4-5);
- descriptors are related to the content of the tested section;
- use of figures and diagrams (if available) is functional. The expert sheet for the evaluation of test work also contains a number of requirements, such as:
- a sufficient amount of controlled educational material is in operation;
- tasks reflect the content of the tested section in a comprehensive and balanced way;
- there are no double negatives in the formulations, the words “always”, “never”;
- the optimal time for performing the work has been defined (Ferrero et al., 2018; Ferrero et al., 2022; Pérez-Pérez et al., 2021).

Each member of the expert group first evaluates the submitted materials independently, identifies the tasks that partially or completely do not meet the requirements, after which the expert group is discussing, exchanging views, expressing wishes, analyze the advantages and disadvantages of the tasks, and then generalized conclusions are made.

Then, each group formulates a reasoned expert opinion on the suitability of the presented measuring materials (suitable – partially suitable – not suitable) for practical use, emphasizing tasks for testing knowledge of concepts and terms, establishing patterns, cause-and-effect relationships, which is most important when studying school geography, gives recommendations for adjusting and improving the content tasks, the wording grammaticality of the correct answers and descriptors, practicability of including diagrams, drawings, map fragments, etc. One of the experts of the group announces the final conclusion and practical recommendations.

At the final stage of the game the most important points are discussed and analyzed, the existing mistakes in the activities of experts as well as causes are identified, the positive aspects of the work of experts are noted. Students conduct self-analysis of their activities. The teacher summarizes the game, giving his/her assessment of the work of each of the experts and the expert group as a whole. For the teacher it is important to know students’ opinion about the advisability of conducting classes in this format. In our opinion, this format of training sessions, being close to the real work, gives an opportunity to try themselves as a specialist, contributes to the development of skills of a certain type of professional activity, formation of skills to systematize and critically evaluate information, which reflects the content of UC-1 competence, to apply theoretical knowledge in practice (Gisewhite et al., 2021; Lane et al., 2019).

Most of the students felt that the role-playing they had played had helped them build on their teamwork, in preparing and making the agreed decisions they had previously made, as well as in other academic disciplines. So, we can say that during the roleplay all the principles established in its design have been implemented.

Results and discussion. As a result of the business role-playing game, the students not

only sought to do a good job themselves, but also encouraged their fellow students to do so. Business role-playing games are good to use when checking training results. Furthermore, business role-playing game made the learning process interesting and entertaining, contributed to the formation of students active working mood.

Conducting a business role-playing game during the training session allowed:

- to overcome traditional approaches in teaching disciplines of the natural science block;
- to master social and communicative abilities and work in a group;
- formation of a sense of collective responsibility for the preparation and level of knowledge of each student;
- to master certain knowledge, skills and abilities that cannot be worked out by other teaching methods.

The use of learning and activities role games has shown promising results in forming universal competencies among future geography teachers. This study aimed to explore the effectiveness of incorporating role-playing games into the education of geography teachers in developing their universal competencies.

The participants in this study were undergraduate geography education students who were divided into two groups: an experimental group that received training in learning and activities role games and a control group that followed the traditional curriculum. The study was conducted over a period of one academic year, during which various universal competencies were assessed in both groups.

The universal competencies assessed in this study included critical thinking, problem-solving, communication, collaboration, adaptability, and intercultural competence. The results of the study showed a significant improvement in these competencies among the participants in the experimental group compared to those in the control group.

Enhanced Critical Thinking and Problem-Solving: The incorporation of role-playing games encouraged students to think critically and solve problems within the context of geographical scenarios. This active learning approach stimulated their analytical skills, enabling them to better understand complex geographical issues and devise innovative solutions.

Improved Communication and Collaboration: Role-playing games required students to communicate effectively with their peers, assume different roles, and work collaboratively to achieve common goals. This promoted better interpersonal and teamwork skills, which are crucial for future geography teachers when interacting with students and colleagues.

Increased Adaptability: Role-playing games exposed students to a variety of situations and challenges, which enhanced their adaptability and flexibility. Geography teachers must be prepared to address diverse student needs and adapt their teaching strategies accordingly, and this training proved beneficial in this regard.

Enhanced Intercultural Competence: Geography often involves the study of different cultures and regions. The role-playing games allowed students to immerse themselves in various cultural contexts, improving their intercultural competence. This is essential for geography teachers to foster global awareness and understanding among their students.

Engagement and Motivation:The use of role-playing games made the learning process more engaging and enjoyable for students. This increased motivation and enthusiasm for learning, potentially leading to better retention of geographical knowledge.

Real-World Application: Role-playing games provided a practical and hands-on approach to learning geography. Students could apply their knowledge in real-world scenarios, which is a valuable skill for future teachers who aim to make their lessons more relevant and engaging.

In conclusion, the incorporation of learning and activities role games in the education of future geography teachers has demonstrated its effectiveness in forming universal competencies. These competencies are essential for geography educators to excel in their roles and prepare students for an increasingly interconnected and complex world. Further research is warranted to explore the long-term impact of such training and its integration into geography teacher education programs.

Conclusion. Universal competencies, together with general professional and professional ones,

constitute the result of the future teacher's education. During their formation, the future teacher learns to establish links between the knowledge gained during training and the real professional situation, choosing the right direction of his/her activity.

Mastering universal competencies helps to navigate not only in professional, but also in many other fields of activity, to adapt to a changing society, which significantly increases the responsibility of the teacher for their formation during the training of students. In this regard, in order to train a qualified specialist in accordance with the state standard, which contains requirements for his/her training in the form of competencies, including universal ones, it is necessary to implement not only well-proven traditional teaching methods, but also apply more modern active methods, in the form of business and role-playing games.

The experience of working with students of a geographical specialty has shown that one of the most adequate teaching methods in the formation of the UC-1 within a specific academic discipline is business rope-play games. This technology allows you to simulate conditions in the classroom that will be as close as possible to professional realities, when students have the opportunity to actively and consciously reproduce professional/quasi-professional activities, or its individual functions, master and consolidate the skills of identifying and critically analyzing problems, collegial search for the most effective ways to solve them, develop a strategy of action, losing a certain situation thereby realizing the importance of the future profession and the competencies acquired during the training.

The activity-based approach to learning helps to form solid knowledge and skills, develops such qualities of students as the ability to analyze, independently draw conclusions and generalizations. And the game activity is a kind of training, a rehearsal of life situations and teaches future specialists to make decisions independently and deliberately.

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*M.A. BAKETOVA, G.Z. TAUBAEVA, A.I. BULSHEKBAYEVA**

Abai Kazakh National Pedagogical University (Almaty, Kazakhstan)
e-mail: a.bulshekbayeva@abaiuniversity.edu.kz

METHODS OF FORMING THE CORPORATE CULTURE OF FUTURE TEACHERS AT THE UNIVERSITY

Abstract

The article addresses the issue of developing the corporate culture of prospective teachers in higher education institutions. The authors view student corporate culture as a complex and diverse notion that relates to the University's corporate culture and the student's own culture. They argue that student corporate culture influences the process of educating professionals and has several functions. The most significant of them is the pedagogical function.

The issue of developing a corporate culture at a Pedagogical University is particularly important. Future teachers and psychologists have to deal with educational challenges in close collaboration with colleagues, and students of educational institutions, so they have to acquire the skills of building harmonious relationships with various people and working in a team.

Keywords: education; corporate culture of students; student associations; project activities; future teacher.

Introduction. The phenomenon of corporate culture at all levels of Education has attracted the attention of domestic and foreign scientists in recent years. Many researchers (sociologists, psychologists, teachers, etc.) (Spivak, 2011) explored the role of corporate culture in creating the image of an educational organization (Sergeeva, 2006), examined its components,

types, formation mechanisms, enhancing competitiveness in the market of educational services (Gerasimova, 2012). Various approaches to corporate culture (symbolic, cognitive, axiological, practice-oriented, etc.) were suggested (Kolesnikov, 2023).

According to researcher Onishchenko (2011), the corporate culture of a higher educational institution is "a unique system, a whole set of norms, values, beliefs, patterns of behavior, communication, and interaction with employees, which guide and define the ways of their professional integration to achieve the goals established by the management of the educational institution and accepted by the organization itself and the whole team for the development. In scientific sources, the corporate culture of the university is classified into three categories: the university - as a separate organization; the faculty - as a part of the organization; and students and staff social groups (Sherbakova, 2013).

Arstangaleeva (2011) states that the corporate culture of the future specialist is shaped by the educational and cognitive activity in the educational space, which encompasses cognitive, axiological, action, and personal domains. The author emphasizes the importance of the value–semantic and spiritual-moral education of the future specialist, the expression of the value and spiritual-moral attributes of the person in behavior, communication, professional communicative interaction, as well as the enhancement of their sense of self-worth and reflection.

The corporate culture of a future specialist in a university is a broad concept that covers their motivation, their value orientations, communicative skills, and the ability to tackle group problems. It also involves norms and behavior models that are endorsed by many students. This enables the creation of a positive socio-psychological atmosphere in the student environment and guides students to pursue not only their own goals but also the common good of the people and communities around them (Fetiskin, 2022).

Main part. The corporate culture of students is a complex and multifaceted concept, firstly, an integral part of the corporate culture of higher education institutions. Secondly, it is closely related to the general and internal culture of students, which depends on their education and upbringing.

Student corporate culture at the university allows the process of formation of future specialists to perform several important functions:

– contributes to the adaptation of students, their successful entry into a new social environment (Danilova, 2013);

– controls and regulates the behavior of students in the pedagogical educational space (Ibragimova N.V., 2019);

– allows you to compare the behavior of students with corporate norms and principles and thereby realistically evaluate it (Shajdullina, 2017);

– contributes to the worldview and value orientations of students, the transformation of corporate values into personal (Taubayeva, 2020);

– improves mutual communication and understanding between students and teachers, creates a positive psychological climate in student groups;

– preserves and accumulates corporate experience, traditions (Pestereva, 2020);

– formation of a universal (spiritual and moral) position of students (Pestereva, 2021).

Corporate culture improves the quality of the educational process at the university, forms students ' interest in positive learning, knowledge, an active life position, and develops student self-management (Chinnapat, 2009). All this contributes to the personal self-development and professional formation of future specialists (Daoruwan, 2015).

In their professional work, future specialists will need to deal with educational challenges in close collaboration with colleagues, and various experts of educational organizations (psychologists, defectologist, speech therapists, etc.), and create a positive psychological environment in pedagogical groups. Therefore, they should first learn how to establish harmonious corporate relationships and work effectively in a team.

Research materials and methods. To find out how the corporate culture of future teachers of preschool organizations is developed, we

worked with 3rd-year students (20) studying under the educational program 6B012 - Preschool Education and upbringing. They gave out questionnaires about corporate culture conducted at universities and institutes and held additional online classes. During the study, we obtained information about the corporate culture of students.

– students' attitude to the University;

– level of motivation and satisfaction to study in higher education;

– interaction and socio-psychological atmosphere in student groups;

– aspiration for professional and personal self-development.

To evaluate the corporate culture of students, we used two methods: in the method of V.M. Zavyalov "assessment of the microclimate in the student group" we observed the expression of the attitude of students to each other in the group and the related mood. In the second method "student subculture as a component of corporate culture", students had to rate 32 points (from 1 to 10), which describe four components of the corporate culture of the university: organizational, emotional, reflective, and behavioral. Thus, we examined the plans and reports of the advisors of the responsible Group and the teaching staff of the Department.

Results and discussion. At the start of the study, we discovered that in the method "student subculture as a component of corporate culture", all students surveyed thought that "corporate culture at the university is formed at the average level", and the characteristics of students' perception and evaluation of individual components of corporate culture are shown in the following table.

Table 1. *Results of students ' assessment of the organizational culture of the University*

Components of corporate culture	Development levels		
	Low	Middle	High
Organizational component	2 %	91 %	7 %
Emotional component	0 %	66 %	34 %
Reflective component	4 %	60 %	36 %
Behavioral component	0 %	69 %	31 %

According to most students, all four components of corporate culture are developed at the average level. About a third of the students surveyed appreciated the formation of organizational (7%), emotional (34%), reflexive (36%) and behavioral component activity (31%). Only 2% of students underestimated the organizational and 4% - reflexive components of the corporate culture of the University. Let's move on to the description of each component.

Analyzing the organizational component, students are not well versed in the" mission and vision of the University " - (41%), internal academic policy of the University (25%). However, educational tasks at the University (69%) are well represented by structural divisions and institutes, departments and teaching staff of the University.

Also, the majority of students (66%) appreciated the equipment of the University's Scientific Library and classrooms. Thus, 31% of those surveyed at the high level and 37% at the middle level assessed the conditions for the development of students ' personality outside the classroom (clubs, sports clubs, etc.).

At the higher and secondary levels, students assessed the emotional component of corporate culture. 81% of the respondents who took part in the survey noted good organization in the student body, mutual assistance, warmth and respectful attitude. Thus, almost half of the survey participants believe that "most students try to prove themselves" and "study with interest."

Students showed many indicators of the reflexive component of corporate culture (satisfaction with learning, participation in the public life of the University, maintaining the tasks and positive image of the student) at an average level, 88% of students appreciated the student self – government bodies and student educational work of the University.

Also, at the secondary level, the majority of students (69%) appreciated the behavioral component of corporate culture, and 31% appreciated this component. Half of the respondents noted that students "try not to miss their studies and classes", "listen to group advisors", and "have a good relationship with the teaching staff. "The University assessed the qualification level of teaching staff and their interest in teaching students" - (69%). At the same time, 91% highly appreciated the fact that "Academic disciplines are conducted in strict accordance with the curriculum" - (59%), "Organization of pedagogical practice" - (78%)," great independent activity and creative approach" -91% highly appreciated.

The subjects taught and the methods of motivating students were rated at the average level by 69% of students, while 62% mentioned the use of interactive whiteboards in universities and the use of interactive teaching methods.

The socio-psychological atmosphere among students is a significant indicator of corporate culture. To examine this indicator, we applied the questionnaire of V.M. Zavyalov "assessment of the microclimate in the student group" (Fetiskin N.P., 2022). Students assessed the following indicators of the microclimate: attitude towards learning, group tasks, successes and failures; activity and efficiency of the group, readiness to join in group activities; attitude towards the curator, asset, and all members of the group, newcomers, lazy and absent; mood and well-being in the group. The outcomes of the survey are shown in Table 2.

