

2.2 Interactive teaching methods for the development of cognitive activity of primary school students

The New Ukrainian School is faced with the task of organizing an educational process that will be focused on comprehensive training, holistic harmonious development and personal growth of primary school students. In this context, important importance is attached to learning to use interactive methods, the main purpose of which is the intensive development of independent cognitive activity and individual creative abilities of primary school students. Interactive teaching methods are one of the ways to activate the mental activity of students, which contributes to the active and productive assimilation of the most influential knowledge about subjects, relationships, and regularities by students.

The analysis of psychological and pedagogical literature shows that various aspects of the problem of the development of cognitive activity of primary school students were studied by scientists (I. Viktorenko, S. Luparenko, T. Forostyuk, etc.). Psychological aspects of education of primary school students, their age-related capabilities and features of cognitive activity are highlighted in the works of V. Krutetskyi, I. Staragina, S. Tarasova, and others. However, the development of a model of the development of cognitive activity of primary school students using interactive teaching methods was not given enough attention in the work of modern researchers.

This testifies to the relevance of the mentioned problem for the theory and practice of primary education, which led to the choice of the topic of this study: “Interactive teaching methods for the development of cognitive activity of primary school students.”

According to the topic, the purpose of the research was determined: to theoretically substantiate and develop a model of the development of cognitive activity of primary school students using interactive teaching methods.

To achieve the goal, the following tasks were defined: to analyze the state of the researched problem of students' cognitive activity in the scientific literature and

practice of primary education; to outline the peculiarities of using interactive methods in teaching primary school students of the New Ukrainian School; to determine the theoretical foundations of the model of the development of cognitive activity of primary school students using interactive teaching methods. Let's consider each of them in more detail.

The State of the Investigated Problem of the Development of Students' Cognitive Activity in the Scientific Literature and Practice of Primary Education

Cognitive interest is an indispensable and most important component of human activity, which determines the development of society and the individual himself. Until now, cognitive activity (acquisition of new knowledge), or cognitive processes (sensation, perception, thinking) – scientists consider only a specific activity that has a specific visual content and a specific set of actions and operations that implement it.

T. Kravchenko [43] notes that “the independent cognitive sphere is a complex formation that depends on the level of training of teenagers and is manifested in the following aspects: mental (ability to work); intellectual (ability to solve cognitive problems); moral (motivated attitude to the subject of knowledge), the main components of which are motivational, substantive, procedural, effective”.

In turn, V. Lozova [45] understands independent cognitive activity as “an activity of independently determining a goal, tasks, problem based on cognitive needs and interests, motives, choosing one's own cognitive path aimed at creating a creative educational product.”

A significant task is formation, according to L. Nikolenko [49], “cognitive independence, quality formed in activity”. Taking this into account, the scientist determines the activity approach through the components of the formation of the cognitive independence of the individual. Since activity and independence of the individual are manifested in activity. In this case, the activity aspect of the process of forming the cognitive independence of adolescents acts as a means of learning about the world, the basis of the formation of this quality of the personality of adolescents.

According to L. Sapunova, “cognitive needs, interests, motives, purpose, cognitive activity, cognitive independence affect the nature of the independent cognitive sphere” [52].

The statement of T. Tkachuk, who identifies six blocks in the structure of cognitive independence, is valuable. Let's consider them in more detail: intellectual block — intellectual abilities and skills of primary school students; the axiological block determines the attitude of elementary school students to the process of learning as a value, a valuable understanding of pedagogical activity; the motivational block includes cognitive interests of primary school students, cognitive needs, cognitive attitudes; the practical-oriented block consists of the student's independence in solving educational and cognitive tasks, the skills, and abilities to implement the cognitive sphere, the active cognitive self-realization of the primary school student; personal block — personal attitude to the cognitive sphere and its products, intellectual feelings of elementary school students; the reflexive-corrective block involves reflection of the course and results of the cognitive sphere, correction and appropriate direction of the cognitive sphere of elementary school students in the future [55].

In accordance with the above, below we will present the structure of an individual's active activity in the form of a scheme, as shown in Fig. 1.

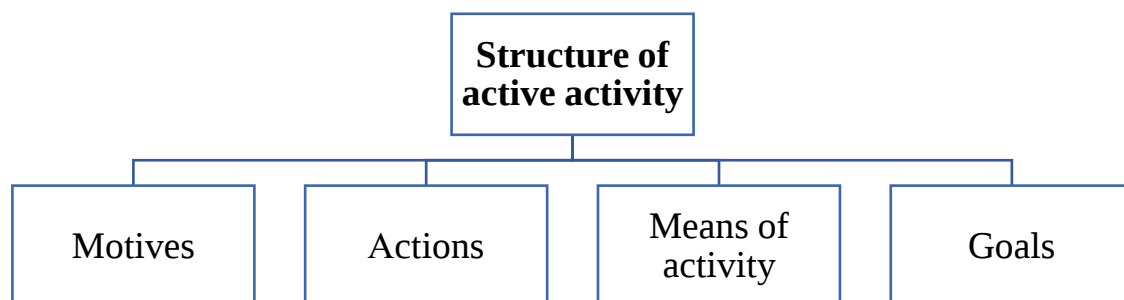


Figure 1. The Structure of personality activity [56]

Taking into account the psychological theory of activity, the structure of any individual activity should include the activity itself, actions and operations, as well as the object, motive, and conditions corresponding to them. According to this, the structure of cognitive activity, like any other activity, consists of actions and

operations, has a goal, objective content, motive and conditions, means and methods, product or result.

