

Logical structure of developing transversal skills in primary school students in small-scale schools

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Abstract. The article explores the theoretical, scientific, and methodological foundations for developing transversal skills in junior schoolchildren within small schools. It analyzes research by foreign, Russian, and domestic scholars on fostering these skills through teaching and productive learning. The study presents experimental results assessing the development level of transversal skills, identifying their structural, process, activity, and reflective components. These formed the basis for describing indicators and development levels. A comparative analysis using mathematical methods showed variability in skill levels at the beginning and end of the experiment. The findings highlight the importance of personalized approaches in small schools to effectively diagnose and foster transversal skills in young learners.



Key words: competence, transversality, transversal skills, interpersonal skills, learning, teaching, teaching.



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Introduction

The strategy of development of the world economy, processes of globalization are creating the problem of updating the modern content of education, restructuring of educational programs. The way to optimally solve the problem of small schools in the education system allows us to create a new educational space by forming transversal skills of primary school students. In the nineties, the goal of education in Kazakhstan was to ensure sufficient development of general literacy and computer skills in students, but the current digital technology transition requires the formation of transversal skills due to the global movement.

Currently, the education provided in schools

loses its relevance when a student graduates from an educational institution, so the main function of education right now is to prepare the new generation for lifelong learning, self-education and learning. In this context, the importance of transversal skills has been raised as an important component of lifelong learning.

The organization of the educational process in a small group school to the individual and make them relevant from the point of view of the individuality of students provide opportunities to improve the quality of educational results. Although the importance of transversal skills is known to teachers in the field of education today, it is not widely considered that this skill is the most important. That is, general skills, subject skills, transver-

sal skills are used as synonyms.

Of elementary school students in a small school, there are opportunities to renew the previously acquired knowledge and apply it in everyday life. This connection is strengthened during training through specific exercises and tasks. Taking into account these features, the following requirements are set for the formation of transversal skills of students in the case of a small school:

- able to independently plan problems and find a solution;
- adaptation of the small collection to the educational process in school conditions, understanding and application of life skills and value orientations;
- being able to manage actions while providing support;
- adaptation to group work, organization of self-management skills;
- increase mutual trust and respect among students [1].

Transversal skills in education allow students to determine the relationship between knowledge and skills in various academic subjects in the pedagogical process.

The purpose of the research : to determine the theoretical and scientific-methodological foundations of the development of transversal skills of elementary school students in the context of a small school.

Form of research: logical structure of development of students' transversal skills

Research subject: the process of developing transversal skills of elementary school students in a small school

Objectives of the research:

- clarification of the theoretical foundations of the development of transversal skills of elementary school students in the context of a small school;
- defining the concept of transversal skills, creating its logical structure;

- diagnosis of the components, indicators and levels of the transversal skills development of elementary school students in the context of a small-group school through practical experiment work.

Literature review

The concept of "transversality" appeared in 2001. For example, Western scientists I.F. Herbart and L.M. Friedman explain as follows. That is, it is possible to determine the goals and objectives of education, saying that by mastering "skills" it contributes to the improvement of intellectual and mental activity of students. The German philosopher Welsch envisioned the concept of transversal skill and created the basis if the idea of "transversal rationality" [2].

Analyzing the research, transversal skills allow small-group schoolchildren to adapt to the environment, gain effective education, achieve success, and gain experience. The new civilization requires comprehensive formation of life skills and value orientation not only in education. Today, the terms transversal skills or transversal competences are relatively new in the primary education system, although the term "transversality" has a long way to go in research. The concept of transversality was used only in the field of mathematics and theoretical computer science[3]. In psychological science, this term is used from the point of view of transversal identity[4]. As a result of acquiring transversal skills in the field of sociology, education subjects are characterized as being able to evaluate their actions and accept criticism. Reflection is the most important mechanism in being able to use life skills in one's actions[5]. To develop the transversal skills of the student, first of all, it is necessary to adapt to the environment and form responsibility for one's work. In this article, scientists put forward the issue of transversal skills and suggest that they take their actions from accumulated experience and life situations in the process of personal development.