Table 2. *Comfort levels of the microclimate in student groups*

Psychological micro-climate comfort levels	High	Middle	Low
Number of students %	59	37	4

It is evident from the table that most of the students (59%) high and medium (37%) assess the microclimate in their student groups and only 4% note low indicators. None of the students assesses the microclimate as "unfavorable". Along with positive grades, 35% of students rated some indicators of the psychological climate negatively. For example, "of the lazy and truant in the group" – 25%, "disregard for the wishes and inclinations of students in the distribution of public assignments" - 29%. 21% of those surveyed "note the passivity of students in the public life of the group.

All negative marks are linked by senior students to the sphere of public life. Maybe the lack of interest in public activities is because studying at the university is accompanied by work, large families, health issues, etc. students valued all other indicators of the microclimate. 92% of the survey participants indicated a positive attitude of students to learning and a wish to master the profession. Based on the results of the study, we can infer that various components of corporate culture are shaped unevenly, which shows the complexity, variability, and difficulty of studying this phenomenon. Students have a notion of the corporate culture of the university, know their membership to the student community, and aim to master the profession.

Discussion. In pedagogical theory and practice, various types of activities, forms, and methods of developing the corporate culture of students are examined and applied (Danilova A.A., 2013). In our view, Project work is very important in solving this problem. The project work of students enhances their skills of working as a team, helps to comprehend the essence and objectives of joint activities, and also enables them to get a good quality education in learning by creating an atmosphere of creativity, initiative, and responsibility. Students in various academic disciplines, and scientific circles, when writing term papers and theses, conduct research projects, which are presented not only in the teaching process but also at the annual student Scientific and Practical Conference of the University, International and national conferences, Olympiads, and scientific contests. Students "My profession is my pride!", "How do I envision a future specialist", "student-applicant", "student-moderator", "student leader", etc. Debates, Business games, training, and round tables are

arranged among students on various topics. Students create games, and adventure projects in preparation for holidays and anniversaries. Not only students but also teachers participate in such projects. In addition, future teacher-specialists will need the opportunity to design and implement various projects in their professional work. If in the works of scientists cited in the study, the social aspect of the formation of corporate culture was discussed, then the feature of our study is the study of the development of corporate culture of future teachers educated in higher educational institutions.

Conclusion. Therefore, the problem of developing the corporate culture of future teachers is pertinent and significant. Project activities are very important in solving this problem. It brings together teachers and students and makes it possible to effectively solve the main social task of the university to improve the level of education of students, and their personal and social maturity. It also fosters the formation of corporate relations, when students are united not only by the "educational institution" and educational activities but also by common views, values, and norms of behavior. The joint solution of creative and socially meaningful tasks related to professional activities allows you to form an efficient corporate culture.

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A.D. KARIYEV [1], R.K. SEREZHNIKOVA [2],
Ye.N. AGRANOVICH [3], L.Ye. AGEYEVA [3], A. ZHUNUSBEKOVA [1]*

[1] Abai Kazakh National Pedagogical University (Almaty, Kazakhstan)
[2] State University of Humanities and Technology (Orekhovo-Zuevo, Russia)
[3] Kazakh National Women's Teacher Training University (Almaty, Kazakhstan)
a.zhunusbekova@abaiuniversity.edu.kz

SELF-EDUCATIONAL COMPETENCE OF SUBJECTS OF EDUCATION AS A PREREQUISITE FOR ACHIEVING LEARNING OUTCOMES

Abstract

The development of self-educational competence is determined not so much by fixed learning outcomes as by the ability to determine and plan the necessary time to achieve the best learning outcomes. The purpose of the article is to present a methodology for determining the time to achieve learning outcomes based on a mathematical model in the process of self-educational activity of subjects of an educational organization of higher education.

The study was conducted on the basis of the Kazakh National Women's Teacher Training University (Almaty, Republic of Kazakhstan) and the State University of Humanities and Technology (Orekhovo-Zuyevo, Russian Federation). The results of the study were obtained on the basis of a comparative analysis of the development of self-educational competence of the subjects of the Kazakh and Russian educational organizations of higher education, the method of designing the applied orientation of teaching pedagogy, the mathematical method using the "didactics equation". The following methods were used: theoretical analysis, comparison, survey, expert observation.

According to the results of scientific research of the subjective activity of students of the Kazakhstani university, an underestimation of the importance of the formation of algorithmic skills for monitoring the achievements of learning outcomes was revealed: 58% of future teachers have a low level of self-educational competence; 44% of students have difficulties in self-planning self-educational activities. 38% of Russian university students were found to be unable to independently choose an algorithm of actions when planning and controlling the time of self-educational activities and productively implement it in the course of the module "Innovative technologies of educational activity". A mathematical method has been developed using the "didactics equation" (M.I. Poteyev), which allows determining the necessary time for effective learning in the process of self-educational activity of university students.

Keywords: diagnostics of achievements, learning outcomes, mathematical model of measurement, self-educational competence, subject of education.

Introduction. The subject of education shows competence in the ability to apply what he / she has learned in practice, that is, to transfer competence to certain situations in real life. The solution of this problem will contribute to improving the quality of training of future specialists in the context of the globalization of education and ensuring competitiveness in the process of lifelong learning (Serjozhnikova et al., 2020). This means that the priority competence

is self-educational competence, the development of which is promoted by active self-educational activity.

We consider the self-educational competence of the subject of education as an integrated personality quality characterized by the presence of external and internal motives, a clear system of knowledge and skills that allow implementing an individual strategy of self-development and self-improvement on the path of professional development. It can be said that this competence is formed by the subject himself/herself, organized and controlled by him / her, developed as the author of efforts. At its core, self-educational competence is the result of self-educational activity of students as a systematic independent cognitive activity, the purpose of which is to acquire professional knowledge, skills and experience that contribute to the development of professional and personal qualities and abilities that ensure the achievement of high results in professional activity. In this context, the self-educational competence of the subject of education is formed on the basis of the acquisition of experience of independent trials and achievements, the development of their own individual learning strategy, the transition from copying samples of self-education to the development of their own model of self-education and quality control through the use of the "didactics equation".

Within the framework of our research, the terms "subject of education" and "self-educational competence" should be considered. Firstly, the subject of education is a new status – an independent, high-potential personality who, first of all, must rely on his / her own strength, intelligence and energy and not justify his / her failures by social troubles. The success of the subject of education in achieving learning outcomes is due to the aspiration for self-realization (Maralov et al., 2022). Secondly, in accordance with the priority in higher education, determined by regulatory documents, is "the development of creative abilities and skills of independent scientific knowledge, self-education and self-realization of the individual", which indicates the subjectivity of the student.

Main part. *Literature review.* Foreign scientists, actively engaged in the problems of self-education, introduce several terms representing this phenomenon (self-directed learning, self-planned learning, learning projects, self-education, self-teaching, autonomous learning, autodidaxy, independent study, open learning), define it also as multidimensional and multifunctional, namely as:

1 a learning strategy that allows its users to independently manage their learning process (diagnose learning needs, define learning goals, choose learning strategies and evaluate learning outcomes) (Yang et al., 2021);

2 the ability of a person to formulate a plan and identify the tools, resources and strategies needed for training. Behavior and characteristics related to independent learning, internal motivation, diligence and perseverance (Chowdhury et al., 2023);

3 training, in which the decision to learn what and how to learn and how to decide whether something has learned well enough is made by the participants of the process themselves (Lepp et al., 2021);

4 self-conception or self-initiated learning as one of the six principles of adult learning (Berkovich-Ohana et al., 2020);

5 the individual initiative and responsibility of the student (with or without the help of a teacher) to determine, evaluate and set priorities for learning needs (Roberts et al., 2022);

6 the type of training by which students take responsibility for what to teach, when and how (Morris, 2019);

7 a learning mode characterized by increased responsibility of the individual for his/her learning, including the choice of topic, resources, method of teaching and evaluation (Sasson et al., 2022);

8 the process by which students initiate the diagnosis of their learning needs, formulate learning goals and direct their learning activities (Clark, 2020).

Such a detailed analysis of the scientific definition of the concept of "self-education" allows us to distinguish two different approaches to its interpretation. The first – cognitive-personal approach – allows us to interpret the concept of "self-education" as a process of purposeful and systematic improvement, development of personality and its activities. This interpretation

assumes the personal nature of self-education as self-development and the presence of a process of self-knowledge. The second approach suggests considering self-education as a type, form, means of cognitive activity organized independently.

Consequently, self-educational competence is based on self-education, which is a necessary component of modern life and the only determinant of self-development of one's inner world. According to E.S. Chebotareva, "self-educational competence is inherent in the subject and is realized by him / her not only as a result of activity, but also in himself / herself, transforming himself / herself in it. Thus, self–educational competence is a person's creation of himself / herself" (Maralov et al., 2022).

Taking into account the available scientific research on the essence of self-educational activity (Krasnoshchechenko et al., 2018), as well as competence, we define the self-educational competence of a future specialist as an integrated personality quality, which is characterized by: motivational and value attitude to self-education; self-educational skills and skills aimed at continuous learning process; readiness to organize self-education throughout life.

The analysis and systematization of a number of interpretations of the concept of "self-education" as a form of cognitive activity of the subject, allowed us to identify the phenomenon of "self-educational competence of the future teacher", which is defined as an integrative personal and professional construct, representing the internal orientation of the individual to self-identification, self-realization and self-improvement as a subject of professional pedagogical activity and concentrating the desire of the individual to realize educational, professional and creative potential at the axiological and ideological level.

The interpretation of the concept of "self-educational competence" allowed us to determine the criteria for measuring the levels of its manifestation: subjective (with indicators: the student's awareness of the content and functions of self-educational competence, the innovative orientation of the individual); instrumental (with indicators: predictive skills, information and analytical skills, organizational skills).

Taking into account the fact that it is fashionable to increase the knowledge of subjects of education about the content and functions of self-educational competence, independent personal development in the process of studying pedagogy, this gives special importance to this discipline when updating the ways of organizing self-education of subjects of education, especially the applied aspect of learning. We point out that "we consider the method of activity as a component of the dynamic structure of activity, a set of techniques and methods of activity that ensure its result" (Pasternatskyi et al., 2022). This makes it possible for the applied orientation of teaching pedagogy to act as a way of developing the self-educational competence of subjects of higher education.

With the shift of emphasis from measuring the amount of knowledge to identifying the ability of students to independently extract educational information, the improvement of the control system for evaluating the success of training is activated (Suleymanov, 2022). This served as the basis and indicates the urgency of the problem of activating the improvement of the control system for assessing the success of self-educational activities of subjects of training. As a diagnostic tool, a mathematical model was developed using the "didactics equation" (M.I. Poteyev), as well as taking into account the mathematical model of training specialists presented in the study of V.N. Sobolin (Kdyrbaeva et al., 2020). This model was used to determine the necessary time for effective learning in the process of self-educational activities of students of Kazakhstani and Russian universities.

Research materials and methods. The study was conducted in 2021-2022 on the basis of the Kazakh National Women's Teacher Training University (hereinafter KazNWTTU) (Almaty, Republic of Kazakhstan) and the State University of Humanities and Technology (hereinafter SUHT) (Orekhovo-Zuyevo, Russian Federation). The study involved 122 students of Kazakhstani and Russian universities planning their self-educational activities in the conditions of the additional module "Innovative technologies of educational activity", introduced into the educational process of universities as an autonomous interdisciplinary organizational and

methodological structure of academic disciplines ("Pedagogy" and "Technology of classroom management").

The research methodology is based on expert discussion, which makes it possible to obtain a qualitative assessment of the planning of self-educational activities by the subjects of education, based on a mathematical model using the "didactics equation" of learning, with the fixation of the transition from copying samples of self-education to developing their own model of self-education organization. The survey and questioning of students revealed the level of manifestation of self-educational competence.

Results and discussion. The applied orientation of teaching pedagogy is considered as a purposeful selection and rational use of the content of the material (situation) in the learning process, focused on the application of pedagogy in interdisciplinary relations with professional disciplines. The structural unit of interdisciplinary connections is situational modeling – it is a real or simulated professional activity of future specialists, based on the choice of adequate forms, methods and means of training that contribute to the assimilation by the subjects of training of the knowledge system of the professional sphere in the process of self-educational activity in an educational organization.

The effectiveness of the formation of self-educational competence was promoted by the developed technology of applied orientation of teaching pedagogy in interdisciplinary relations with a professional discipline, the structural unit of which is situational modeling. Situational modeling includes a set of interactive teaching methods based on the reproduction and analysis by students of real and really possible professional situations (in the form of business games, case studies and situational tasks) and measures for their implementation in the educational process. The technology, represented by a structural set of methods and techniques, organizational forms, combined in accordance with the goals and process of professional training of future specialists, having certain stages, cycles due to didactic conditions, is reflected in the additional module "Innovative technologies of educational activity". The module includes didactic goals, a logically completed unit of educational material, methodological guidance in the process of integrating individual topics, which allows students to independently analyze professional and pedagogical information, build on its basis an individual strategy of independent cognitive activity, carry out self-diagnosis, contributes to the dynamics of professional growth [13].

It should be noted that in the context of the implementation of the additional module "Innovative technologies of educational activity", there was a need to control the time parameter in the process of evaluating the effectiveness of the formation of self-educational competence of future teachers. As a diagnostic tool for the time parameter of the effectiveness of the organization of self-educational activity, a mathematical model was developed using the "didactics equation" (M.I. Poteev) [15].

In accordance with the basic "didactics equation", according to which the rate of knowledge acquisition is equal to the algebraic sum of all the forces of didactic influence on the student, measured in $\frac{unit\ .part\ .\inf}{hour}$, the mathematical level of the student's learning result can be written in the form of a system of differential equations. Let's imagine a model with the introduction of some designations:

T_1 – the student's work time with the teacher;

T_2 – the time of the student's self-educational activity;

$g(T_1, T_2)$ – the value characterizing the level of the student's learning outcome, measured in relative units $0 \le g(T_1, T_2) \le 1$. The closer this level is to 1, the higher the student's learning result. One can, for example, assume that $g(T_1, T_2)$ s a student's rating assigned to the maximum possible indicator of the rating data. If, for example, the rating is measured on a one–hundred-point scale, so $g(T_1, T_2)$ is the student's score divided by 100

$f(T_1, T_2)$ – a value that characterizes the level or degree of the student's learning outcome: $f(T_1, T_2) = 1 - g(T_1, T_2)$.

The levels of achievement of the student's learning result depend on the time spent working with the teacher and on the time allotted for self-educational activities. This is reflected in the arguments of the corresponding functions. If the student was not actively engaged in self–

education, then his level of learning outcome did not decrease, but remained at the same level, that is $f(0,0) = f_0$, where f_0 – is the initial level of the student's learning outcome. With the increase of time T_1 and T_2 the level of the student's learning result should decrease, that is, the function $f(T_1, T_2)$ is decreasing for both arguments.