T. Kravchenko, in turn, notes that in the structure of the schoolboy's cognitive sphere it is possible to single out “motives, goals, means, program of actions, intermediate and final results” [43]. The scientist notes that the cognitive sphere in the conditions of education "is carried out by the personality of a particular student, and therefore each element of this activity is determined by the following processes and states, namely: motivation, thinking, memory, psychophysiological abilities, empirical and theoretical experience, will, and reflection".

Summarizing different approaches to the structure of cognitive activity of primary school students, we can further distinguish its components (see Fig. 2).

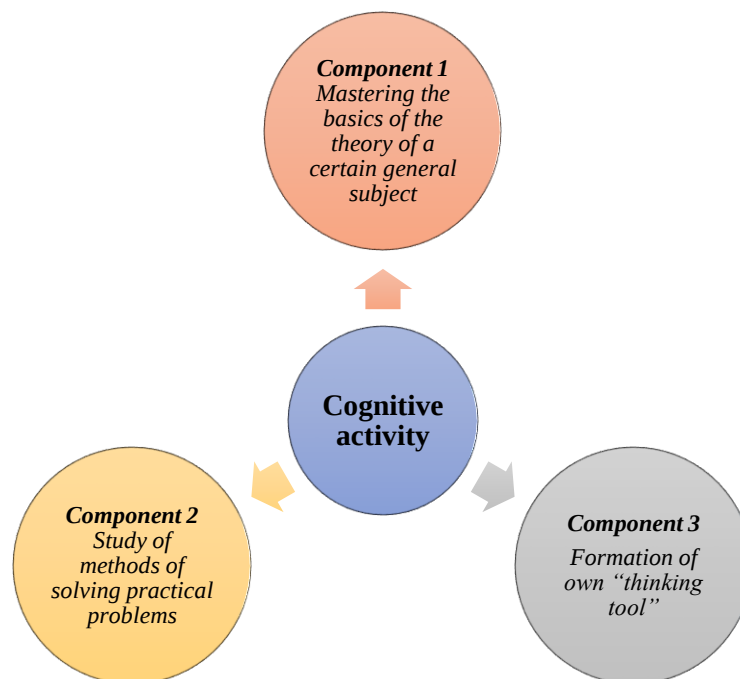


Figure 2. Components of cognitive activity of primary school students

Let's analyze each of them separately. Thus, the first component of studying and mastering the basics of the theory of a certain educational subject through listening, reading, taking notes, understanding, abstracting, etc., involves the achievement of certain educational goals.

The second component – the study of methods for solving practical problems involves the application of the main theoretical provisions of a certain educational subject (reading, understanding, performing actions according to a sample, structuring solutions, analyzing various examples of rational application of typical techniques and algorithms, drawing up general prescriptions, training, exercises, etc.) .

The third component is the formation of one's own “thinking tool” within the framework of a certain discipline. This activity involves the application of acquired knowledge in the process of verifying the importance and effectiveness of the “thinking tool” on various forms of control (on the part of the teacher) and self-control [46].

According to the defined structure, the content of cognitive activity includes: organizational and practical, search, information and reflective skills. Let's consider each of them separately. Organizational and practical skills are the ability to plan work, (ask) questions and answer them; the ability to make assumptions; skills related to the application of logic; ability to use different forms of presentation of research results. In turn, research skills provide an opportunity to see a problem, choose a topic and set a research goal, as well as gain the ability to choose and apply available research methods; the ability to establish cause-and-effect relationships; the ability to search for information. Information skills include the ability to find sources of information, use them; the ability to listen carefully, the ability to work with certain concepts, terms; ability to understand and interpret oral and written text; the ability to record information in the form of symbols, conventional signs. Finally, we will consider reflective skills, they contain the ability to evaluate work, to determine positive and negative in it; the ability to argue one's assessment; the ability to make recommendations [50].

According to the defined skills, we can claim that the degree of formation of the cognitive activity of primary school students is manifested at the adaptive, productive and creative levels. Let us describe them in more detail. The adaptive (low) level involves the manifestation of unstable interest in educational and research activities, difficulties in performing research actions at each of the stages of the research search, work, mainly by analogy, under the guidance of a teacher.

The productive (average) level characterizes the manifestation of persistent interest in educational and research activities, the possession of certain skills that allow conducting research with the help of a teacher; manifestation of elements of creativity in the choice of topic, methods, presentation of research results.

The creative (high) level is determined by the predominance of internal cognitive motives of educational and research activities, the possession of a set of skills that allows for independent search for new knowledge, the manifestation of originality at any of the research stages, non-standard problem-solving [30].

It is important, in the context of this study, that the description of the levels of development of cognitive interests is based on such criteria as: students' interest in educational and research activities; readiness to implement research skills; the degree of independence in educational and research activities; manifestation of a non-standard approach to problem-solving.

Having studied the components and levels of the manifestation of cognitive activity, we can note that the stimulation of the development of cognitive activity should be conditioned by the joint nature of the activity of the student and the teacher, which ensures the choice of primary school students in the areas of activity, as well as a wide range of opportunities for the manifestation of cognitive initiative and the ability to solve research tasks ; the independence of finding new methods of action, forms of presentation of results; the possibility of the student's movement along an individual cognitive trajectory based on his subjective personal experience; the use of various organizational forms, methods, and means of educational and research activities; by varying the content of classes taking into account the interests and needs of students, their age characteristics.