H.K. Rampersad, a German scientist, defines the concept of transversal competences as a system that defines the logical structure

of training in an educational organization and describes the methods of solving situations encountered in the management of the quality of education [6].

Transversal skill building is an important element of national qualifications frameworks (NQFs) that are being developed across Europe. They describe that in the development of transversal skills, they learn to gain effective knowledge, achieve success, and gain experience [7].

Russian scientist E.A. Klimov focuses on “skills - systematic knowledge”, thinking of a special strategy in a changing situation. Famous scientists L.M. Friedman, N.F. Talizyna's statements “skills - knowledge, theory, experience” describe the changing aspects of transversal skills and determine the causes and consequences of achieving successful goals in the student's learning process. At the same time, it shows that he can model the acquired knowledge set in accordance with the requirements for the student to turn it into his life position [8].

I. Frumin, M. Dobryakova, K. Barannikov, I. Remorenko “XXI century skills” for different terms in use identify the differences, (flexible skills, Universal activities and etc. b.), in terminology “key competencies” term to hold offers and This term European strategic in the documents each to the specialist work in the market social that it is necessary for the development of active citizenship with inclusion and self-realization consistent to mark noting that it is used in this way takes place [9].

Whittemore uses transversal skills - 21st century skills, soft skills and global skills . Transversal skills are the ability of a scientist to think critically, take leadership in solving problems, and work in a team using information and digital tools. It is understood that this skill is an important part of the formation of knowledge and skills in a person [10].

M.S. Moldabekova and other scientists transversal competencies, which is the ability to collect and process information from various sources using information and commu-

nication technologies, perseverance, creativity, independence and cognitive abilities, the ability to assess the situation and choose promising solutions, organizational skills, planning time to solve problems, independence, observation, orientation to choosing the appropriate ways to solve the problem, self-evaluation, practical and innovative thinking act [11].

One of the important tasks of education is the formation and development of competences, especially transversal skills in the context of a small school . Therefore, transversal skills are an expected educational outcome and a key factor in the development of all other specific skills as an opportunity to direct educational goals to a person and make them relevant in terms of individuality of students.

Kazakh researchers from among T. Otarova to his work based on “competencies and skills related to global trends in education in between transient skills, importance, content and each other contact” kind of we will witness the analysis. Also a scientist up study of places in students transversal competence of development importance discuss come developer to society according to education give system students citizen as components of transversal competence aimed at formation and methods analyzes [12].

A.B. Abibulaeva, J.E. Abdykhalykova, T.S. Slambekova considers transversality in the professional field as an educational paradigm that combines the knowledge and skills necessary for the chosen work and performance [13].

The novelty of the research is that in the current globalized world, the demands for social and personal preparation of young people are increasing in the context of the strengthening of socio-economic integration processes and the formation of a knowledge-based economy. The younger generation should know and master the competences of intercultural interaction, effective and conflict-free communication, language skills; must show responsibility, justice and understanding in situations of

socio-cultural diversity when making decisions.

So, based on the above analysis, we gave our own definition of the concept of transversal skills: transversal skills are those who seek a joint solution to problems arising on the basis of teaching, learning, learning activities that contribute to the successful acquisition of knowledge in the educational process, show leadership in a team, study and education. activity of a student who can understand the value orientation in the environment and accumulate life experience.

Therefore, the given definition is evidence that in the context of a small-group school, in the process of integrated classes in different classes, it helps to stimulate the learning of new methods and technologies, to learn educational information, to show activity, and to develop life skills.

Materials and methods

By describing the forms and ways of organizing educational activity in a small group school, the participant in the pedagogical process achieves a successful level of education through the activity of free thinking between the teacher and students in establishing an atmosphere of business and mutual relations, help, cooperation, and trust.

In the training process, students' transversal skills are formed based on the implementation of identity, consistency and action relationships that reveal their organizational ability and direct the effective use of the tools presented in the digital environment.

The structure of real transversal skills contributes to the interaction and communication of elementary school students in the context of a small school. Also, communication is one of the actions that form a sense of humanity between them, the ability to accept educational information, analyze it, and process it.

On the basis of communication skills, the actions and actions of elementary school students to each other will be presented.

Because good and bad, evil and love, justice and injustice are measured by human actions and actions. Therefore, the word relationship can fully cover this concept.