To assess the effectiveness of self-educational activities, its impact on the achievement of the effectiveness of the subjects of learning, one can also use the general principles of information theory. From the perspective of this science, learning is considered as a certain amount of knowledge, abilities, and skills that changes over time under the influence of various factors. For students who are at different stages of learning, this volume differs in size, and the knowledge and skills themselves are characterized by varying degrees of order (or disorder). In information theory, the amount of disorder is characterized by entropy. In relation to the learning process, the value of the entropy of the student's knowledge can serve as a measure of achieving the effectiveness of learning. The learning result is achieved by a systematic influence on the amount of entropy.

As information is acquired, the disorder of actions and skills of learning subjects will decrease, which will lead to a decrease in entropy, and this, of course, will lead to an increase in the level of learning outcomes. The basic relation of information theory relating the amount of information to entropy has the form:

$$I = -\log_2 H, \quad (1)$$

where I – is the amount of information received by the student,

H – entropy of the student's knowledge.

From formula (1) it follows that $H = e^{-kI}$, where $k = \ln 2 = const$.

Let's apply this formula for two states of the learning process. Let's suppose that at the initial stage the condition of the student was characterized by the parameters I_0 and H_0, and after obtaining knowledge ΔI the entropy decreased to a value H. Then we get:

$$H_0 = e^{-kI_0}$$

$$H = e^{-k(I_0+\Delta I)}.$$

Hence,

$$H = H_0 \cdot e^{-k\Delta I} \quad (2)$$

Value g, which characterizes a certain relative level of achievement of student learning outcomes, is associated with disorder, that is

$$g = f(H), \quad (3)$$

where $f(H)$ – is a function that increases the level of student learning outcomes not due to the influence of disordered connections, but namely, due to the decrease in entropy. Since with a decrease in entropy, the level of achievement of student learning results increases, the function $f(H)$ should be decreasing. If the magnitude of the decrease has a power-law character, then this function can be represented as

$$f(H) = 1 - a \cdot H^b \quad (4)$$

where a and b – are some coefficients characterizing the degree of increase in the level of achievement of learning outcomes depending on the decrease in entropy.

Taking into account the expression (3), the dependency (4) takes the form:

$$g = 1 - a \cdot H^b.$$

Using (2), we obtain:

$$g = 1 - a \cdot H_0^b \cdot e^{-kb\Delta I} \quad (5)$$

Introducing the designation:

$$1 - a \cdot H_0^b = g_0,$$

where g_0 –is the value characterizing the relative level of student learning outcomes with the initial disordered connections in the system, and substituting it into dependence (5), we obtain:

$$g = 1 - (1 - g_0) \cdot e^{-p\Delta I} \quad (6)$$

where the designation is accepted $p = kb$.

It is natural to assume that the amount of information processed and assimilated by the student consists of the information I_1, received by the student during the hours of classes with the teacher, and the information I_2, received by the student in self-educational activities, that is

$$\Delta I = I_1 + I_2.$$

The amount of information I_1 s proportional to the time allocated by the curriculum to study the discipline, so one can write:

$$I_1 = \beta_1 \cdot T_1 \quad (7)$$

where β_1 –is a function that takes into account the level of methodical skill of the teacher and the ability of the student to assimilate the educational material,

T_1 – is the volume of the discipline.

m – is the coefficient characterizing the methodical skill of the teacher.

The ability of the student to assimilate the educational material is expressed by the formula:

$$\beta_1 = \frac{m}{1 - c_1} \quad (8)$$

where the coefficient c_1 characterizes his / her ability to learn, $0 \le c_1 < 1$.

The amount of information is proportional to the time allotted to the student's independent work on the study of this discipline.

$$I_2 = \beta_2 \cdot T_2, \quad (9)$$

where β_2 –is a function that takes into account the student's ability to independently assimilate educational material,

T_2– the amount of time spent on self-educational activities.

The ability of a student to independently assimilate educational material is expressed by the formula:

$$\beta_2 = \frac{1}{1 - c_2} \quad (10)$$

where the coefficient c_2 characterizes his / her ability to self-study, $0 \le c_2 < 1$.

The presented procedure is an algorithm for determining the effectiveness of managerial support by a teacher of independent cognitive activity of students in the process of self-educational activity in achieving learning outcomes. Calculations based on this algorithm make it possible to determine individual achievements of learning outcomes as one of the indicators of the formation of self-educational competence.

Each level of formation of algorithmic skills of self-educational activity of future teachers was reflected in the criteria of certain quantitative values, with the help of which the studied process was diagnosed. Criteria indicators of self-educational competence were manifested in the formation of the motivational and value component of the algorithmic skills of independent work of future teachers and were measured by the number of requests from students to the teacher during a lesson for monitoring the activity performed or for help in its implementation, or to the verification procedure in the control software modules (for SUHT students). It should be noted that at SUHT, the training of students was organized on the basis of synchronous pedagogical control with the independent work of students. Taking into account the importance of the formation of algorithmic skills of independent work of students (in accordance with the Federal State Educational Standard in the direction of training 44.03.05 "Pedagogical Education" and the Professional standard "Teacher"), the research work covered the areas of classroom extracurricular activities, and research activities, including teacher participation in student activities.

Self-educational activities were also organized in groups of students of KazNWTTU, but without the use of pedagogical control synchronous with it, and without excluding the possibility of its implementation on the initiative of the students themselves. The final pedagogical verification and evaluation of the results of solving educational tasks dominated in terms of the effectiveness of the formation of algorithmic skills of self-educational activities of future teachers through pedagogical control.

The table presents the values of criteria for assessing the formation of algorithmic skills of self-educational activity, identified at the adaptational, reproductive, situational-analytical, perspective-heuristic and autonomous stages of their formation.

Table 1. *Changes in the values of criteria for assessing the formation of algorithmic skills of self-educational activity*

Stages	In % of the maximum number of requests for pedagogical control		In % of the maximum number of errors committed		% of correctly solved problems from the number of given ones	
	KazNWTTU	SUHT	KazNWTTU	SUHT	KazNWTTU	SUHT
Adaptational	71,3%	50,2%	75,9%	77,9%	68%	66%
Reproductive	91,8%	100%	93,4%	100%	54%	64%
Situational-analytical	100%	71,7%	100%	91,6%	55%	68%
Perspective-heuristic	93,0%	48,0%	81,4%	62,5%	63%	77%
Autonomous	88,3%	42,7%	77,9%	49,2%	70%	88%

*Note:100 % – the maximum value of the criterion based on the results of all stages of the formation of algorithmic skills

The values determining the number of requests for pedagogical control initiated by students and the number of mistakes made in the process of solving educational tasks were calculated relative to their maximum values in groups. These values were determined based on the results of all stages of the formation of algorithmic skills of independent work of future teachers.

The analysis of the table data showed that in a group of SUHT students, a significant increase in the number of student requests for control was observed at the situational and analytical stage of the formation of the studied skills. This meant that the students of this group, realizing the usefulness and possibilities of synchronous control, preferred to turn more often both directly to the teacher and to programmatically implemented procedures for checking and evaluating the results of self-educational activities. While the students of KazNWTTU groups were limited by the possibilities of a teacher.

Under the influence of the growth of cognitive activity and independence of future teachers in groups of SUHT students, there was a constant and outstripping decrease in the number of appeals to pedagogical control and the number of mistakes made compared to the groups of KazNWTTU students. This influenced the dynamics of the formation of algorithmic skills of students' self-educational activity according to the criterion of cognitive independence: the number of solved tasks in groups of SUHT students constantly exceeded the same indicator in groups of KazNWTTU students. Figure1 clearly shows the dynamics of changes in the value of the criterion "Effectiveness of self-educational activity" by groups, identified in the course of the study.

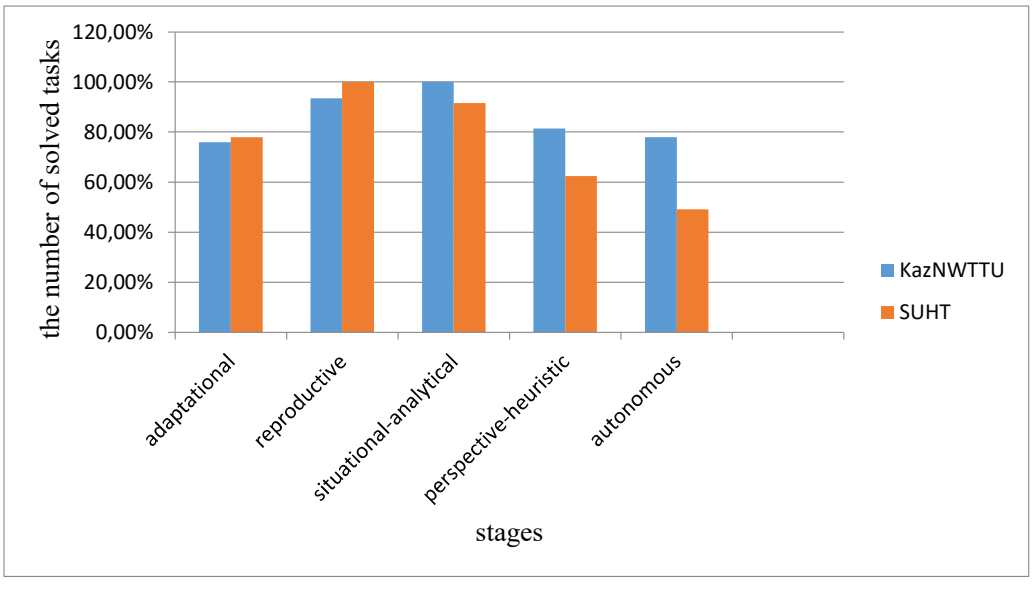

Figure 1. Change in the values of the criterion "Effectiveness of self-educational activity"

A comparative analysis of the data obtained has shown the great effectiveness of the process of formation of algorithmic skills of self-educational activity through pedagogical control in groups of SUHT students.

We came to the conclusion that the control synchronous with the students' self-educational activity accelerated the process of formation of cognitive independence and intensity of self-control among students of SUHT groups. It became possible, as we noted earlier, on the basis of the created situation of success from the results of training, when the effectiveness of self-educational activity fully corresponded to or even exceeded the expectations of students, and also as a result of the implementation of the process model in the educational process of the formation of algorithmic skills of future teachers through pedagogical control.

Conclusion

Analyzing the results of modern research, it should be noted that the self–educational

competence of subjects of education is an integrated personal characteristic, which is provided by a value attitude to self-educational activities and self-development, a system of knowledge on planning and implementing self-educational activities. It is necessary to emphasize the importance of having a component in its structure, which is manifested in the rational selection and application of technology of applied orientation of teaching pedagogy in interdisciplinary relations with a professional discipline, the structural unit of which is situational modeling. At the same time, an important factor is the time parameter in the organization of self-educational activities of subjects of education, which affects the level of achievement of learning outcomes. A mathematical model has been developed as a diagnostic tool for the temporal parameter of the formation of self-educational competence of subjects of training. The mathematical model differs from the diagnostics by the continuity of the process; technology of data collection, allows obtaining a significant amount of primary information and evaluating it.

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D.N. ISSABAYEVA [1], A.E. SAGIMBAYEVA [2], SH.T. SHEKERBEKOVA [2], N.T. OSHANOVA [2], D. SADIRBEKOVA [2]

[1] Al-Farabi Kazakh National university (Almaty, Kazakhstan)
[2]Abai Kazakh National Pedagogical University (Almaty, Kazakhstan)
email: daraja_78@mail.ru

METRIC INDICATORS FOR EVALUATING EDUCATIONAL INITIATIVES IN THE CONTEXT OF CONTINUOUS PROFESSIONAL DEVELOPMENT OF A TEACHER

Abstract

This article is an analysis of metric indicators used to evaluate the educational initiative of a teacher in the context of continuous professional development. Using metric tools, the authors highlight the effectiveness and impact of initiatives on the professional development of teachers, highlighting key parameters within the framework of motivational-value, operational-activity and reflection-evaluation components. The work is designed to provide a systematic approach to measuring and evaluating educational initiatives, contributing to a more accurate understanding of their impact on the development of the educational process and improving the professional competence of teachers. The presented analysis of metric data contributes to the development of effective strategies to support and improve educational initiatives.

The article is devoted to the study of the influence of educational initiatives on educational practice in the context of continuous professional development of teachers. It analyzes various aspects related to the initiative such as its definition, types, components, criteria and indicators. An initiative in a pedagogical context is a form of social activity and social creativity aimed at improving the educational process. It can manifest itself in the development of new curricula, the introduction of innovative methods and technologies, participation in projects, etc. The types of initiatives in education have been clarified: methodological, technological, socio-educational, collaborative, reflective, constructive, digital, financial.

In addition, the study identifies three main components of the educational initiative for continuous professional development of a teacher: motivational-value, operational-activity, reflective-evaluative. Each of these components is characterized by its own criteria and indicators, which allows for a more detailed assessment of the effectiveness and impact of these initiatives on the professional development of teachers.

Educational initiative is an important factor in the continuous professional development of teachers. It allows them to improve their activities, improve the quality of education and create a favorable educational environment.

Keywords: initiative, educational initiative, innovation, metric, continuous professional development of a teacher.

Introduction. One of the long-term priorities of the "Kazakhstan-2050" Strategy is the development of the education system, aimed at the formation of highly qualified personnel with skills in demand in the labor market (akorda.kz, 2012).

Based on the Law of the Republic of Kazakhstan "On Education," the structure of the education system is divided into two parts: general education and vocational education (adilet.zan.kz, 2011). In accordance with the current legislation in the field of education in Kazakhstan, one of the principles of state policy in the field of education is "continuity of the educational process, ensuring continuity of levels", expressing a consistent transition from one level of education to another and expressed in the preservation, consistent change and recognition of learning outcomes. Law of the Republic of Kazakhstan "On the status of a teacher", (adilet.zan.kz, 2019), the concept of development of preschool, secondary, technical and vocational education of the Republic of Kazakhstan for 2023-2029, covering the personality of the student as a whole and aimed at its comprehensive development (adilet.zan.kz, 2023), based on the concept of development of higher education and science of the Republic of Kazakhstan for 2023-2029 (adilet.zan.kz, 2023), the activity and responsibility of the teacher has comprehensively increased.

In the context of continuously updated knowledge, the emergence of new types of schools, the birth of alternative pedagogical projects and innovative technologies, such qualities

of a teacher's personality as independence, activity, and initiative in education are becoming increasingly relevant.