Summarizing all of the above, we can state that in pedagogical practice, cognitive activity is considered as an external stimulus for the processes of upbringing and learning, as a means of activating the cognitive activity of primary school students, as an effective tool of the teacher, which allows making the learning process mobile, strictly differentiated and individual. According to the logic of this research, the next

stage will consider the peculiarities of the development of students' cognitive activity in modern Ukrainian schools.

It is not a hidden fact that significant reforms of the Ukrainian education system have been taking place during the last decade. One of the distinctive features of these transformations is the principle of competence of graduates of educational institutions of all levels. According to this principle, there is a reorientation of the evaluation of the result of education from the concepts of “education”, “education” to the concepts of “competence”, “competence”. A competency-based approach in education is fixed, the first steps to which were marked in the “Strategy for the Modernization of the Content of General Education” and the “Concept of the National Academy of Sciences” [42], in accordance with these guidelines, general secondary education institutions were given the goal of forming an integral system of universal knowledge, abilities, skills, as well as the experience of independent activity and personal responsibility of students, that is, key competences and soft skills that determine the modern quality of the content of education.

In order to determine the state of development of cognitive activity of primary school students, within the scope of this study, the concept of “competence” should be revealed in more detail and its role in the formation of cognitive activity should be revealed.

In the Great Explanatory Dictionary of the Modern Ukrainian Language” the following definition of the concept of “competence” is given as “awareness of issues in any field of knowledge”, and the concept of competent is defined as “knowledgeable, authoritative in any field of knowledge, science, etc.”, in other words – a person who has competence [31].

Considering the concept of “competence” as a set of knowledge, skills, and abilities necessary for the implementation of a specific educational activity, we believe that this concept should include cognitive skills, along with motivation, an emotional aspect, and corresponding values and attitudes.

In modern pedagogical literature, the concept of “competence” is considered as a certain personal (individual) characteristic of an individual. In his research, S.

Kovalenko understands competence as “a way of implementing knowledge and skills that contribute to personal self-realization, as a result of which a person's activity will be highly motivated and personally oriented and will provide the maximum need for personal potential, recognition of his environment and awareness of his own significance” [32] .

So, distinguishing common and close features between the concepts of “competence” and “competence”, it can be argued that they include knowledge from one or another field of activity, the integrity of integrated knowledge and skills, and a competent person is a person who realizes his competence in practice.

The state standard of basic and comprehensive general secondary education [35] defines key competence as a specially structured set of characteristics (qualities) of an individual that enables him to act effectively in various spheres of life and belongs to the general content of educational standards and notes that key competences include the ability to learn, communicate in the state, native and foreign languages, mathematical and basic competences in the field of natural science and technology, information and communication, social, civic, general cultural, entrepreneurial and health-preserving competences. According to the Law of Ukraine “On Education, 10 key competencies for the New Ukrainian School are defined [42]: communication in the state (and native, in case of difference) languages; communication in foreign languages; mathematical competence; basic competences in natural sciences and technologies; information and digital competence; the ability to learn throughout life; initiative and entrepreneurship; social and civic competence; awareness and self-expression in the field of culture; environmental literacy and healthy life.

Accordingly, primary school students acquire each of the listed competencies consistently, gradually, during the study of various subjects at all stages of education. The formation of the necessary competencies allows the student to navigate in modern society, in the educational process.

In this case, it becomes clear that the cognitive activity of primary school students, as a metasubject result of learning education, is the ability to perform mental and practical actions to independently find a solution to a research problem, to choose

research methods and techniques at a level accessible to the student in order to obtain subjectively new knowledge that provides the basis for the formation of universal educational actions.

According to this statement, for the development of cognitive activity, purposeful observation by teachers of the activities of primary school students is necessary:

— Does the student have an interest in the process of learning about the surrounding reality?;

— What is the greatest interest in this process?;

— What exactly interests a primary school student in the cognitive process:

1) methods of discovering new knowledge;

2) methods of solving tasks;

3) external results — grades, prestige, etc.

In addition to observations, various types of questionnaires, conversations, and writings can be used in order to more accurately identify the subjectively perceived motives, interests, and tendencies of elementary school students.

Valuable within the scope of our research is the statement of O. Dovgal, which conditionally defines the stages of formation of cognitive activity of primary school students [36], namely curiosity, inquisitiveness, persistence and creative interest. We will give the characteristics of each of them.

1. Curiosity is a manifestation of an initial cognitive need, an elementary stage of a selective attitude, characterized by external circumstances, a student's natural reaction to everything unexpected, intriguing, that attracts attention – a certain situational interest.

2. Curiosity is a higher stage of interest, a valuable state of personality, characterized by the student's desire to penetrate beyond the scene, expressiveness of emotions, surprise, joy of knowledge, satisfaction with activity.

3. Sustained (cognitive) interest – characterized by cognitive activity, selective orientation of aspects of the student's development, valuable motivation (the main place is occupied by cognitive motives), the student understands the structure and logic

of the course, the search methods used in it and evidence of new knowledge. It is not the educational process itself that fascinates him, but the possibility of solving problems independently.