In addition, the word communication causes people to be firm in their life positions. Because people are in a mutual production relationship when they produce their existence, living conditions and living things. On the basis of such social relations, understanding, harmony, respect for each other, honor, respect, respect, dignity and other similar relations arise between people. And these can fully reveal the meaning of the word relationship. Relationships are the outward expression of people's inner selves, and can lead to the acquisition of skills in creating their real-life image.

In the case of a small compact school, elementary school students in each class have their own characteristics, characteristics and character. These features distinguish a person in society. So, the culture of communication is not the ability of people to act according to their own will, but the ability to interact with the country and the environment. That is, in order for an individual to be able to live in society, to be able to communicate harmoniously with others, it is necessary to develop his abilities to organize, manage, interact, work with a group, and provide constant support.

The concept of general relationship is closely and vividly related to a person's family, environment, country, land, traditions and cultural treasure. Cultural communication is necessary for human life to be meaningful and prosperous.

Effectively solving the problems of interdisciplinary integration taught in the 1st and 4th grade classrooms in the case of a small school can be achieved by fully and qualitatively fulfilling the requirements for it. Also, elementary school students in all cases of transversal skills development activities, it is the responsibility of the teacher to ensure effective organization, management, distribution of information in full volume and within a specified period of time.

In the context of a small-group school, the 1st and 4th grades are contented by the concepts of “teaching”, “teaching” and “learning” in the theory of teaching in the coordination of the purpose, tasks and structure of the interdisciplinary integration taught in the classroom. In the current situation, the goals of successful education at this time are: to help the student to learn cognition, to learn to work in harmony, to learn to live with people, to learn to be self-aware [14].

Types and levels of learning motivation are considered cognitive and social. Here, the decision-making of the tasks set before the elementary school teachers in the case of a small-group school, as well as the student's own actions in decision-making, the rational organization of educational work, are considered here. And, through social types, the student's understanding of responsibility, learning to do group work, and his ability to rationally organize the logical structure of implementation through transversal skills. In this regard, the qualitative indicators of the motivation to learn are reflected in the content of transversal skills, that is, in understanding, working independently, being

able to summarize, working in a group during interaction, being able to support one's classmates.

In the Kazakh Soviet encyclopedic Kazakh-Russian dictionary, the concept of teaching is described as follows: “... teach, teach, express” [15].

Changes in the student's constant and mental activity in the works that revealed the concept of teaching (learning); accumulation of personal experience in self-directed education as a normal concept; in gaining new psychological qualities and success in learning activities [16].

As mentioned above, taking into account the uniqueness of elementary school students in each class in the case of a small school, globalization requires the student to learn new socio-cultural tools, mastering different and interrelated skills. It made it possible to describe the logical structure of development of transversal skills in understanding the value orientation in the environment and determining the ways to achieve success. We have shown it in Figure 1.