An educational initiative in the process of continuous professional development of a teacher for educational practice depends on a number of factors, primarily on dynamic changes in the educational space; modern education is subject to rapid and complex changes under the influence of technological progress, socio-cultural changes and new educational requirements, therefore, the teacher needs to adapt to the environment, secondly, the strategic importance of educational initiatives; educational initiatives implemented as part of the continuous professional development of a teacher represent a strategic investment in the future of society; thirdly, there is an increasing need for effective methods for assessing the development of educational initiatives; fourthly, the issues of continuing education of teachers and the impact of educational initiatives are relevant not only from the point of view of national education systems, but also from the point of view of global competitiveness, exchange of best practices and support for sustainable development of education.

Thus, the study of the impact of educational initiatives of continuous professional development of teachers on educational practice is a relevant and strategically important area, providing the necessary knowledge for the effective development of the educational system in a modern dynamic environment.

In the context of educational initiatives for continuous professional development of teachers, the strategic importance of continuous teacher training is compliance with the requirements of modern society, effective implementation of educational innovations, improving the quality of education, strengthening professional identity; It is closely related to issues of adaptation to the diversity of the student population and the formation of an intellectual reserve. These issues require clarification of metric indicators and means of influence of strategically important educational initiatives that ensure the effective development of the educational system of continuous teacher training in the context of educational initiatives and the achievement of high standards of educational quality.

Research materials and methods. To solve the stated problems, the study used a complex of theoretical approaches. The theoretical analysis included the study of scientific, philosophical, psychological and pedagogical sources, as well as dissertation research on the problem.

Initiative in a pedagogical context. Initiative, derived from the Latin word "Initium" – beginning, in a pedagogical context is a form of social activity and social creativity (Panov V.G.,1993)

The initiative includes voluntary participation in activities both in the interests of society and in personal interests, with a creative approach to work and established behavior. Initiative is characterized by the acceptance of greater responsibility than is required by compliance with generally accepted norms. Innovation associated with an initiative may be unexpected for society, presenting the initiator with risk, since he cannot always foresee all the consequences. The contagiousness and irreversibility of changes caused by an initiative can significantly increase the authority of the initiator beyond his formal status. The effect of an initiative, whether positive or negative, depends not only on the actions of the initiator, but also on the reactions of others.

In the broad field of education, there are a number of terms such as professional development, lifelong learning, professional development, etc. Each of them may have overlapping meanings, defined by different researchers. The work of Bolam & McMahon (2004) highlights the intersection of these terms and their different interpretations. Research into theories of professional development indicates that the personal and professional development of a specialist is often provided by "educational initiatives" as a new author's activity of the subject of professional activity, representing a way of realizing self-development.

Approaches used to theoretically substantiate an educational initiative:

Innovative approach and educational initiative. In the pedagogical context, the concepts of "initiative" and "innovation" are closely intertwined. The initiative, as a form of social activity and social creativity, finds its implementation in innovative teaching

methods. Innovation, in turn, is the introduction of something new, covering the meaning, methods, technologies and content of innovative approaches.

Scientists associate *initiative with innovative teaching methods*, which include new forms of interaction between teacher and student, as well as between students and teacher. They highlight innovative teaching methods that introduce innovations into teaching practice and promote effective learning of educational material. According to scientists, Taubaeva Sh.T. (2001), innovations in education can be classified as follows: *Absolute innovation:* a completely new technology that represents the discovery of a new reality. *Updated innovation*: Significantly improved technology that represents an improvement on existing methods. *Modified innovation*: a slightly improved technology that makes changes to an existing approach. *Innovations introduced in new territory:* include technologies applied in new contexts, such as training for different regions. *Innovative technology for a new field of application*: innovative methods introduced into new educational areas. These classifications enrich the understanding of innovations in education and highlight their diversity and importance in modern teaching practice.

Activity approach and educational initiative. The activity approach in education is focused on the active interaction of the student with the educational material, active participation in the learning process and application of acquired knowledge in real situations. This approach focuses on developing students' practical skills, critical thinking, creative problem solving, and the development of social and communication competencies. An educational initiative, in turn, represents planned actions and activities with the aim of introducing new teaching methods, programs or concepts into the educational process. The initiative can arise both at the level of individual teachers or lecturers, and at the level of educational institutions as a whole. When these two concepts are combined, the educational initiative aims to introduce an activity approach into the educational process. This may include the development of new curricula, methods, the use of modern educational technologies, practical classes and project work. An example of an educational initiative with an activity-based approach could be the introduction of project-based tasks, where students solve real-life problems, conduct research, work in teams and apply their knowledge in practice. This approach contributes to a deeper understanding of the material, the development of critical thinking and prepares students for real challenges in their future professional activities.

Synergetic approach and educational initiative. The synergetic approach, considered as a post-neoclassical interdisciplinary direction of research, becomes key in connection with open nonequilibrium and nonlinear systems. In the context of studying teacher initiative, this approach highlights important concepts: self-organization, choice, nonlinearity, bifurcation and others. It is emphasized that the development of initiative requires taking into account nonlinearity and random actions in the process of students' self-awareness (Pahomov N.N., & Tuptalov Ju.B., 1992).

Educational Initiative and Theory of Change. The educational initiative is based on a theory of change that represents a collaborative and results-oriented approach to planning, evaluating and strengthening organizational capacity. This theory identifies all the necessary building blocks to achieve a specific short-term goal (www.theoryofchange.org). The process of developing a theory of change includes the formation of "theories of initiative" and "logical models".

Theories of professional development and educational initiative. Research by scientists such as (Abul'hanova-Slavskaja K.A., 1980) and (Slastenin V.A., & Mishhenko A.I. (1991), as well as foreign scientists, reveals the essence of educational initiative and its connection with the personal and professional development of teachers. Analysis of models of professional development emphasizes the importance of external and internal conditions for the formation of pedagogical professionalism.

Impact of educational initiatives and development prospects. Research shows that educational initiatives directly influence the quality of educational practice. Deviation from the choice point takes into account the synergistic approach and requires adaptation to

non-linear and random actions. The hermeneutic perspective emphasizes the internal potential of individual activity, emphasizing the role of reflection.

The concepts of *"educational initiative"* and *"pedagogical initiative"* denote important aspects of the active role of teachers in improving the educational process. The educational initiative includes a wide range of activities aimed at improving the educational environment, including participation in the development of new programs, the introduction of innovative technologies and participation in projects. Pedagogical initiative, on the other hand, focuses on specific teaching strategies, including the creation of new teaching methods, individual approaches to students and the constant desire to improve one's professional practice. The pedagogical initiative focuses on methodological and technological aspects, helping to increase the efficiency of the educational process. In the field of education, there are several types of initiatives, each of which contributes to improving the quality of education.

Initiatives, being a source and mechanism, become an integral part of the development of education. Educational and pedagogical initiatives, together with innovations, create favorable conditions for the continuous improvement of the educational system and increasing its quality. Thus, the combination of initiatives and innovations in pedagogy creates a dynamic environment that promotes continuous improvement of the educational process and supports the progressive development of education as a whole.

Let's consider the components of pedagogical initiatives.

Methodological initiatives are aimed at quickly and effectively achieving a high level of education. For example, changing the content, methods and organization of teaching within a particular subject, creating the best conditions for students.

Technological initiatives, summarizing the experience of successful application of new methods in the educational process, teachers can offer their technologies at the school level. For example, the introduction of new educational technologies that improve learning efficiency.

Socio-educational initiatives are developing new educational practices with new goals, content and management systems, covering several socio-pedagogical structures. They are associated with the changing role of education in society.

Currently, attention and activity in publications is increasing in connection with the problem of actualization, especially in the context of a socio-pedagogical initiative, which is a factor in the formation of educational reality (Usol'cev A.P., & Antipova E.P.,2019). A.N. Makhinin presents an approach that reveals the procedural and activity-based nature of the initiative through three aspects: 1) initiative-proposal; 2) initiative-action; 3) initiative-position (Mahinin A.N., 2019).

From a study of individual initiative conducted by G.A. Shurukhina, we can identify generalized characteristics of initiative as an individual's ability to take conscious, purposeful, active social action; forms of expression of the sociocultural needs of the individual; subjective and socially significant basis for self-realization of the individual and his professional active work [Shuruhina G.A., 2013).

T.B. Solomatina and S.V. Nasibova consider initiative as a moral quality of a person, the ability to express innovative ideas in work, motivation for new manifestations of activity (Solomatina T.B., & Nasibova S. V. (2008). Initiative is presented as a strong personality trait that determines a sustainable desire for initiation, and initiative is presented as the initial activity of the individual, expressed in a non-standard form, capable of achieving new goals and solving new problems for both society and the individual (Kosacheva E.P., 1999).

It is important to emphasize, especially in the context of pedagogical activity, that initiative is a personal property that combines cognitive and motivational factors that can manifest themselves in pedagogical research and development, as well as influence the transfer of acquired pedagogical knowledge.

Contemporary research by Chanchal Tyagi and others has highlighted various types of pedagogical initiatives that play an important role in improving the educational process. Let's consider the main types of highlighted initiatives (Tyagi, Chanchal & Misra, Pradeep. 2021).

Joint initiatives imply cooperation and joint activities of various educational stakeholders - teachers, students, parents, administration and other interested parties. For example, developing educational programs together with students and their parents to better meet the needs of students.

Reflective initiatives involve educators continually learning and reflecting on their practice, accepting feedback, and striving for improvement. For example: Regular self-reflection sessions and sharing experiences with colleagues to identify successful practices and areas for improvement.

Constructive initiatives, pedagogical actions aimed at building a positive and effective educational process. For example: Introduction of new teaching methods focused on effective learning by students.

Digital initiatives, the introduction of modern digital technologies into the educational process. For example: The use of interactive electronic educational materials and educational applications.

Financial initiatives related to the management and distribution of financial resources within an educational institution. For example, developing budget strategies for optimal use of funds for educational needs.

Each of these types of initiatives plays a role in facilitating the educational process, providing a variety of ways to improve teaching practice and ensure quality education.

Educational initiatives can be defined as an attempt to explore new pedagogical ideas, facilitate and accelerate student learning, improve their literacy and use some learning tools to create an inclusive learning environment (Darling-Hammond L., Hyler M.E., & Gardner M., 2017).

For example, David Jones, Shock Hargreaves, introduces the concept of educational initiative, describing it as an area of activity aimed at increasing student achievement, improving educational processes and changing the culture of educational institutions (https://www.abebooks.com/servlet/BookDetailsPL?bi=30838384494&searchurl=an%3Dhargreaves%2Bdavid%2Bh%26sortby%3D17&cm_sp=snippet-_-srp1-_-title2).

An educational institution can be an educational society that promotes human education, and, consequently, its transformation, complication - development. In this sense, it is important to focus on educational initiatives that are active and activate social interaction in the future. Educational initiatives play an important role in the educational space, defined as follows:

- updating the forms, methods and content of educational activities;
- strengthening the education of children and youth;
- solving social problems using pedagogical means (working with families, students with disabilities, preventing deviant behavior);
- influence on the formation of state policy in the field of education;
- social protection of education workers;
- formation of an authoritative professional teaching community.

The educational initiative of the teacher, resulting from the analysis of scientific literature, covers diverse aspects of personal and professional development. The personal aspect includes self-knowledge and intrapersonal conflicts, stimulating the process of self-development. By developing his creative potential, the teacher overcomes difficulties and forms a system of pedagogical relations (Abdalina L.V., 2008). The existential aspect is reflected in the desire for new opportunities and growth through professional dialogue. The acmeological aspect is manifested in the desire to reach the heights of professionalism and the formation of one's professional path. The axiological aspect emphasizes the importance of initiative in transforming knowledge and improving activities [Chervonnyj M.A., Igna O.N., & Jakovlev I.N., 2023). The criteria of motivation, operational activity and reflection highlight important aspects of initiative corresponding to the individual, acmeological and existential dimensions. An educational initiative based on these aspects helps improve the quality of education and create a favorable educational environment.

Analysis of academic literature gives an idea of the teacher's educational initiative, considered as a result of his personal and professional development, and also highlights key aspects: personal, existential, acmeological and axiological.

The personal aspect covers the revelation of the true, real, contradictory essence of the teacher, where internal conflicts can contribute to the process of self-knowledge and self-understanding. The teacher must be aware of multiple ways of expressing oneself, which enhances the possibilities of interaction with others. The state of professional activity and the activation of creative potential make it possible to overcome obstacles in the implementation of initiative projects and the achievement of set pedagogical tasks. The creation of a system of pedagogical relations with various aspects of the educational process becomes the result of the realization of professional potential. The personal aspect of professional initiative is manifested in solving problems such as self-awareness, reflection, the formation of self-regulation mechanisms, emotional maturity and stability of the individual as a responsible subject.

The existential aspect is reflected in the search for new opportunities for growth and the perception of new prospects in the profession through the professional dialogue "teacher-student". These processes allow the teacher to go beyond standard behavioral patterns.

The acmeological aspect of the educational initiative is associated with the desire to reach the heights of professionalism. Moving to the heights of personal and professional development requires effort and dedication.

The axiological aspect of the initiative corresponds to the tasks of transforming professional knowledge and improving professional activities. The support of the leadership of an educational institution plays a key role in the manifestation of initiative, which serves as an indicator of the development of the personal and professional maturity of the teacher. The criteria for motivation, operational activity and reflection include important aspects of individual, acmeological and existential dimensions.

Results and discussions. Based on the above approaches and aspects of the teacher's educational initiative, the criteria of his professional activity and independent improvement and change, readiness to implement the initiative is divided:

- *the motivational-value component* includes initiative in the development of new educational materials, the search for innovative methods and technologies: readiness to learn new educational approaches can be manifested through participation in professional courses, trainings, independent study of literature, the ability to set goals and objectives implies the formulation of clear plans for development and training, awareness of the impact of an educational initiative on the quality of education implies an understanding of the importance of making changes to the educational process, willingness to cooperate is expressed in a willingness to work in a team, exchange experience and jointly develop educational projects, openness in interpersonal relationships implies a willingness to share one's experiences and accept the experiences of others, creating an open and supportive learning environment.

- *the operational-activity component* includes the active introduction of new teaching methods into practice; it includes not only knowledge of new approaches, but also their successful adaptation to specific learning conditions: the development and use of one's own educational methods implies a teacher's creative approach to the creation of materials and tools for teaching; continuous improvement of teaching methods in accordance with progressive trends involves adaptation to the changing requirements of the educational environment; the desire to achieve the heights of professionalism is associated with a constant desire for self-development and advanced training; flexibility in the application of new educational practices implies the teacher's ability to adapt to rapidly changing conditions and requirements; effectively overcoming difficulties in implementing educational projects emphasizes the ability to solve problems in real time.