4. Theoretical interest – elementary school students seek to learn complex theoretical questions and issues of a specific science, use existing knowledge as a learning tool.

Accordingly, it is important to understand that the specified stages are not isolated from each other and in the real educational process they are interconnected.

Based on this, S. Gordienko recommends the following conditions for the development of cognitive activity of primary school students [34]: relevance and novelty of the learning content; revealing the importance of knowledge; clearness; interest; emotionality; use of comparison and analogy; effect of paradox, surprise; use of works of art and literature; educational discussions; cognitive games; use of computers.

Based on the definition of T. Dubova, who notes that real cognitive interest is the basis for motivating educational activities for the reason that: interest contributes to the formation of deep and solid knowledge; develops and increases the quality of mental activity, activity in learning, promotes the formation of abilities; creates a more favorable emotional background for the flow of all mental processes [37].

Cognitive activity is impossible without active thought, so thinking processes are the most significant for the development of interest. Developing primary school students' cognitive activity towards the history of the subject world, teachers should ensure mastery of the system of knowledge about the subject world (its past and present), as well as mastery of the system of logical operations to establish cause-and-effect relationships [42].

Next, we will consider another vector of influence on the development of cognitive activity of a primary school student, his emotional attitude, which is expressed in a positive attitude towards the object of interest. Bright positive emotions, determining the learning needs of elementary school students, contribute to the development of new motivations for activity.

Under such conditions, the basis of cognitive activity, as the primary form of manifestation of a cognitive relationship, is such an emotional state as surprise, that is, a process when the student's perception comes into conflict with usual experience. This leads to the desire to understand the contradiction, therefore, to the birth of cognitive activity. In addition, emotionally colored facts about the world's past, the excited story of an adult causes an emotional upsurge in an elementary school student. In this state, his perception is sharpened, and information is remembered more firmly and for a longer period of time.

Emotional processes bring many emotional states and experiences to cognitive activity: a sense of success, the joy of knowledge, pride in one's achievements, satisfaction with activity.

It will be appropriate to cite the opinion of I. Zhirnaya, who emphasizes that “education is not limited to teaching a child a collection of known knowledge and skills, but involves the formation of an emotional attitude towards the environment...” [39].

Emotional attitude to the object is a mandatory feature and basis of cognitive activity. At the same time, cognitive activity, as a motive of activity, significantly changes not only the nature of the activity (intensity of flow, emotional coloring, effectiveness), but also its qualitative distinguishing features. Through the knowledge of subjects and practical actions with them, the student approaches the active mastering of the socio-historical experience available to him, during the mastery of which a stable cognitive interest develops [30].

Therefore, with all the variety of processes included in cognitive activity, it should be understood that they are not isolated, and their presence is a condition for increasing the effectiveness of the educational process. Under such conditions, students should develop such cognitive processes as: the ability to analyze, synthesize, compare, generalize, establish cause-and-effect relationships; development of purposefulness, formation of planning actions, development of variability and hypotheticality. Everything is integrated and forms the basis of the development of the cognitive activity of primary school students. The increased activity of students directs them to

search for means of expression, provides a deviation from stereotypes, contributes to the establishment of the position of active cognition, creation, and transformation in elementary school students, and, as a result, directs elementary school students to an independent, creative search for a solution to the problem. However, there is still no unity in the opinion of scientists and teachers regarding the only effective means of developing the cognitive activity of primary school students.

Based on the logic of this study, we will next consider the features of using interactive methods in teaching primary school students of the New Ukrainian School.

Peculiarities of the use of interactive methods in teaching elementary school students of the new Ukrainian school

Under conditions of rapid development of modern society, educational processes, methods, and technologies of learning are constantly being improved. O. Pometun, H. Selevko, P. Fedoruk, M. Pikulyak and others worked in the field of solving problems and challenges of interactive learning, clarifying its features. The issue of the innovative strategy of modern education is studied by domestic and foreign scientists: O. Kravchyna, L. Varga, and others.

According to the pedagogical dictionary, the term “interactive” comes from the Latin “inter” – between and “activ” – active. The lexical meaning of the words “interactivity”, “interactive” translated from English is as follows: “inter” – mutual, “act” – to act, that is, the ability to interact [31].

The term “interactive pedagogy” was introduced into scientific circulation (1975) by the German researcher H. Fritz, who saw the main goal of the interactive process “in changing and improving the behavior model of its participants who, analyzing their own reactions and the reactions of their partner, resort to changing the model their behavior, they consciously assimilate it” [33].

The understanding of different scientific positions regarding the understanding of the essence of interactive learning makes it possible to assert that there are common and different opinions about the activation of students' cognitive activity. At the same time, all researchers recognize a common feature of interactive learning – the

importance of interpersonal interaction, which makes the learning process itself productive. The main views of scientists regarding the understanding of the concepts “interactive”, “interactive learning” are presented in Table 1.