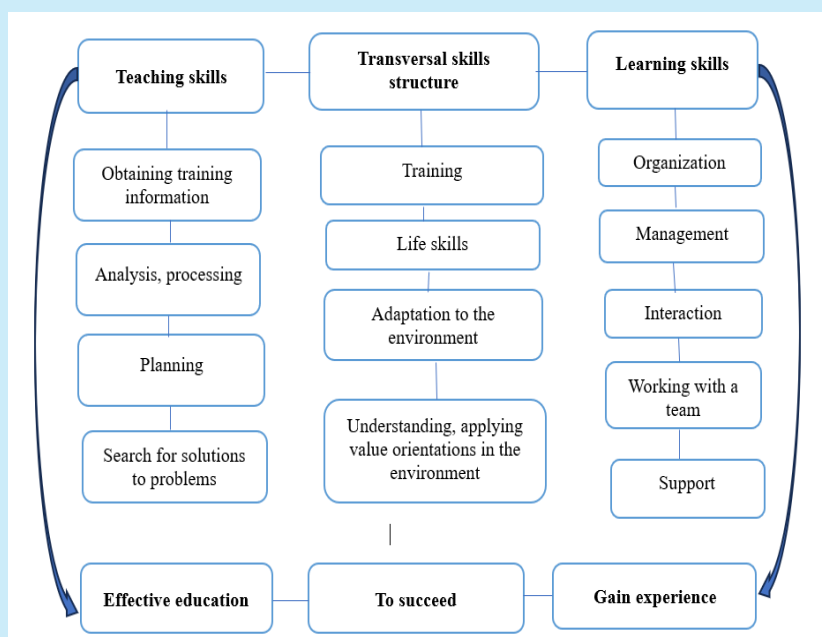


Figure 1. Logical structure of the development of Transversal skills

Thus, the importance of teaching theory is that elementary school teachers in a small school setting are required to acquire deep transversal skills in a social and digital environment.

After all, the following conclusion is preserved in the relationship between the concepts of teaching, learning, and learning: knowing their laws and legislation, being able to distinguish effective conditions and mechanisms, based on the influence of teaching and the effectiveness of learning.

It is necessary to open and consider the application of transversal skills of primary school teachers in the context of a small school.

Results and discussion

Development of transversal skills of elementary school students in the context of a small school is an expected educational outcome

and a key factor in the development of all other specific skills. This creates opportunities to systematically demonstrate new methods and skills that contribute to the development of students in order to provide systematic and successful education in the form of transfer of knowledge and skills to new situations.

We organized experimental work on organizing the development of transversal skills of elementary school students in the context of a small group school.

The purpose of the practical experiment: to propose a methodology for the development of transversal skills of elementary school students in the context of a small school.

It was clarified that the transversal skills of elementary school students in the case of a small school consist of four components, and its dimensions, indicators, and levels were described (Table 1).

Table 1. Dimensions and Indicators of Transversal Skills Components

Components	Measurements	Indicators
Content-structural	an attempt to acquire the skills of understanding, analyzing, asking questions about the text and searching for answers to a new topic ; - the ability to use a range of skills to be active in the analysis of the content of the subject ; - to have the skills to understand the content of lessons integrated in the reception of educational information ; mastering the skills of choosing the effectiveness of improving managerial ability in the act of critical thinking ; - being able to use the skills of communicating with classmates during the elaboration of the topic;	- in the case of a small-group school, efforts are made for successful education of students in achieving the goal of the proposed lesson topic in accordance with the content of education; - in the case of a small-group school, the formation of skills for mastering the subject presented in the model of integrated classes depending on the small number of children - in the case of a small group school with education in different classes, it is possible to focus the attention of students on similar topics in the content of one subject; - to be able to consider the skills of creating a scientific project to deepen the level of education and obtaining its results;

Procedure	<ul style="list-style-type: none"> - adaptation to independent learning skills; - ICT for new ideas through formation of understanding skills; - mastering the skills of self-motivation during the learning process; - adaptation to the skills of interaction to respect oneself and others; 	<ul style="list-style-type: none"> - to have the skills to master new methods and technologies in the process of integrated lessons in different classes in the case of a small school; - in the context of a small group school, in the process of integrated lessons in different classes, to stimulate, show activity, develop skills to succeed in mastering a new topic;
Action	<ul style="list-style-type: none"> - skills of expressing functional and scientific natural science literacy; - acquisition of group and individual work skills; - mastering the level of requirements that determine the search for a solution to the presented problem methods ; - skills to adapt to respect the environment in the educational process ; - acquisition of life skills on the topics; 	<ul style="list-style-type: none"> - high cooperation of students in helping each other in the case of a small school; - in the case of a small-group school, in the process of integrated lessons in different classes, students have the skills to master group and individual work methods;
Reflexive	<ul style="list-style-type: none"> - demonstrate organizational ability in mastering communication skills; - to have cooperation and creativity skills within the framework of value orientation; - skills of self-evaluation of educational achievements and determination of measurement indicators; - mastering the skills of self-control and self-correction. 	<ul style="list-style-type: none"> - establishment of a full-fledged relationship between children of different ages in a small school ; - implementation of mutual and self-examination of students in the case of a small collective school ; - in the case of a small-group school, it is ensured that students have the skills to check, control the system of completed tasks and determine the measurement indicators;

As a result, during the experimental research, in the case of a small-group school, we determined that the content character of the presented components of elementary school students consists of four components: content-structural, process, action, reflex, and we determined the levels (low, average, high) that describe different indicators.