- *the reflective-evaluative component* includes regular self-analysis and identification of difficulties in educational practice, which presupposes constant attention to one's own activities: a deep understanding of the roots of emerging difficulties requires analysis of not only external manifestations, but also internal factors; adequate self-assessment of professional competence implies an objective perception of one's achievements and problems; openly recognizing one's strengths and weaknesses emphasizes honesty and a willingness to grow;

the ability to critically comprehend the results of the educational process includes the ability to analyze and generalize experience; the development of the meaning of teaching activity and the formation of one's own professional path is associated with awareness of the significance of one's role in the educational process.

Based on the above components, the criteria and indicators of the teacher's educational initiative were determined (Table 1).

Table 1. *Criteria and metric indicators of a teacher's educational initiative in continuous professional development*

Component	Criteria	Metric indicators
Motivational-value (initiative-proposal)	Striving for a change in experience	implements new approaches in its own educational practice
	Learning new knowledge under obstacles	actively participates in various forms of non-formal and informal education
	Setting goals for self-education	develops his own professional development trajectory
	Acceptance of the value of the educational initiative	consciously participates in the promotion of educational initiatives at the level of educational organization
	Openness to cooperation in the professional community to promote educational initiatives	actively interacts with colleagues, exchanging experiences to promote educational initiatives
Operational-activity (initiative-action)	Expanding and updating subject knowledge in the field of educational initiatives	improving own educational practice in the context of promoting educational initiatives
	Integration of educational initiatives into educational practice	renewal and modernization of educational practice
	Interaction with colleagues to promote educational initiatives	participation in professional communities
Reflective-evaluative (initiative-position)	Awareness and overcoming of one's own difficulties in professional activities	reflects the quality of professional activity and forms his own experience of improving it
	Evaluation of the results of personal and professional achievements	compiles and expands a portfolio of achievements
	Adequate self-assessment of professional competence	effectively participates in self-assessment practice and uses its results for professional development
	Monitoring the quality of development of the educational organization in which he works	develops and implements recommendations to improve the activities of educational organizations

Conclusion. In this study, innovative, activity-based and synergetic approaches, as well as theories of change and professional development, are used to reveal the essence of the concept of educational initiative. The authors, analyzing theoretical literature, present the educational initiative of the teacher as a result of his personal and professional development. Within the framework of the identified key aspects, such as personal, existential, acmeological and axiological, various aspects of the impact of initiative on a teacher are considered.

In addition, the study identifies three main components of the educational initiative for continuous professional development of a teacher: motivational-value, operational-activity, reflective-evaluative. Each of these components is characterized by its own criteria and indicators, which allows for a more detailed assessment of the effectiveness and impact of these initiatives on the professional development of teachers.

We associate the prospects of this study with the development of mechanisms for assessing educational initiatives in the context

of continuous professional development of a teacher

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G.A KOSHZHANOVA.[1], G. K. SHIRINBAYEVA, [2]*
S.T. TLEUBAY, [3] R.A. KOSHZHANOV [4]

[1]Kenzhegali Sagadiev University of International Business(Almaty, Kazakhstan)
[2] Abai Kazakh National Pedagogical University (Almaty, Kazakhstan)
[3]Kazakh National Women's Teacher Training University (Almaty, Kazakhstan)
[4] Academy of Civil Aviation (Almaty, Kazakhstan)
e-mail: gulshat8@inbox.ru

DEVELOPMENT OF THE EMOTIONAL CULTURE OF THE FUTURE SPECIAL TEACHER

Abstract

In this article, as a result of the analysis of pedagogical control, scientific research and educational and methodological material devoted to the problem of emotional stability of the future special teacher, we found that the professional training of a special teacher takes place in mass educational practice at the level of goal-setting and at the general theoretical and practical level of development of emotional culture in general, personal education. The method of developing the emotional stability of a future special teacher is revealed. Developing the emotional stability of a future special teacher when developing a methodology, we put forward the following concept: if the necessary professional quality is formed by a number of components, if there is a unified education, then it can be developed on the basis of interdisciplinary connections. In addition, this article examines the phenomenon of the emotional culture of a special teacher. The conditions, factors and principles of the development of the emotional culture of a specialist in special education in the educational process of the university are shown. In addition, in the process of professional training of a specialist in special education, it is shown that today the emotional culture of a special teacher is not sufficiently conducted, as well as work on its development.

Keywords: emotional culture, empathy, aggressive, depression, tolerant, professional education.

Introduction. Emotional culture is the ability to express feelings, experiences, respond positively to the emotions and experiences of other people. With a sufficiently developed level of emotional culture, such qualities as empathy, responsiveness, understanding, good-will, tolerance, respect, sociability, willingness to help, etc.appear. the development of the emotional culture of future students is of a special pedagogical, psychological orientation, since in the future it is important in the direction of their work with people. He/she works closely not only with people, but also with students with educational needs. Such personalities require a special approach to themselves, which we will consider in theory. In the work of a specialist teacher, you can meet people of different emotional states, aggressive, someone is depressed, impatient, depressed, etc. In any case, a special teacher should position himself not only as a solver of social problems, but also as a psychologist solving individual psychological problems. After all, everything in the work of a special teacher is interconnected, in most cases social problems are psychological in nature. Studying at the university is aimed at obtaining theoretical knowledge. But when a graduate starts his job, he faces a number of problems for which he is not ready for professional activity, which is psychologically related to individual adaptation in a new team, a new social role, a new range of responsibilities and, consequently, self-improvement, suppression of fear of everything new, development of self-confidence. his education, training. Here, such a big role is played by such a quality as self-control, the main thing in the concept of emotional culture. A sufficiently developed level of emotional culture helps a

special teacher to solve problems of an adaptive nature, since culture is a way of active human life. Therefore, as a person is an external and internal factor, and culture represents such unity. Personality, like any Biosocial system, is a single, open, non-equilibrium, developing system and includes a set of interacting subsystems (spheres, components) and their stable connections, which are improved in the educational process.

The transformation of society into an information society, topical issues in all spheres of human life and activity raise issues of harmonization of relations between man and society, modernization and creation of culture from the point of view of researchers (H. A. Berdyaev, M. Buber (2010), G. Marcuse, E. Toffler (2011), S. L. Frank, E. Fromm, F. Fukuyama, M. Heidegger, etc. (Fromm, E. 2018).

Main part. This determines the need for the development of the emotional culture of the future special teacher as a factor in the humanization and harmonization of human relations with the world around him, determines the need for the development and formation of culture in a higher educational institution, renews the cultural function of the University. The analysis of the theory and practice of professional training of a special teacher, which we have carried out, shows that insufficient attention is paid to the development of the student's emotional culture. Pedagogical theory and practice developed for a long time in a social direction, so it was not required to pay attention to human emotions, which was reflected in the professional education of a special teacher, characterized by the lack of development of its content and methods. In the modern educational practice, the need for the student to intellectually master professional important knowledge and skills, and little attention is paid to the development of personal qualities necessary for the effective implementation of pedagogical activity in a modernized society from a humanistic point of view.

Literature review. Features of the important role of emotions in life and personality development have been identified. The high importance of the emotional component of human life is recognized by representatives of philosophers (V. Dilthey, A. Bergson, S. Kierkegaard 1989), (G.G. Gadamer, P. Ricker, M. Heidegger 1988), (G.G. Gadamer, P. Ricker, M. Heidegger), as well as domestic philosophers (considered by B. S. Solovyov, H. A. Berdyaev (2010). According to researchers, emotional culture is the emotional development of a person. V. V. According to Zenkovsky, a person should feel the "inner voice of life" because without it, the death of the spirit, emotional isolation, and indifference to people will occur, which will negatively affect the professional activity of a special educator (Filosofiya svobodnogo duha: (2014).

The study of scientific sources on philosophical anthropology made it possible to understand a person as an active creative initiative with pronounced subjectivity, capable of constant self-improvement in accordance with his ideal (N. A. Berdyaev, B. S. Solovyov, P. A. Sorokin, L. N. Tolstoy 2017). Thus, the knowledge accumulated in philosophy has shown that it is necessary to pay attention to the person himself, to the intrapersonal factors of the development of the emotional culture of the future specialist. Understanding external factors, conditions and prerequisites, understanding the essence of the emotional culture of a social pedagogue allows us to turn to the philosophy of culture. Culture permeates all spheres of public life and there is no social phenomenon isolated from its influence. Human emotions are not only natural, biological, but also social knowledge, which makes them a cultural phenomenon. If the constancy of emotions remains unchanged throughout the development of mankind, then their experience, manifestations and interpretations will be under the influence of values. There are gender standards, ethnic stereotypes and professional requirements that shape their cultural image. Appearance of a person in the process of socialization. The trends in the release of emotional manifestations of a person, characteristic of the modern socio-cultural situation, impose a huge responsibility on a person and determine the need for the development and self-development of his emotional culture. Analysis of scientific sources shows that in psychology and pedagogy, the emotional culture of a teacher is considered as a component of his communicative culture, as well as in the direction of conflictology (2022).

From our point of view, the division of the function of the emotional culture of the future special teacher in relation to emotional manifestations in relationships is unreasonable, since this is an arbitrary sphere of personality. The emotional culture of the future special teacher includes the emotional development of personality, the ability to empathize, the ability to interpret, get to know the students' experiences and express their emotions and feelings. The ability to take into account the emotional potential of the team in accordance with the current pedagogical situation, emotional support of the student in a difficult life situation, increasing the ability to enter into professional relationships. The emotional culture of a special teacher reveals relatively separate personalities that require comprehensive scientific research. The emotional culture of a special teacher as a single professionally significant individual education and its development at the university has become the subject of scientific and pedagogical research (P. G. Anisimov, O. A. Kolyadintseva, O. M. Kuleba, I. V. Samarokova, M. Yu. Sautenkova, L. M. Strakhova, G. A. Yastrebova, etc.) (2005). The developed emotional sphere directly determines the value system of a person. Indeed, as E. Fromm notes, in most cases a person tends to identify and evaluate his full qualities (2018)

Value orientations not only determine the presence of certain motives of a specialist, but also significantly affect the process of interaction with students, as well as stimulate the emergence of the need to obtain professionally significant knowledge and the formation of professional behavior. Based on the principle of unity of personality, culture and activity, in the course of the study, we highlighted the components by which the process and result of the formation of emotional culture are most obvious, namely: motivational, cognitive and conative. Let's look at the content of each component. The motivational component of the teacher's emotional culture is the basis for the formation of all other components. The content of this component is represented by the emotional orientation of the teacher, which combines a system of personal meanings, value orientations, motives and needs, regulates the emotional behavior of the teacher in pedagogical activity, and also reflects the individually necessary and thus psychological approach to the development of emotional culture.the inner accepted faith (1994).

Emotional stability is an integrative personality trait that allows a person to be emotionally stable in difficult life situations. It can be said that emotional stability is an integrative personality trait that includes emotional, volitional, intellectual and motivational components. The emotional component is characterized by the measure of the subject's sensitivity to life situations, the level of his excitability, anxiety, and the severity of emotional experiences. The intellectual component is characterized by the severity of intellectual emotions, which determines the cognitive activity of the individual from the point of view of self-organization and self-regulation of behavior. The motivational component of emotional stability is characterized by a system of motives aimed at overcoming psychological barriers that arise in a tense situation. The volitional component is defined as the ability to internally control a person's behavior, take responsibility for their actions, manage their emotions, self-control and self-esteem (Yastrebova, G.A. 2018).

Research materials and methods. The methodological basis of the research is based on an additional approach, which publishes various methodological approaches and the idea of a model, which allows us to consider the phenomenon under study and the possibilities of its development from different points of view. For the formation of the research concept, the provisions of philosophical anthropology, culture, philosophy of knowledge and philosophy of cognition, supplemented by the ideas of other methodological approaches, were important. The identification of students determines the unity of diagnosis and development, that is, the diagnosis is made first, and then the methods of development are selected.

Results. First of all, the levels of development of the emotional and value subsystem found in the structure of the emotional culture of the future specialist were investigated. For this purpose, a set of methods has been implemented: the test "teacher's ability to empathy" test questionnaire by B. I. Dodonov "emotional orientation of

personality", author's methods "emotions as value". All methods depended on the essence and content of the emotional culture of the future special teacher.

In addition, today there are not enough works devoted to the emotional culture of a special teacher, as well as his development in the process of professional training of a specialist in special education. Emotional culture in its special pedagogical aspect has not been studied before and acquires its own characteristics within the framework of socio-pedagogical activity. A special teacher adapts the child to be accompanied in the process of socialization. By the nature of her professional activity, she works with children and adolescents with various disabilities in social development, which has complicated the process of their harmonious integration into society. These are representatives of children with special educational needs, as well as their direct communication with families.

Wasps zhane baska sanattagi senimsizdikterdi aleumettendiru problemalary tulganyn emotionaldy-yerikti salasyndagi buzylularmen anyktalady nemese birge zhuredi. Sebebi arnaiy mektep okushylaryndagi zhogary emotionalar men sezimderdin damu degei jaska saykes kelmeidi, olardyn emotionaldy korinisteri zhetkilikti turde aleumettenbeidi, olar arkashan emotionalaryn baskaruga mumkindik bermeidi, arturli emotions katynastar Tauelsizdiktin zhogarylauymen, depressiamen, neurozdarmen, phobialarmen zhane baskalarmen baylanysty. Munday balalarmen zhane jasospirimderman karym-katynas zhasau gana emes, sonymen katar arnaiy mgalimnin emotionaldy madeniyin birtindep damyta otyryp, olardyn emotionaldy salasyn damuyndagy auytkulardy tuzetu. Biz bolashak mamandandyrylgan mugalimnin kasibi kazmetimen anyktalatyn emotionaldy madeniettin yereksheligin anyktaymyz, onda osy zhe bilim berude pedagogicalyk profilge, empathy mumkindikterin damytuga ulken rol beryledi, bul bolashak mamandandyrylgan mugalimnin zhanashyrlyk, zhanashyrlyk, meirimdilikke kol zhetimdiligin kamtamasyz etedi.adamga komek pen koldau korsetuge degen umtylys. Mughalimnin emotionals damuynn normalary men auytkuy salasyndagi arnaiy mughalimnin kuzyrettiligi, pedagogicalyk process pen kyzmettin emotionals aspectilerin bilu, sonday-ak mughalimnin omirlik zhumys zhagdayynda emotionals koldau, ony emotionaldy kuyleri men korinisterin syndarly retteu mumkindigi ote manyzdy.

At the defining stage of experimental work, we determined the level of development of emotional culture in students of the 3rd and 4th year. Based on the results of the first determining work that took place in the implementation of a set of methods corresponding to the essence and structure of the phenomenon under study, methodological work was developed in the experimental work, which gave a holistic idea of the levels of development of students ' emotional culture.