Table 1

The views of scientists on the essence of the concept of “interactive learning”

Definition	The scientist
"Interactive learning is a special form of organizing cognitive activity that has a specific, foreseeable goal - to create comfortable learning conditions under which each student feels his success and intellectual ability."	O. Pometun [50]
"Interactive learning is learning based on the psychology of personal relationships and interactions."	Y. Dud [38]
"Interactive learning is a constant and changing direction of the learning regime, which involves communication links between those who learn and the system that teaches, in the process of their productive interaction (learning). Such connections can be both direct and reverse; both direct and indirect."	L. Nazarets [48]

Based on the views of scientists regarding the understanding of the concept of “interactive learning”, the author's definition was formulated within the scope of this research, namely: interactive learning is a joint educational-cognitive and active-research activity of teachers (teachers) and students, the basis of which is interaction, dialogue, mutual learning. Interpersonal communication serves as a means of such activity.

As you know, interactive learning differs from traditional. For a thorough characterization of the distinctive features of these types of training, we consider it expedient to carry out their comparative analysis.

A review of the scientific positions of R. Oryshin [40], concerning the clarification of the essence of interactive learning and its methods, enables the following conclusions: 1) in interactive learning, communicative interaction and mutual influence on the participants of the educational process become the main ones; 2) methods of interactive teaching of teachers – a system of methods of purposeful intersubjective interaction aimed at fulfilling educational tasks of professional training

in the process of teaching and educational and cognitive activities of the teacher and students.

As noted by L. Pyrozhenko [51], interactive learning involves the implementation of direct and reverse communication between students and teachers, technological access to educational information using interactive technologies, adaptation of the education system to the individual characteristics of students, management of their educational activities.

Scientists interpret interactive dialog as “interaction of the user with a software system, which differs from the dialog one, allowing the exchange of text commands (requests) and answers (invitations), the implementation of advanced means of dialog implementation (for example, the ability to ask questions in an arbitrary form using a keyword, in form with a limited set of symbols), while it becomes possible to choose options for the content of educational material, mode of operation” [40].

In the works of N. Bibik [29] identified interactive and computer dialogues. According to the researcher's belief, due to the convergence of these dialogues, communication between the computer and the student are ensured.

The methods of implementing interactivity in elementary school include the following: information and communication technologies, cooperative learning, project activities, etc. We will consider them in more detail below.

Incidentally, we note that the first method of implementing interactivity is used in the “student computer ↔ teacher/student” system, the other methods are used in the “student computer” system. The “student computer” system is quite naturally included in the “low-contextual culture”. The fact is that this system has predefined logical bases of communication and stricter restrictions on symbols and dialogue. Currently, the communicative interaction “student computer ↔ teacher/student” is of interest, in particular from the point of view of forming elementary school students' understanding of the electronic learning environment [58].

One of the tasks of a modern teacher is not to give elementary school students ready-made knowledge, but to create conditions and form sustainable motivation for the formation of a set of skills to teach oneself. The interaction between the student and

the teacher involves the ability of the teacher to direct and does the independence that is given to the student, which in turn leads to the goal setting of the autonomy of his educational and cognitive activity as the basis of personal development and formation.

Next, we will consider the features of cooperative learning as an interactive method based on a person-oriented approach. Accordingly, primary school students work in groups to solve an educational problem [49]. The main principles for the implementation of collaborative learning technology are:

- the principle of “rewards” – the group receives one for everyone in the form of a point assessment, any badge of distinction, certificate, praise or other types of evaluation of their joint activity. Teams do not compete with each other because they have different level and goal, as well as time to achieve the goal;

- the principle of “individual” or “personal” responsibility of each student shows that the success or failure of the entire team depends on the success or failure of each of its members. This stimulates all participants to monitor the success of each other, the entire team, and come to the aid of their comrade in understanding and learning the material;

- equal opportunities for everyone to achieve success. The student brings points to his team, he earns them by improving his previous results. It is very important during the interaction of students in groups to assess not so much the real results of a weak student, but rather his efforts, which he spends to achieve the necessary results.

Next, we will consider the methods of interactive learning. Yes, the peculiarities of the “saw” method of integrated cooperative learning technology. According to it, students are united in groups of 4–6 people to work on educational material, which in turn is divided into fragments (meaningful or logical blocks). It is better to organize such work at the stage of creative application of language material. Each team member searches for the material of his block. Then, all students working on the same question, but in different groups, meet and exchange the information they have found as experts on this question. This is called a “meeting of experts”. Then, returning to their groups, they pass on their knowledge to other team members. They, in turn, report on their part of the task. Elementary school students who participate in this technology are interested

in high-quality performance of the task, because the results of joint work depend on all team members. The final stage in this technology is characterized by the readiness of any student to present the result of work, and students of the same group can present additional additions to their classmate's answer.

Next, we will consider the method of project activity, which is aimed at the interaction of the teacher and the child, the formation of creative skills, is a type of assessment in the course of continuous education, and determines the probability of the initial development of abilities in professionally significant areas of life. The project gives students of the child's primary school the right to discover their creative abilities, test themselves, apply their knowledge and skills, do good for society, and demonstrate in public the summary of their activities, which is significant even for the researchers themselves. The topics of student projects are very diverse, they are offered by the teacher, based on the content of the topic of the lesson being studied. The teacher's task is to avoid possible shortcomings.

It will be appropriate to cite the opinion of E. Polat, who notes that a significant role in the implementation of projects is given to the teacher, moreover, this role is transformed during the change of stages of work on the project. The teacher advises, instructs, encourages, involves, observes, that is, he does not impart knowledge, but organizes the activities of elementary school students. For the teacher, the project, to a greater extent educational, is certainly a complex pedagogical means of development, training and upbringing, which is able to develop and develop special skills and skills in designing and modeling. A. Zabarna [38] notes that many classifications of projects are considered in the scientific literature on various grounds, based on different approaches and principles.