We have described that view of the levels that determine the initial and final performance of the experiment of elementary school students in the case of a small school based on the indicators of the content-structural component.

The lowest level:

- low effort to acquire the skills to understand, analyze a new topic, ask questions about the text and find

answers to it;

- the ability to use a range of skills to be active in the analysis of the content of the subject is low;
- low ability to understand the content of lessons integrated in the reception of educational information;
- low mastery of the skills of communicating with his classmates during the elaboration of the topic is low.

Average by level:

- the effort to understand a new topic, to analyze it, to ask questions about the text and to have the skills to search for answers is average;
- the ability to use a range of active skills in the analysis of the content of the subject is average;

- having the skills to understand the content of integrated lessons in receiving educational information is average;
- mastering the skills of choosing the effectiveness of improving managerial ability in critical thinking is average;
- the ability to use communication skills with classmates during the development of the topic is average.

High level:

- there is a high desire to have the skills to understand, analyze, ask questions about the text and search for answers to a new topic;
- high ability to use a range of active skills in analyzing the content of the subject;
- have the skills to understand the content of lessons integrated in the reception of education information;
- mastering the skills of choosing the effectiveness of improving managerial ability in critical thinking;
- able to use the skills of communication with his classmate.

The first determination (preliminary) period to determine the initial level of development of transversal skills of elementary school student in the case of small school, the solution of the following tasks was sought:

- defending the problem and purpose of experimental research;
- choosing the object, topic of the experimental work and theoretically justifying its conduct;
- formulation of the experimental hypothesis;
- determining the number of students participating in the experiment;
- determination of forms of work conducted during the experiment;
- selection of the necessary methods for determining the level of primary education of elementary school students and checking its effectiveness;

- creation of didactic complexes related to improvement of transversal skills of elementary school students;
- as a result of the experiment, to determine the changes and pedagogical effects that occurred during the development of transversal skills of elementary school students.

The second formative (content-procesual-reconstructive) period, practical-experimental work was organized, and a set system of activities was implemented:

- selection of content of experimental work;
- to determine the theoretical foundations of the development of transversal skills of elementary school of elementary school student in the context of a small school;
- determining the effectiveness of developing transversal skills of elementary school students during the teaching of subjects in different classes;
- to identify difficulties and shortcomings encountered in the experiment and search for ways to eliminate them.

the third control (control – corrective) period:

- analysis of obtained experimental data;
- comparative examination of the analyzed material with use purpose, task and forecast of the research;
- mathematical processing of experimental results;
- elementary school students in the context of a small-group school, systematization of achievement, processing;
- description of features of development of transversal skills of elementary school students, etc. implementation of tasks.

The organization and conduct of practical-experimental work require justification for the rational duration of the experiment. For this purpose, we have analyzed some scientific works and the experience of con-

ducting similar experiments, where, as shown by our later experience, correct scientific and practical conclusions were made.

To balance the personality factor in the process of experimental work, it was provided by conducting integrated lessons in the direction of development of transversal skills of elementary school students in the context of a small school. The problem of finding the effectiveness of experimental work is related to problems of measurements and levels.

The first identification experiment, the initial level of development of transversal skills of elementary school students was determined in the above-mentioned small-group school.

Elementary school students in the case of a small school were determined by the following survey questions. 26 students were recruited to the experimental group, 23 to the control group (Author's survey "Determining the level of development of transversal skills in primary school students").

In the conditions of a small-scale school, the answers of Primary School students to the survey questions were different. If we dwell on them briefly, we can observe the following picture. During the analysis of the results of the survey "determining the level of development of Transversal skills in primary school students", it was noted that most students of the experimental group (65%) mastered transversal skills at a high level. This figure was only 30% in the control group. While 30% of the students in the experimental group were at the average level, the number of students at the low level was only 1 student (5%). And in the control group, the average level of students prevailed 52%, and 18% showed a low level. This difference indicates the effectiveness of targeted pedagogical work carried out in the experimental group. The skills of joint work, creative tasks and the use of ICT tools were especially effective

in developing students' communicative, cognitive and social skills. The results of the survey prove the effectiveness of pedagogical methods created for the development of Transversal skills in primary school students.