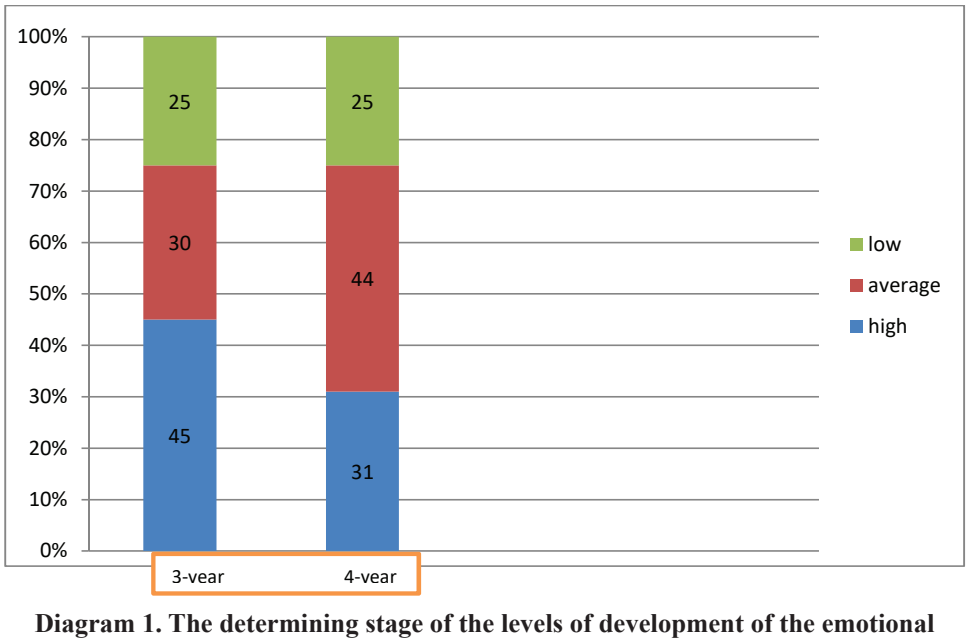

Diagram 1. The determining stage of the levels of development of the emotional culture of the future special teacher

45% of students of the 3rd year showed a high indicator, 30% showed an average percentage, 25% showed a low percentage.

And 4th year students have a high indicator of 31%, the average percentage is 44%, and the low percentage is 25%. We can see here that higher year students perform at a higher level compared to 3rd and 4th year students.

As noted by most students, the criterion-based levels of emotional culture prevailed, which could not fully ensure the successful implementation of the upcoming professional activity, therefore, the next stage of experimental work turned into targeted development in students of the experimental group of all functional subsystems of emotional culture. The work is devoted to the description of the approaches to the implementation of the forecast forecast within the framework of the next formative experiment in the educational practice of professional training of a special teacher.

At the end of the experimental work, the formative part was implemented, according to the results of which the 2nd diagram was compiled, giving a holistic, systematic idea of the levels of development of the emotional culture of future social educators. According to the results of purposefully conducted formative experimental work on the development of this professionally significant personal education for future specialists, in order to complete practical work, the vast majority of students revealed the levels of development of the emotional culture of the future special teacher, revealed the real positive dynamics of all subsystems of the emotional culture of the future special teacher, the face was noticed. If at the beginning of the experiment, 45% of the 3rd year students showed a high indicator, 30%, an average percentage of 25%, students showed a low percentage, and 4th year students showed a high indicator of 31%, an average percentage of 44%, a low percentage of 25%. We found that the students are at an average level.

And at the end of the formative experimental work, it was shown that the level of development of emotional culture in 3rd year students has a high indicator of 47%, an average indicator of 40%, and the remaining 13% is a low level. We see here that many were able to do the task well.

Students of the 4th year have an indicator of 64%, have an upper level in completing the task, an average indicator of 24%, and the remaining 12% showed a low level.

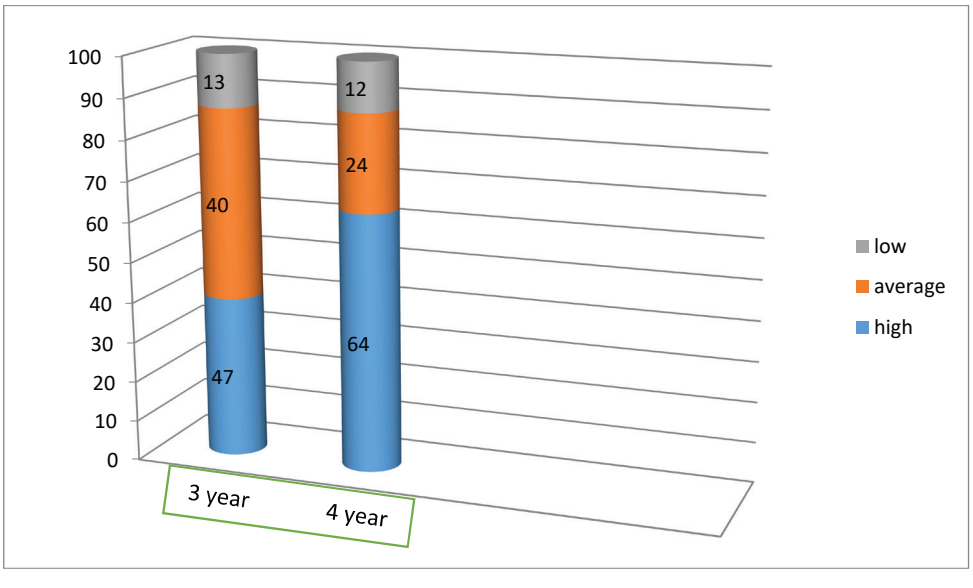

Diagram 2. The formation stage of the levels of development of the emotional culture of the future special teacher

In conclusion, it was shown that for the normal formation of the future special teacher, in the course of regular educational work, it is necessary to actively carry out various corrective measures for the correct formation of their personality, behavior and emotional spheres.

Discussion. Analyzing our work, the conducted scientific research has shown that the process of developing the emotional culture of a highly qualified special teacher of modern society has not been fully studied. We have determined that the lack of developed methodological, theoretical and practical foundations that ensure the effective development of these professionally significant personal knowledge of a future specialist in the educational process of the university is an urgent problem of our research work.

The determining study showed that the development of the emotional culture of future special teachers is at an average level. In addition, the educational process was determined to some extent, the university contributes to the development of all subsystems of the student's emotional culture. To confirm the conclusions obtained as a result of an empirical study of the educational practice of professional training of a special teacher, it was necessary to determine the initial level of formation of emotional culture in students of higher educational institutions in order to develop the emotional culture of a future specialist.

The level of socialized emotionality in most students did not fully ensure the successful implementation of the upcoming professional activity, therefore, the next stage of experimental work was the purposeful development of all functional subsystems of emotional culture among students of the experimental group. At the formative stage of experimental work, the provisions that are the subject of the concept of developing the emotional culture of the future special teacher were included in the educational process. In the course of the work, the accumulated experience of developing the emotional culture of the teacher was taken into account, aimed at the creative systematic, supplemented and purposeful development of all subsystems of the emotional culture of the future specialist. As a result of the research, we identified patterns according to which the principles determining the effectiveness of the development of the emotional culture of the future special teacher were formulated, and the results of our research work were summarized.

Conclusion. Thus, the emotional culture of a special teacher is a systematized personal education. Our work was not fully disclosed due to the fact that its development system was long, and we will continue it in the future. As a result of age-related changes in the emotional sphere of a person associated with the accumulation of her life and professional experience, studying at a university, in particular, replenishing special programs aimed at shaping the culture of students under the influence of studying psychological and pedagogical disciplines and other conditions. But, as the theoretical and experimental study of this problem shows, the development of the emotional culture of a special teacher is effectively carried out if this process corresponds to the stage of professional training of a specialist and appropriate pedagogical support is provided to him. It is proved that in the process of formed emotional culture, internal factors should be actualized by the need, the emotionality of the student, the ability to manage his emotional states and manifestations, the essential need for self-development and improvement, as well as external factors, a high level of development, the emotional culture of teachers, the individualization of the educational process and the scientific nature of the educational material, its novelty and systemic organization, practical significance, interdisciplinary connections, variety of its presentation, the organization of practice taking into account the emotional component of pedagogical interaction and the development of emotionally oriented pedagogical interaction of students with students.

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N. RAZUKHAN, N.B. ZHIYENBAYEVA

Abai Kazakh National Pedagogical University (Almaty, Kazakhstan)
e-mail: nurbyek23@gmail.com

DEVELOPMENT PROCESS OF INCLUSIVE SCHOOLS AND KINDERGARTENS IN MONGOLIA

Abstract

In the article, the authors consider the issues of ensuring that schools and kindergartens are ready in the context of inclusive education, that is, to study the process and difficulties of developing inclusive schools and kindergartens. The research was conducted using document research methods, questionnaire research methods, focus group interview methods, and the Inclusiveness Index, which guides them through the process of developing inclusive schools and kindergartens. An analysis of a number of official documents on inclusive education of children with disabilities in general education schools and the procedure for inclusion of children with disabilities in preschool education services, approved by the orders of the Parliament of Mongolia, the Government of Mongolia, the Minister of Labor and Social Protection of the People, the Minister of Education and Science, the Minister of Health. In the study, school No. 12, kindergarten No. 7 of Darkhan-Uul region, school No. 1, kindergarten No. 8 of Dornod region, comprehensive school "Goviin ireedui" of Dundgovi region, kindergarten No. 3, school No. 105

of Songinokhairkhan district of Ulaanbaatar, kindergarten No. 253 “Support group” members are included. The results presented in the article reveal the problems of further accelerating the development process of inclusive schools and kindergartens in Mongolia, eliminating the identified difficulties, effectively providing quality education services for children, and increasing the comprehensive responsibility of the education sector in order to increase the inclusive competence of teachers.

Keywords: **i**nclusive school, inclusive education, special education, needs, inclusive environment, teacher’s inclusive competence, professional training.

Introduction. Education is one of the basic human rights and every country is committed to ensuring every child’s right to education. General Recommendation 4 of the Convention on the Rights of Persons with Disabilities defines inclusive education as “not only a process of continuous and active commitment aimed at removing barriers to the realization of the right to education, but also changing the stereotypical culture, policies and practical activities of normal schools in the field of effective education in order to achieve mass inclusion of all students. he said that he understands the results achieved by” (United Nations, 2016). The Convention and its 4th General Recommendation state that states are obliged to ensure that persons with disabilities have equal access to primary and secondary education in the area where they live and that they are not separated from their homes for the purpose of special education. However, 258 million children, adolescents (UNESCO, 2020) and young adults, especially students with disabilities, are out of school worldwide, and one in four countries still have policies (UNESCO, 2020) and practices that segregate students with disabilities into special schools.

The array of international studies mentioned highlights the diverse perspectives and experiences in the realm of inclusive education. (Filiz Polat et al.’s 2023), exploration of inclusive early childhood education (IECE) in Kazakhstan delves into the complex factors influencing multi-stakeholder perspectives. (Similarly, Christopher McMaster 2015), in New Zealand contemplates sustainable inclusive change through the lens of a comprehensive framework for whole school development. (Sunčica Macura-Milovanović et al. 2012), contribute to the discourse with a case study in Serbia, advocating for a broader concept of inclusive education, especially in the context of teacher education. In another dimension, (Karolina Urton et al. 2023), explore the factors that shape teachers’ intentions to implement inclusive practices, drawing from the theory of planned behavior. (Dr. Susan Carter et al.’s 2023), study, “In Sync,” examines inclusive school communities’ support for students dealing with anxiety. (Amy Corning et al. 2023), evaluate the early impact of an inclusive school for computer science, utilizing propensity score matching. (Mélanie Jaeck et al. 2023), propose a framework for inclusive business schools, adding a unique perspective to the inclusive education discourse. The ongoing global challenge of COVID-19 becomes a focal point in (Brent Bradford et al.’s 2023), study, “Principles of inclusive practice in schools: what is COVID-19 teaching us?” This investigation sheds light on the lessons learned from the pandemic in the context of inclusive education. (Sonja Krämer et al.’s 2021), meta-analysis on inclusive education of students with general learning difficulties contributes empirical insights into this complex field. Shifting to broader trends, (Renato Opertti et al. 2008) analyze inclusive education at regional and interregional levels, identifying key issues and challenges. Mel Ainscow et al. (2008) question the future direction of inclusive education in their study, “Making Education for All inclusive: where next?” while (Petra Engelbrecht 2020) explores developments and challenges specific to South Africa. Christopher Johnstone et al. (2019) bring a financial perspective to the discourse in “Resourcing inclusion,” considering the economic aspects of inclusive education policy. (Federico R. Waitoller et al.’s 2013), critical review of a decade of professional development research emphasizes the ongoing need for a comprehensive research program in inclusive education. (Harsh Suri et al. 2009), contribute to the methodological aspect of inclusive education research with advancements in research synthesis methods. Insights into the Middle East and North Africa region are provided by Maha Khochen-Bagshaw (2020) in “Inclusive education development and challenges,” offering

a unique regional perspective. Adrianne Kinnear et al.'s (1991) case study on gender-inclusive technology materials in primary schools, (Chiu-ling Liu et al.'s 2022), comparative observation of inclusive education in Taiwan, and Irmeli Halinen et al.'s (2008), examination of inclusive education in Finland enrich the global discourse on inclusive practices. Renato Opertti et al. (2011) advocate for developing inclusive teachers from an inclusive curricular perspective, while (H. Hosshan et al. 2020), conduct a scoping review of literature on inclusive schooling in Southeast Asian countries. Masud Ahmmed et al. (2014) present recommended strategies for implementing inclusive education in primary schools in Bangladesh, and (Triyanto, 2022), investigates teachers' perspectives concerning students with disabilities in Indonesian inclusive schools. In summary, these diverse studies collectively contribute to our understanding of inclusive education, addressing specific contexts, challenges, and opportunities across different regions and educational levels.