It will be appropriate to note that G. Isaeva adds to the classifications the division of projects by the degree of novelty: rationalizing, inventive, heuristic, innovative (innovative), etc. [40].

Psychologists advise keeping group projects as a priority for lessons in junior grades. Moreover, as noted by A. Zabarna [40], the performance of social and common, necessary and personally significant activities creates trusting relationships and the

success of cooperation. When working on the project, a group activity is involved, in the process of which the interpersonal relations of primary school students develop, which the teacher cannot develop in every lesson.

The project must be accompanied by theoretical material, diagrams, drawings, drawings, samples, original story: – structuring of the content part of the project; pragmatic focus of the project on the result, “ready project”.

In each specific case, this issue is clarified individually.

Designing the results, presentation, and protection of projects must be mandatory [41].

With the help of the implementation of the project method, the teacher can involve students of different levels of educational activity in the work. Pupils with high scores can focus on long-term projects, while weaker ones can be involved in project activities under the conditions of group work.

An important stage of project activity is job protection. This stage is implemented with the involvement of all students who will participate in the creation of the project. Sometimes teachers, methodologies, scientists, and parents may be invited to the school to defend students' projects. By defending their projects, students have the opportunity to develop the skills of presenting information, defending their point of view, asking questions or answering them.

Both the teacher and the students can be the project manager. The teacher, when implementing the project method, implements the work in such a way that it is not the transfer of ready-made knowledge to the students, but to create an opportunity for them to be obtained in the process of solving tasks by each student. The goal of the work on the project should be to organize the search activity of teenagers, in this regard, the teacher should apply: various research methods, develop the ability to put forward hypotheses, readiness to search and solve the problems, develop the intellectual activity of students, thinking, etc.

Another direction of the development of the educational process in the general secondary education institution in general, and the elementary level, in particular, is the use of the following interactive learning methods in classes: collective

(cooperative) form of educational activity, work in small groups, microphone, brainstorming, carousel, Brownian motion, an unfinished proposition.

When implementing a collective (cooperative) form of educational activity. Students sit in a circle with the teacher. Cooperative learning opens opportunities for students to cooperate with their peers, allows realizing the natural desire of each person to communicate, helps students achieve the necessary results of knowledge acquisition and skill formation. When implementing, you should follow the general rules: listen carefully to your friend, do not interrupt, do not laugh at other people's mistakes, the rule of “raised hand”, treat others as you would like others to treat you [47].

The next method is working in small groups, this type of activity should be used to solve complex problems that require a collective mind. Students should feel responsible for how the group works. Each elementary school student gets a certain role. For example: speaker, secretary, reader, etc.

A representative of interactive learning as a type of general group discussion is the “Microphone” method, which allows everyone to speak quickly, taking turns answering questions or expressing their own position.

As for the brainstorming method, it is used to create several solutions to a specific problem. Encourages students to show attention and creativity, gives an opportunity to freely express their thoughts. The goal is to collect as many ideas as possible to solve the problem.

According to the carousel method, two rings are formed: inner and outer. The inner ring – in which the students sit still, and the outer ring – in which the students move after 30 seconds change. Thus, they discuss the topic and convince the interlocutor of their correctness.

Similar to the carousel is the Brownian motion method, but it involves the movement of students throughout the class in order to collect information on the proposed topic. Joint discussion. Reproduction of information [43].

Working according to the “Unfinished proposal” method gives the participants the opportunity to overcome stereotypes, express themselves freely on the proposed topics, and practice the ability to speak concisely and convincingly.

Interactive learning methods also include the creation of a favorable psychological atmosphere, which is facilitated by such exercises as energizers and reflections.

As a result of using the energizer exercise, the energy of the class is renewed, the students who enjoyed themselves feel included in the work. Examples of energizers: “Alliteration of the name” (especially effective when getting to know or studying the topic “Appearance and character”), “Compliment”, “All friends are in our class”, “The best place on earth”, etc.

Reflection methods are usually used at the final stage of the lesson. They are aimed at self-analysis and self-evaluation by participants of pedagogical interaction, their activity, and its results.

Lesson evaluation shows students whether they were emotionally involved in what happened in the lesson, as well as what they learned. Such feedback is very important for a teacher. For example, at the end of the lesson, elementary school students draw a clown's mouth, which corresponds to the mood of the student after work and completes the unfinished sentence “In class, I learned ...”, “I liked the most ...”, etc. [57].

Having studied the versatile characteristics of the cognitive activity of primary school students and the possibilities of interactive methods to increase the effectiveness of the educational process of primary school, we will proceed to the development of the theoretical foundations of the model of the development of cognitive activity of primary school students using interactive teaching methods.

Theoretical foundations of the model of the development of cognitive activity of primary school students using interactive teaching methods

The problem of organizing the pedagogical process of interaction between the teacher and students of primary school in the construction of a certain educational trajectory is considered in various contexts, in particular in such as: revealing the essential content of subject-subject interaction; use of subject-subject interaction

management techniques; finding out the influence of the teacher on the students; revealing the essence of the tactics of supporting elementary school students in interaction and highlighting the criterion for evaluating interaction. Let's detail the above.