The result of the experimental group is significantly higher compared to the control group. This suggests that it is possible to determine the level of Transversal skills based on a questionnaire, and it can be an important tool in education.

In the identification phase of the experiment, our research problem was determined during the teaching of integrated subject cycles in different classes, the level of development of transversal skills of elementary school students in the context of a small school. According to the research conducted, 53,7 percent of primary school students are interested in literature and world studies, and 46,3 percent of students' interest in these subjects has decreased.

In practice, in the context of a small-group school, in determining the level of development of transversal skills of elementary school students, performing tasks in this direction, analyzing and summarizing research results, firstly, contributed to the development of transversal skills acquired in the subjects of literary study and world studies.

During the experiment, indicators of the level of development of motivational, content, action, and reflex components in the development of transversal skills of elementary school students in the conditions of a small school were summarized. The results of this conclusion can be seen in (Table 2).

The overall result of the experiment when taught by the traditional method was 66,17 percent in the control group, and 86,30 percent in the experimental group.

Table 2 – Indicators of the level of development of components of development of transversal skills of elementary school students in the case of a small school

Components	working period	high		average		low	
		BT	ET	BT	ET	BT	ET
Content-structural	Head	31,67	41,62	37,58	40,51	30,75	17,87
	The end	59,47	74,78	22,66	11,77	17,87	13,45
Process	Head	34,63	49,85	31,76	38,54	33,61	11,61
	The end	63,71	79,89	24,68	20,11	11,61	-
Operational	Head	41,89	63,07	37,78	22,26	20,33	14,67
	The end	57,81	91,70	17,52	4,47	24,67	3,83
Reflexive	Head	47,53	68,62	33,37	19,75	19,10	11,63
	The end	73,69	98,86	14,68	1,14	11,63	-
Conclusion	Head	38,93	49,04	35,12	30,26	25,95	20,7
	The end	66,17	86,30	19,88	13,70	13,95	-

As shown in Table 2, the level of development of students' transversal skills in all components is significantly increased. And if we dwell on the results of the analysis according to the t-criterion of the level of development

of the components of the development of Transversal skills of Primary School students in the conditions of a small-scale school, we will see it in Table 3.

Table 3. Results of the analysis according to the t-criterion of the level of development of the components of the development of Transversal skills of Primary School students in the conditions of a small-scale school

Components	t-statistics	p-value	Importance
Content-structural	3,03	0,0056	$p < 0,01$
Process	3,33	0,0027	$p < 0,01$
Operational	3,03	0,0056	$p < 0,01$
Reflexive	3,03	0,0056	$p < 0,01$
Conclusion	3,03	0,0056	$p < 0,01$

Thus, in the course of the study, statistical processing of the results of work aimed at developing transversal skills of an experimental group of 26 respondents was carried out. Using the t-criterion of the respondents, high-level indicators before and after the experiment were compared. The p-value for each component is less than 0.01, which indicates that the results are statistically reliable.

In particular, the proportion of high-level students in terms of content-structural, process, activity and reflexive components has significantly increased. The maximum t-value (3,33) and minimum p-value (0,0027) are registered in the process component, which indicates the high efficiency of the work carried out in this direction.

Thus, even according to the indicator, the value $t=3,03$, $p=0,0056$ is registered, which proves that the development of the entire system of horizontal skills is not a coincidence, but the result of purposeful methodological work.

As a result of the educational process carried out in the experimental group, we see that high results were achieved in all components of students' transversal skills. The results of the t - criterion of students prove the statistical significance of these changes ($p < 0,01$). This study confirms the effectiveness of methods for developing horizontal skills and shows that a small set can be used in a school environment.

Therefore, the actual values of the results of the experimental study are given in the table and the effectiveness of the proposed methods and techniques in the direction of developing the transversal skills of Primary School students in the conditions of a small-scale school is clarified.

The dynamics of the final indicators of the practical-experimental work showed a low level in 55% of students, but at the end of the experiment there was no student who showed a low level; no student showed a high level at the beginning, but at the end of the experiment it was 9,33%.