The coverage percentage of pre-school, primary and lower secondary education in Mongolia is 95.7% of primary, and 93.8% of lower secondary, (Ministry of Education and Science, 2022) which has reached a relatively high level and has been stable for a long time. However, due to the COVID-19 pandemic, only 4-5-year-old children were included in the main kindergarten for a certain period of time, the net weight of inclusive preschool education decreased by 17.0 points and reached 62.2% (Ministry of Education and Science, 2022) in the 2021-2022 school year. However, some groups of children, such as boys and girls with disabilities and children from poor families, still face various barriers in accessing quality, inclusive education services. Therefore, the Government of Mongolia emphasizes the importance of the role of schools and kindergartens in the development of inclusive education and pays special attention to improving the quality and inclusiveness of education. The Government of Mongolia's directions in the development of inclusive education are "Strategies of Kazakhstan and Mongolia and psychological support of inclusive and digital education in educational programs" (N. Razukhan., N. B. Zhiyenbayeva., 2021). In 2021, we have fully studied it. In this regard, we are conducting research on the topic "Processes and challenges of developing inclusive schools and kindergartens in Mongolia" and presenting the results.

Main part. Based on Clause 5 of Article 37 (Mongolian Parliament, 2016) of the Law "On the Rights of Persons with Disabilities" approved by the Parliament of Mongolia in 2016, the "Regulations of the Commission on Health, Education and Social Protection of Children with Disabilities" (Government of Mongolia, 2021) were updated and approved with the addition of Resolution No. 173 of 2021 of the Government of Mongolia. And in December 2021, according to the joint orders of the Minister of Labor and Social Protection of the People, the Minister of Education and Science, the Minister of Health A/220, A/475, A/812 "Methodology of comprehensive support for the development of children with disabilities" in kindergartens and schools, the specific needs of children and created a working group "Support Group" (Minister of Labor and Social Security., the Minister of Education and Science., and the Minister of Health., 2021) consisting of 7-9 people, which ensures the right to education and development according to health conditions. Also, in the "Principles of Equally Inclusive Education of Children with Disabilities in General Education Schools" (Minister of Education, Culture, Science and Sports., 2019) approved by Order A/292 of the Minister of Education, Culture, Science and Sports of 2019, general education schools teach children equally at school and adapt to the school environment and work responsible for supporting primary, basic and full secondary education, creation of the "Support Group" by the order of the school director, in the "Procedure for the inclusion of children with disabilities in preschool education services" approved by the order of the Minister of Education and Science A/177 of 2021 (Minister of Education and Science., 2021) creation of the "Support Group" responsible for providing support and assistance to the relevant parties in preschool education of children by the order of the head of the kindergarten and the order of the group's work is specified. These policy documents define the composition and roles of

the support team. We have analyzed a number of the above-mentioned documents in the field of development of inclusive education in Mongolia according to the research methodology.

According to 2020 statistics, there are 12,324 children with disabilities in Mongolia. Based on the need to identify developmental delays and problems of children at an early age and to immediately involve them in development support and participation services, the "Commission for ensuring the health, education and social protection of children with disabilities" was established in Mongolia. The purpose of the commission is to determine whether a child aged 0-16 years has a disability, to coordinate and monitor the implementation of measures to include disabled children in healthcare, education, and social welfare services. The main purpose of the commission's rules is to identify the delay and disabilities of children's early development and to connect them with the necessary social services, to ensure fair, high-quality and equal access to children and parents receiving services within the framework of the relevant legislation, to organize quickly, to improve control, and to be transparent. In 2016-2020, 30 sectoral commissions of regions and districts included a total of 20,658 children in permanent care, 5,331 children in education, and 9,064 children in health care.

The purpose of the research is to study the possibility of developing inclusive education in harmony with the national education system within the framework of the topic "Development process of inclusive schools and kindergartens in Mongolia". Within the framework of this goal, the results of the research obtained by means of documentary research, questionnaire research, and interviews were discussed with the academics of the field. The main purpose of the study is to discuss the problems faced by general education schools and kindergartens in Mongolia from all sides, and to discover ways and resources to solve them.

Research materials and methods. We used the following research methods as a research methodology. Among them: Document research methods, questionnaire research methods, focus group interview methods and inclusiveness index were used.

Index of inclusiveness (Centre for Studies on Inclusive Education, 2016) is a set of materials that guides them through the process of developing inclusive schools and kindergartens. This supports the creation of supportive communities and high achievement for all staff and students. We used the index to: analyze the inclusive cultures, inclusive policies and inclusive practices of schools and kindergartens, and used a self-audit approach to identify potential barriers to learning and participation in each of these areas.

In this study, school No. 12, Kindergarten No. 7 of Darkhan-Uul Region, School No. 1, Kindergarten No. 8 of Dornod Region, "Govyn Uzme" Complex School, Kindergarten No. 3 of Dundgovi Region, School No. 105 of Songinokhairkhan District of Ulanbatyr, Kindergarten No. 253 "Support Information was collected from the members of the "show group" and conclusions were drawn.

We used data collection tools of documentary research, statistical data, questionnaire survey, observation, and interviews. The data analysis process includes quantitative and qualitative data and factor analysis, descriptive analysis, diagnostic analysis, predictive analysis, and prescriptive analysis.

Results. As part of the study, members of the support team of participating schools and kindergartens developed a survey using the Index of Inclusive Actions to review the current reality of inclusive culture, policies and activities. It is essential to establish gender-balanced "Support Teams" in schools and kindergartens and strengthen their capacity to provide developmental support services for children with disabilities.

A total of 58 people (95%) participated in the research support group, 31 members from 4 schools, 27 members from 4 kindergartens. 29.5 percent of them were men, 70.5 percent were women. However, in the field of education of our country, especially in the field of pre-school, primary and secondary education, the majority of employees are women, so it is impossible to maintain a gender-balanced structure of the support group, that is, a 50:50 ratio. 57 members of the support group participated in the baseline survey and conducted focus group interviews, as

well as written questionnaires. By conducting a survey, the members of the 8 support groups of the target schools and kindergartens will find out their views on the culture, policy and activities of inclusive education, activities based on the principle of inclusion in the normal school and kindergarten, and get a wider knowledge and understanding of their further development, other teachers and we identified the possibility of providing methodical support to parents.

Schools and kindergartens have various experiences in inclusive education. For example, the target schools and kindergartens of the Darkhan-Uul region have been teaching children with disabilities in special classes for some time. Therefore, local people consider these schools and kindergartens as "special school" and "special kindergarten". In the target school in the Dornod region, there is one special class where children with disabilities study in mixed groups, while schools and kindergartens in the Songinokhairkhan district of Dundgovi region and Ulaanbaatar city do not have "special" and "integrated" education experience.

The main role of support team members should be to organize and implement multifaceted services and support aimed at supporting not only children with disabilities in school or kindergarten, but also other vulnerable groups, participating in educational services and supporting their successful learning and development. Let's take a closer look at the survey results of the "support group" of schools and kindergartens in each region and district.

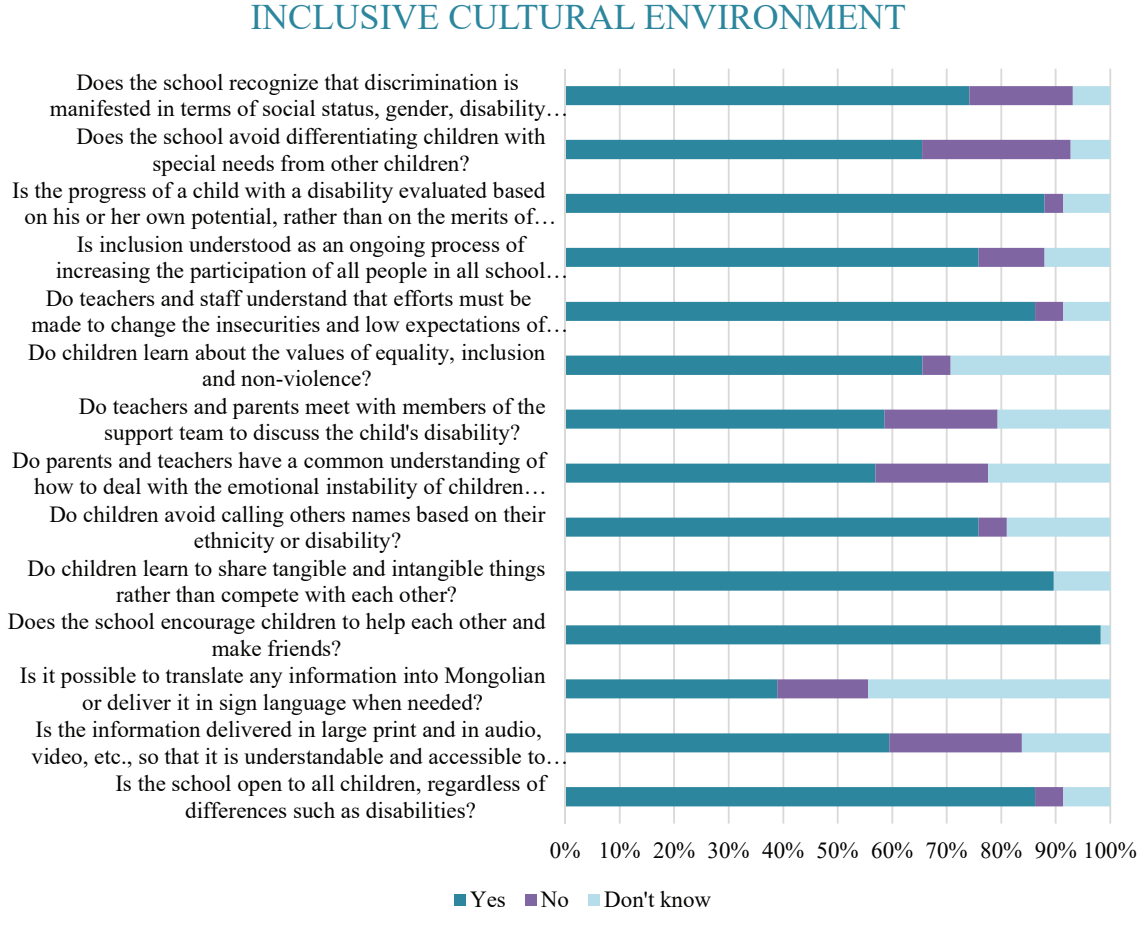

Figure1. Research results on the inclusive cultural environment of the target schools and kindergartens involved in the study

According to the result of the survey conducted on the inclusive culture of the support group of the target school and kindergarten, 73 percent said «yes», 12 percent «no», and 15 percent did not know. Also, 56% of respondents believe that blind, deaf or severely disabled children should study in special schools and kindergartens, while 10% answered «don't know» to this question.

It shows that there is a high positive attitude towards an inclusive culture, but it shows that there is a need to overcome some differences in understanding and to reach a common understanding.

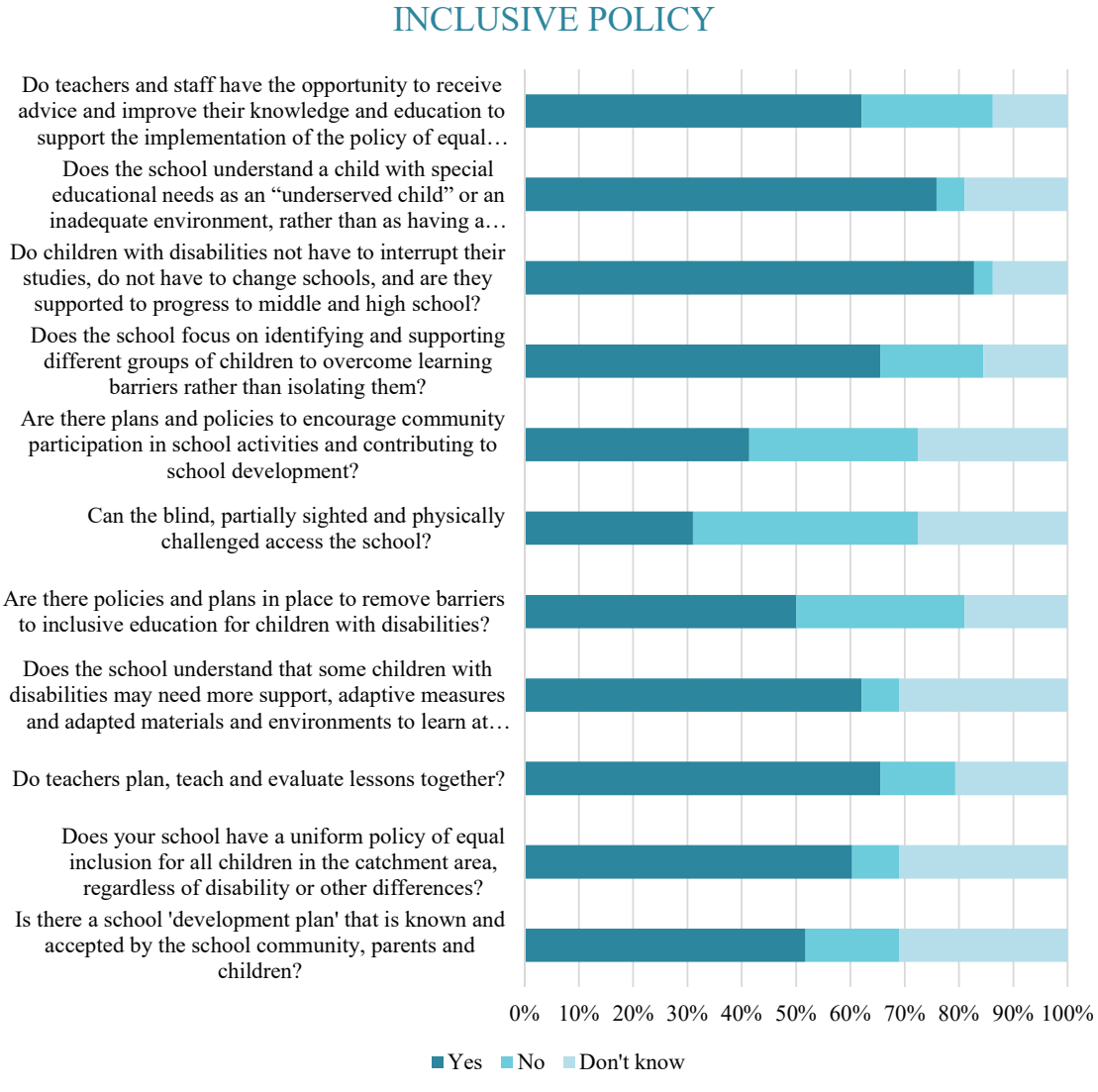

Figure 2. The results of the research on the inclusive policy of equal coverage of target schools and kindergartens involved in the research

Regarding the results of the survey of the members of the target support group about the inclusion policy, 59% said yes, 18% said no and 23% said they don't know. This suggests that there are many differences in support group members' perceptions of inclusive policies. The results of the study show that there is a need for regular support to support groups for primary institutions that provide inclusive education services, such as schools and kindergartens, to expand their capacities, create real opportunities for continuous development and improve methodological capabilities.