O. Mukoviz [47] emphasizes that the teacher's interaction in the construction of the educational trajectory can be both mechanical ("question-answer") and reflexive subject-subject (the interaction of the teacher with students, which provides for the exchange of meanings and providing opportunities for self-expression to everyone, during which qualitatively different relationships are revealed (respect for the interlocutor, strict observance of the limits of freedom, the ability to find arguments and use them expediently, achieve the goal, adhere to the culture of communication).

The establishment of subject-subject interaction between a teacher and a student in the construction of an educational trajectory, according to the New Ukrainian School, is facilitated by the actions of the teacher, which are aimed at: acceptance by the students of the educational goal (the above can be implemented based on the life experience of the students, an intriguing beginning of the educational process, posing a problematic question, showing the importance of the topic for life); building personally oriented communication (the teacher revealed his own attitude to the problem and encouraged students to express their own opinions); manifestations of tolerance (acceptance by the teacher of different attitudes (opinions) of students to a certain problem and continuation of their opinions); 4) the search for participation, togetherness, which is manifested in the identification of oneself and students in reflection.

The tactic of supporting students in building an educational trajectory in accordance with the New Ukrainian School [42] is implemented with the aim of forming the subject position of the student. Such a goal can be achieved most quickly if the student finds himself in a problematic situation, which he himself evaluates as an obstacle. This obstacle attracts and holds his attention, causes the corresponding feelings and, most importantly, the need to overcome it. The teacher does not need to motivate the student for activity, because he has a natural need that causes a desire to

act in order to solve the problem. Over time, the student does not perceive the issue as an obstacle, but perceives it as an opportunity for self-realization, success, and satisfaction. The student does not just act spontaneously, but learns to think about how and why this issue arose, what he wants to get as a result of his actions, how realistic it is, what he can do to achieve what he wants, what prevents him, how to deal with this obstacle, how it will affect what he planned, on the people around him, how to act so as not to worsen the situation if possible.

It should also be emphasized that the pedagogical support of students is the actions of the teacher, which are aimed at forming the subject position of the student, analyzing his cognitive interests, determining the purpose of cognitive activity, discussing and planning the necessary actions for the implementation of the idea (design, modeling, drawing up a program of actions), determination of the necessary and possible forms (methods) of interaction during the implementation process of the plan.

S. Ladyvir [44] interprets the tactics of pedagogical support as the actions of the teacher, which are carried out by him in accordance with the existing situation and are aimed at the formation of the subject position of the student.

In order to support the cognitive activity of elementary school students and their interaction with others, the teacher can use such pedagogical support tactics as the “Help” tactic, the “Promotion” tactic, and the “Interaction” tactic. It should be noted that the teacher designs and implements certain tactics in accordance with the nature of the problem, the circumstances of its occurrence, the attitude of the student and those around him to this problem. When solving a specific problem situation, the teacher can use one of the tactics or combine them with the help of interactive methods. The use of tactics allows the teacher to be flexible and mobile in interaction with the student, to stimulate his cognitive activity and independence, and to guide him in the direction of finding a method of action, the implementation of which will lead to solving the problem.

In the case of blocking the student's activity with a “feigned threat”, there is a need to use the “Help” tactic. The teacher acts taking into account the fact that

elementary school students can realize many things on their own, if she is active in solving her problem, she needs to be helped to make sure of this. The “Help” tactic is designed to get the student to take action. In the activity, the student realizes that he can do many things on his own, he just needs to try to overcome his fear.

The teacher's actions are aimed at creating the conditions for the student to unlock his own inertia and to create in his mind a sense of the significance of his actions for himself and other participants in the activity.

Further, according to the logic of the research, we will consider the essence of the tactics chosen by us.

Thus, the “Facilitation” tactic consists in showing the student's ability to make his choice. By implementing this tactic, the teacher contributes to the expansion of the subject experience of the student and creates conditions for practicing in making one's own choices. The teacher takes the position of “listener” and “questioner”, deliberately avoiding the position of “advisor” and “expert”. By involving the student in understanding how he will act. The teacher is constantly interested in the student's thoughts and his attitude to what is happening, expands the possibilities of choice, offering options unknown to the student. Simplifying the construction of his answers to a concise essence, he asks in the following way: “Did I understand you correctly, you said (la) the following...” [59]. The teacher takes the position of a “reflective mirror” of the student.

To organize feedback (reflection), the teacher uses a visual fixation of the statements expressed by the student, and with the help of simple schemes “depicts” the logic of the statements. During the implementation of the “Facilitation” tactic, the student is given the opportunity to expand his ideas about the options for choosing methods of action, to analyze the situation, to understand and argue his own reasoning about the choice made, to reflect and record his attitude to actions, to act in accordance with the chosen method of activity and its perceived purpose implementation, analyze the course of activity and its result.

Considering the following tactics for the implementation of interactive teaching methods, we note that the essence of the “Interaction” tactic is that “the student and the

teacher act in the space of agreements.” At the same time, agreements (agreements) are perceived as a test of freedom and responsibility, since an agreement is a choice of at least two people, built on expanding some opportunities and limiting others (for example, expanding positions and limiting ambitions). The agreement (agreement) becomes effective when the teacher and the student perceive it as an opportunity to combine interests and efforts and direct them to solving the student's problems; perception of other activity participants as desirable partners in interaction; showed readiness to jointly solve the problem.