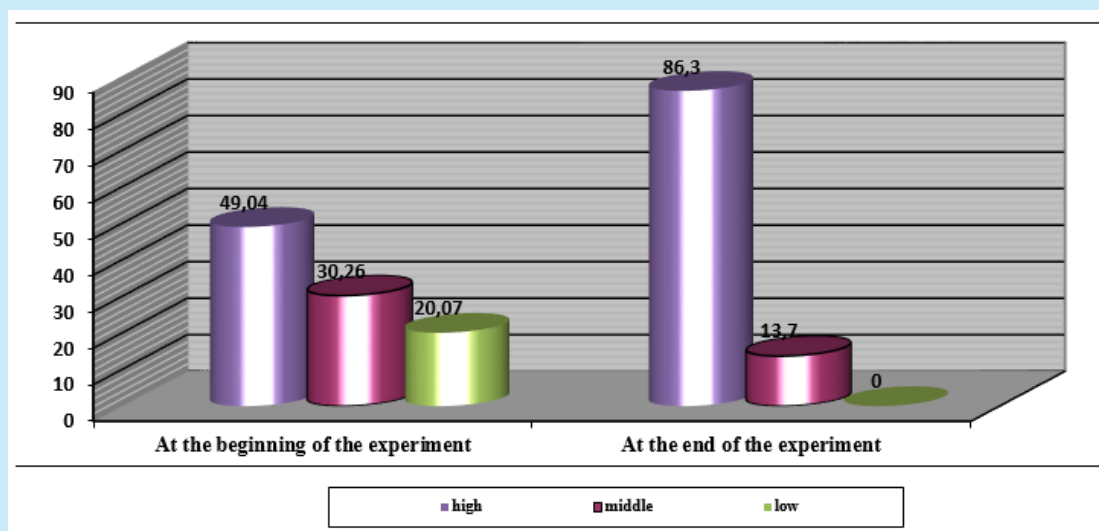


Figure 2 – Diagram of the formation of transversal skill levels of elementary school students in the context of a small school

Based on the findings, the following statistical scientific conclusion was drawn: during the study, the development level of primary school students' transversal skills was compared between the control and experimental groups, and dynamic changes were identified. By the end of the experiment, the overall indicator in the control group reached 66,17%, whereas in the experimental group it increased to 86,30%. This difference confirms the effectiveness of the applied methods and techniques.

According to the component-based analysis, the experimental group demonstrated higher results across all indicators compared to the control group. Specifically:

Content-structural component: the high-level indicator in the experimental group increased from 4,62% at the beginning to 74,78% at the end (while in the control group it rose from 31,67% to 59,47%).

Process component: the high-level indicator in the experimental group grew from 49.85% to 79.89%, whereas in the control group it increased only from 34,63% to 63,71%.

Activity component showed the most significant change: in the experimental group, the high-level indicator rose from 63,07% to 91,70% (while in the control group it increased only from 4,89% to 57,81%).

Reflective component also revealed strong progress: the high-level indicator in the experimental group advanced from 68.62% to 98.86%, while in the control group it went from 47,53% to 73,69%.

Looking at the overall dynamics, most students were at the medium level at the beginning of the experiment (49,04%), while by the end, the high-level indicator in the experimental group reached 86.30%. Most notably, no students remained at the low level after the experiment.

These results highlight the high effectiveness and practical value of the applied methodological approaches in developing transversal skills of primary school students in small-scale school settings [17].

Directional and purposeful development of transversal skills of elementary school students in the context of a small school because of using the methodical system proposed by us according to the experiment conducted to check its effectiveness, the following conclusions can be drawn:

- the business level of development of transversal skills of elementary school students in the case of a small-group school has increased.
- the results of the indicators of the components and dimensions and levels of the development of transversal skills of elementary school students in the case of a small school were given by means of pictures.
- the results of practical work on improving the quality of training for the development of transversal skills of elementary school students in the case of a small school were determined.

As a result of the experimental work conducted, we found a solution to the tasks set in our research work and as a result, it allowed us to draw appropriate conclusions. Thus, the obtained results proved the correctness of the assumption made in our initial experimental work. As a result of practical and experimental work, the tasks set were completely solved, and appropriate conclusions were drawn. It has been proven that in the case of a small-sized school, the introduction of a methodological system into the content of the educational process will give results for the development of transversal skills of primary school students.