If we look at the results of the survey on the inclusive service of the members of the target support group, 59% answered yes, 18% answered no, and 22% did not know. This shows that it is necessary to pay attention to the quality performance of the tasks of the school and kindergarten team and members of the support group responsible for providing comprehensive measures of inclusive education, to increase their abilities, to expand human resources, and to continuously improve teachers in terms of professional methods.

A total of 58 people participated in the focus group interview and written question-and-answer study, 31 support group members from 4 target schools and 27 support group members from 4 kindergartens. 19 of its members or 32.8% were

Figure 3. Research results on the inclusive activities of target schools and kindergartens involved in the research

involved in the methodology of developing individual training programs, creating support groups, including children with disabilities in inclusive education, diagnosis, understanding in supporting the comprehensive development of children with disabilities, providing special education and methods and skills for working with children with disabilities. it was found that he had various experiences, having participated in trainings 1-2 times.

Although more than 30% of the respondents answered that they had received certain trainings on inclusive education for children with disabilities, during the focus group interview, 100% of the participants expressed their desire to improve their knowledge and skills in this field and participate in further trainings and exercises. This indicates the need for further improvement and development of knowledge and skills of all team members.

Discussion. The results of this study were discussed with the Department of Education, school and kindergarten staff, support teams and other professional stakeholders. Some of the results of the discussion are summarized as follows. It includes:

• Intensive efforts to fully understand the concept of inclusive education in the education sector and eliminate the gap in understanding. There is still a need to develop a culture of inclusive education. The participants of the discussion emphasized the need for the management of schools, kindergartens, and the Department of Education to give special importance to parents, teachers, and students for mutual understanding, mutual support, and the formation of the right attitude.

• Policy and legal framework for equal inclusion education needs to be implemented in a stable and transparent manner. This is evidenced

by Filiz Polat et al.'s (2023) in Kazakhstan, Similarly, Christopher McMaster (2015) in New Zealand, Sunčica Macura-Milovanović et al. (2012) in Serbia, Petra Engelbrecht (2020) South Africa, and Middle East and North Africa region, Chiu-ling Liu et al.'s (2022) in Taiwan, Irmeli Halinen et al.'s (2008) in Finland, H.Hosshan et al. (2020) in Southeast Asian countries, Masud Ahmmed et al. (2014) in Bangladesh the results of research conducted by researchers on these international examples. The results of the research show that there is a great need for professional teachers and professional teams to consistently support the activities of inclusive education, and to provide the necessary classrooms and materials.

• The main results of the discussion, focusing on this policy, it is necessary to intensify the preparation of professional teachers and specialists, to deliver accurate and real information to society, and to organize influence work to increase the participation of citizens' interventions very useful.

Conclusion. According to the research methodology, 73% of the members of the support group answered positively to the questions asked in the framework of the "culture of inclusion", but 56% of all participants believed that children with visual, hearing or severe disabilities should be educated in special schools and kindergartens, and 10% answered this question " I don't know," he answered. 59% of support group members responded positively to the questions about the "policy of inclusion" environment, while the rest answered "no" or "don't know." 59% of school and kindergarten support group members answered "yes" to the survey questions about "inclusion activities". And 41% did not know about the implementation of inclusive activities.

Also, more than 70% of the participants answered the question about the issues of inclusive education of children with disabilities at the level of school and kindergarten. And the most common answers were the lack of special classrooms, lack of equipment, lack of professional teachers, and problems with diagnosing children. According to these responses, a significant percentage of participants believe that children with disabilities should be taught by special education teachers in special classes, rather than considering inclusive education as an environment and method accessible to all (ADB., 2022). However, 73% of all participants gave a positive answer to the questions about the concept of inclusive education and the choice of approach in the context of the evaluation of the inclusive cultural framework. But it shows that there is doubt in this concept.

According to the open questions of the research, target schools and kindergartens, except school No. 12 and kindergarten No. 7 of Darkhan-Uul region, do not receive an additional percentage of variable costs for children with disabilities. They also do not know that teachers working with children with disabilities are paid extra and do not understand these rules well.

More than 30% of the respondents said that they know some documents approved by the Ministry of Education and Science related to inclusive education, while more than 60% said that they do not know the orders and decisions related to inclusive education. This shows a lack of news, information and understanding of policies, decisions and actions related to inclusive education. Due to the gaps, it is determined that there is a need to provide an explanation, information, and news about the adopted policies and decisions related to the inclusive education of children with disabilities in normal schools and kindergartens.

Summarizing the above results of the study, it is clear that the process of developing inclusive schools and kindergartens in Mongolia is still accelerating, and eliminating the identified difficulties is not only a problem for all members of the support group, but also the entire team of schools and kindergartens must effectively provide quality educational services to children, their necessary knowledge. and in order to strengthen their capabilities, to increase their competence, they should comprehensively understand their responsibility as a field of education. To fulfill this role, the above analysis shows that there is a great need to strictly monitor the implementation of official documents in real life, to provide methodical assistance and step-by-step support to all teachers.

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Information about authors

Abdigapbarova Ulzharkyn Muslimovna - Doctor of pedagogical sciences, professor, Abai Kazakh National Pedagogical University, ORCID ID: 0009-0009-2229-4373, email: abdigapbarova_um@mail.ru

Ageyeva Larissa - Kazakh National Women's Teacher Training University, ORCID ID: 0000-0002-6692-9985, email: ageevale_1971@mail.ru

Agranovich Yelena - Kazakh National Women's Teacher Training University (Russia), ORCID ID: 0000-0002-6111-5552, email: elenkaagr@mail.ru

Arymbekov Beken, PhD, associate professor, Al-Farabi Kazakh National University , ORCID ID: 0000-0002-9670-2407, email: b.arymbekov@kaznu.kz

Assylzhanova Danagul – PhD student, Kazakh Ablai Khan University of International Relations and World Languages, ORCID ID: 0000-0002-9451-9107, email: dn01@bk.ru

Baketova Makpal - Master of Pedagogical Sciences, senior lecturer, Abai Kazakh National Pedagogical University, ORCID ID: 0009-0006-4029-2628, email: mak-1802@mail.ru

Borankulov Erkinbek. Acting associate professor, candidate of sciences, Kazakh University of Technology and Business, ORCID ID: 0000-0001-7698-0074, email: erkinbek74@mail.ru

Bulakbayeva Meiramkul, Candidate of sciences, Acting associate professor, Kazakh National Women's Teacher Training University, ORCID ID: 0000-0002-3331-822, email: mina_1@mail.ru

Bulshekbayeva Assem - PhD, associate professor, Abai Kazakh National Pedagogical University, ORCID ID: 0000-0002-6229-4783, email: a.bulshekbayeva@abaiuniversity.edu.kz

Fedus Kamil, PhD, professor , Nicolaus Copernicus University (Turkey), ORCID ID: 0000-0001-5392-5718, email: k.fedus@fizyka.umk.pl

Fomina Tatiana, PhD, Pavlodar Pedagogical University named after A.Margulan, ORCID ID: 0000-0002-8100-9896, email: docent_t_n@mail.ru

Gaisin Ilgizar - Doctor of Pedagogical Sciences, Professor, Kazan Federal University (Russia), ORCID ID: 0000-0002-7812-6418, email: Gaisinilgizar@yandex.ru

Ibraeva Asylzat Utzhanovna, PhD student, International Kazakh-Turkish University named after Khoja Ahmet Yasawi, ORCID ID: 0000-0002 – 8750 – 1574, email: assylzat_ibrayeva@mail.ru

Igissinova Zhamal - Candidate of Biological Sciences, associate professor, Sarsen Amanzholov East Kazakhstan University, ORCID ID: 0000-0003-4508-6314, email: zhigissinova@vku.edu.kz

Issabayeva Darazha, Candidate of Pedagogical Sciences, Associate Professor, Al-Farabi Kazakh National University, ORCID ID: 0000-0002-9979-312, emeil: daraja_78@mail.ru

Kalelova Gulfat - Senior lecturer, Sarsen Amanzholov East Kazakhstan University, ORCID ID: 0000-0002-3627-1799, email: gkalelova@vku.edu.kz

Karimova Raushan, PhD, Pavlodar Pedagogical University named after A.Margulan, ORCID ID: 0000-0003-2811-9751, email: karimovaraushan@mail.ru

Kariyev Adlet – Candidate of science (Education), Acting associate professor, Abai Kazakh National Pedagogical University, ORCID: 0000-0002-7789-9080, email: adlet.kariyev@gmail.com

Kazetova Aliya Khamidullaevna - Candidate of Pedagogical Sciences, Department of Preschool and Primary Education, West Kazakhstan university named after M.Utemisov, ORCID ID: 0000-0003-1159-1312, email: kazetovaa@mail.ru

Koshjanova Gulshat Aidarbekovna - Master of Pedagogical Sciences, University of International Business named after Kenzhegali Sagadiev, ORCID ID: 0000-0002-2905-8164, email: gulshat8@inbox.ru

Koshzhanov Rassul , master of Pedagogical Sciences, Academy of Civil Aviation, ORCID ID: 0009-0009-1245-1208, email: rasul_87@list.ru

Kostikova Ilona, Doctor of Pedagogical Sciences, Professor, Kharkiv National Pedagogical University named after of G.S.Skovorodi (Ukraine), ORCID ID: 0000-0001-5894-4846, email: ilonakostikova@gmail.com

Kudaibergeneva Kulzada. Associate Professor, Doctor of Sciences, Kazakh National Women's Teacher Training University, ORCID ID: 0000-0001-6601-4817, email: kulzada.kudaibergeneva@gmail.com

Kumarbekuly Sanat - PhD student, Sarsen Amanzholov East Kazakhstan University, ORCID ID: 0000-0003-1285-3281, email: skumarbekuly@vku.edu.kz

Mussa Turdalyuly, PhD, associate professor, Kazakh National Research Technical University named after K.Satbayev, ORCID ID: 0000-0002-1470-3706, email: m.turdalyuly@satbayev.university

Nadi Suprapto, PhD, professor, Surabaya State University (Indonesia), ORCID ID: 0000-0002-8990-7412, email: nadisuprapto@unesa.ac.id

Orazayeva Gulzhan Serikovna – Candidate of Pedagogical Sciences, Associate Professor, Kazakh National Women's Pedagogical University, ORCID: 0000-0002-1823-4839, gulzhan69g@gmail.com

ORCID ID: 0000-0002-9697-3872, email: nursultanddl@gmail.com

Oshanova Nurzhamal - Candidate of Pedagogical Sciences, Associate Professor, Abai Kazakh National Pedagogical University, ORCID 0000-0002-5795-6092, email: nurzhamal_o_t@mail.ru

Razukhan Nurbyek - Abai Kazakh National Pedagogical University, ORCID ID: 0000-0002-1078-3526, email: nurbyek23@gmail.com

Sadirbekova Dinara - PhD, postdoctoral, Abai Kazakh National Pedagogical University, ORCID ID: 0000-0001-8092-9247, email: sadirbekova.d@mail.ru

Sadykova Aida – Candidate of Pedagogical Sciences, Associate Professor, Kazakh Ablai Khan University of International Relations and World Languages, ORCID ID: 0000-0001-5819-9567, ak_sad_2016@list.ru

Sagimbayeva Ainur - Doctor of Pedagogical Sciences, Professor, Abai Kazakh National Pedagogical University, ORCID ID: 0003-3258-7558, email: a.sagimbaeva1@abaiuniversity.edu.kz

Salgarayeva Gulnaz Ibragimovna – Candidate of Technical Sciences, Professor, Kazakh National Women's Pedagogical University, ORCID: 0000-0001-9477-6245, gulnaz.salgara@gmail.com

Seitenova Salima - Candidate of Pedagogical Sciences, West Kazakhstan University named after M.Utemisov, ORCID ID: 0000-0001-9186-9227, email: seitenova_ss@mail.ru

Seitkhanova Ainur, PhD, associate professor. Pavlodar Pedagogical University named after A.Margulan, ORCID ID: 0000-0002-6667-4548, email: ainur1179@mail.ru

Serezhnikova Raisa - Doctor of Pedagogical Sciences, Professor, University of Humanities and Technology (Russia), ORCID ID: 0000-0002-4140-8075, email: seryozhnikova@mail.ru

Shekerbekova Shirinkyz - Candidate of Pedagogical Sciences, Associate Professor, Abai Kazakh National Pedagogical University, ORCID 0000-0003-4778-4132, email: sh.shekerbekova@abaiuniversity.edu.kz

Shirinbaeva Gulbakhira Koibagarovna - Candidate of Pedagogical Sciences, associate professor, Abai Kazakh National Pedagogical University, ORCID ID: 0000-0001-9754-0772, email: g.shirinbayeva@abaiuniversity.edu.kz

Taubayeva Galiya - Candidate of Pedagogical Sciences, Associate Professor, Abai Kazakh National Pedagogical University, ORCID ID: 0000-0001-8298-8419, email: galiya_63@bk.ru

Tleubay Sandugash, PhD, Kazakh National Women's Teacher Training University, ORCID ID: 0000-0002-5577-3620, email: sandugash.tleubai@mail.ru

Turekhanova Kunduz, Candidate of Physics and Mathematics Sciences, Al-Farabi Kazakh National University, ORCID ID: 0000-0003-4662-7290, email: kunduz@physics.kz

Tursanova Elmira PhD, associate professor, Kazakh National Research Technical University named after K.Satbayev, ORCID ID: 0009-0004-4783-7235, email: e.tursanova@satbayev.university

Ussenova Akkenzhe Mukhanovna – Associate professor, Department of General pedagogy and psychology, M.Auezov South Kazakhstan University, ORCID ID: 0002-6209-3383, email: akkenzhe_08@mail.ru>

Yücel Gelişli – Professor, Gazi University (Turkey), ORCID: 0000-0003-2816-3621, email: ygelisli@gmail.com

Zhakupov Nursultan, PhD student, Pavlodar Pedagogical University named after A.Margulan.

Zhiyenbayeva Nadezhda Bisenovna - PhD, Professor, Abai Kazakh National Pedagogical University, ORCID ID: 0000-0003-1868-2743, email: zh_nadejda@mail.ru

Zhumankulova Yerkyn Nursagatovna - Candidate of Pedagogical Sciences, Associate Professor, Kazakh National Women's Pedagogical University, ORCID: 0009-0000-4967-6456, email: donya_0705.70@mail.ru

Zhunusbekova Aziza - PhD, acting associate professor, Abai Kazakh National Pedagogical University, ORCID ID: 0000-0001-7598-4081, email: a.zhunusbekova@abaiuniversity.edu.kz

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050010, Almaty, Dostyk ave., 13. Phone no.: +7(727)2911865