Conclusion

During the research, the theoretical, scientific-methodical foundations of the development of transversal skills of elementary school students in the case of a small-group school were determined, the logical structure was considered, and as a result, an outline was given for creating a concept.

Experimental work on the development of transversal skills of elementary school stu-

dents was conducted in the context of a small school. As a result of the experiment, the components of the development of transversal skills of elementary school students in the case of a small group school were defined as: content-structural, process, action, reflex, and the levels (low, average, high) of which we describe different indicators were shown. An author's questionnaire was created to determine the level of development of transversal skills. To determine the level of systematic and successful education of students in the educational process, survey questions were presented, and the results obtained by mathematical and statistical methods were measured and analyzed.

In conclusion, the proposed logical structure activity in the direction of the development of transversal skills of elementary school students in the context of a small group school contributes to the successful education and accumulation of experience in the life position of educational subjects as a result of understanding, working out, and working together on a new topic in the process of traditional and non-traditional teaching, training, learning. Therefore, in this case, we see that elementary school students have the skills to apply life skills, adapt to various situations in the educational environment, and find solutions.

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Шағын жинақты мектеп жағдайында бастауыш сынып оқушыларының трансверсальды дағдыларын дамытудың логикалық құрылымы

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Аңдатпа. Мақалада шағын жинақты мектеп жағдайында бастауыш сынып оқушыларының трансверсальды дағдыларын дамытудың теориялық және ғылыми-әдістемелік негіздері қарастырылған. Шағын жинақты мектеп жағдайында оқыту, үйрету және үйрену үдерісінде бастауыш сынып оқушыларының трансверсальды дағдыларын дамыту мәселесін шетелдік, ресейлік және отандық ғалымдардың еңбектеріне шолу жасалды. Шағын жинақты мектеп жағдайында бастауыш сынып оқушыларының трансверсальды дағдыларын дамыту деңгейін анықтау мақсатында тәжірибелік эксперимент нәтижелері көрсетілді. Эксперимент жұмысының тиімділігі трансверсальды дағдылар компоненттері: мазмұндық-құрылымдық, үдерістік, іс-әрекеттік, рефлексиялық болып нақтыланып, оның көрсеткіштері мен деңгейлеріне ғылыми тұрғыда сипаттама беруге негіз болды. Диагностикалау нәтижелері математикалық әдістер арқылы талданып, эксперимент басындағы және соңындағы көрсеткіштер анықталды. Қорыта келе, шағын жинақты мектеп жағдайында бастауыш сынып оқушыларының трансверсальды дағдыларын дамыту деңгейін нақтылауда мақсатты тұрғыда тұлғаның жеке және даралық тұрғысынан өзектілігі айқындалды.



Кілтті сөздер: құзыреттілік, трансверсальдылық, трансверсальды дағдылар, тұлғаралық дағдылар, үйрену, оқыту, үйрету.

Логическая структура развития трансверсальных навыков младших школьников в условиях малокомплектной школы

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Аннотация. В статье рассматриваются теоретические, научные и методологические основы развития трансверсальных навыков у младших школьников в условиях малокомплектных школ. Анализируются исследования отечественных, российских и зарубежных ученых, посвященные формированию данных навыков в образовательном процессе, направленном на активное и продуктивное обучение. Представлены результаты экспериментального исследования, в котором проведена диагностика уровня развития трансверсальных навыков с учетом их структурного, процессуального, деятельностного и рефлексивного компонентов. На основании этих компонентов определены ключевые показатели и уровни сформированности навыков. Сравнительный анализ, выполненный с использованием математических методов, продемонстрировал положительную динамику изменений. Сделан вывод о необходимости применения личностно-ориентированного и дифференцированного подходов, что особенно актуально в условиях малокомплектных школ для обеспечения эффективного формирования трансверсальных навыков у младших школьников.



Ключевые слова: компетентность, трансверсальность, трансверсальные навыки, межличностные навыки, обучение, научение, продуктивное обучение.

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