According to O. Skrypchenko [53], the teacher's interaction with students in building an educational trajectory (now according to the New Ukrainian School) should be built taking into account the fact that the main driving forces for a child are three natural passions (passion for development, growing up, freedom); the main task of the teacher is to create favorable conditions for the child to satisfy his natural passions during reflective subject-subject interaction; each student is a unique individuality; she comes to earthly life with certain natural endowments, her own essence; the teacher must contribute to the formation and development of this essence, understanding that it is impossible to change it.

Thus, we can come to the conclusion that for the effective development of the cognitive activity of elementary school students by means of interactive methods, the formation of effective interaction between the teacher and students in the lesson is necessary.

Such interaction is a complex and multifaceted process, as it involves the involvement of such mechanisms that influence the teacher's motivation, form skills, knowledge and skills, and contribute to the realization of personal qualities and abilities. The analysis of the literature allows to conditionally divide the pedagogical conditions of effective interaction between the teacher and students in the lesson into groups when using interactive methods.

The first group includes conditions that ensure the actualization of school achievements of students. In this case, it is said that when organizing educational activities, one should rely on the experience of collective relationships already

available to students; peculiarities of the regulation of productive activity, that is, the subjective experience of students. An important place in the system of pedagogical interaction between the teacher and students is assigned to the game. The main task is to pick up the student's desire for independence in interaction with the teacher, to give the interaction a cultural form of educational cooperation, immersing it in the educational content.

As recommended forms of teacher interaction in the process of pedagogical interaction, it is advisable to use the following: visiting the school library and museum; excursions; acquaintance and interaction of students with teachers; exhibitions of creative products and drawings made by students; participation in joint educational activities, game programs; conversations and meetings; participation in theatrical activities; joint holidays (Knowledge Day, graduation, etc.) and sports competitions.

The second group includes conditions related to the organization of communication between students and their educational relationship with the teacher. These conditions include various actions related to the organization of meaningful, reflective interaction of primary school students with the teacher, with the enrichment of their interpersonal relationship potential. To strengthen the cooperation of primary school students in the educational field, it is advisable to use the following directions [45]: ethics of verbal appeal to the student. This technique excites and strengthens the joyful anticipation of students. In the words “let's think together ...”, “perhaps, let's do this” the participation of the teacher is implied, while in the words “I'm interested”, “I want to know” there is an authoritarian style of communication of the teacher with children, which is unacceptable when organizing relationships cooperation; stimulating communication that brings joy to the student – this technique fosters trust and love for people. While the tonality of pronouncing phrases should be at your disposal and be friendly, expressing admiration; students should set the tone of the lesson themselves, be like-minded teachers, be aware of their special role. This is the method of involving children in the lesson plan; trusting the student – a technique when the teacher addresses the students with the words “only you can do it”, “this is a very difficult task, so only you, students” can do it, and thereby shows that he trusts

the class. Working in a group, the student learns to interact with people, take into account the interests of others, not only his own, also understand the interlocutor, actively express himself and make decisions without outside help.

In addition, for the development of students' cognitive activity and communication, it is necessary to apply such methods and methods of organizing educational activities, which were defined. They are: collective (cooperative) form of educational activity, work in small groups, microphone, brainstorming, carousel, Brownian motion, unfinished sentence.

Also, a scientific search was carried out, which determined the need for high-quality subject-subject interaction, and found it appropriate to add such interactive methods as the “Learning Together” method, dialogue during the organization of group discussions, and the “Owl” method. We will describe them below.

The “Let's learn together” method, according to which students are grouped into subgroups of no more than 6 people, while each group receives one subtask that is a component of the larger topic. After the work of individual groups as a whole, mastering of the entire material will be achieved.

Dialogue when organizing group discussions is useful when students work in groups of 5–6 people. A subtopic is chosen from the comprehensive/thorough topic, then in small groups this subtopic is further divided into individual tasks for each person. Each student contributes his work to the overall task in one way or another. Work is done through dialogue, because dialogue is one of the most common types of communication, where the equality of interrelated subjects of learning can best be revealed and manifested. In the course of collective dialogic training, students learn to think critically, to solve seemingly overwhelming problems based on the analysis of circumstances and relevant information, to weigh other opinions, to make well-thought-out decisions, and to participate in discussions.

The last thing to characterize is the “Owl” method, which is intended for the assimilation of individual lesson materials, consolidation of the lesson topic, and research work in the lesson. This method can be used with the use of a reference text, when each group, working with the same educational text, performs a certain task [54].

The third group of conditions includes conditions related to pedagogical activities and professional qualities of the teacher. Researchers are united in understanding the role of the teacher as special and significant. The teacher's role is to support the development of the student's inner strength, to give him the opportunity to choose and take responsibility for his actions. It is the teacher who largely depends on the upbringing of a motivated, independent, proactive personality of the student, focused on the construction and implementation of productive strategies not only for his life, but also later on strategies for social development.

Having considered the conditions of pedagogical interaction, the next stage, within the scope of this study, we will determine the component models of the development of cognitive activity of primary school students using interactive teaching methods. They determined: goals, content, principles, interactive technologies, interactive methods and tactics of their use, means, and forms of implementation, comprehensive diagnosis of the effectiveness of their application, correction of the educational process (see Fig. 3).

Let's consider each of them in more detail. The goals of the model are the development of cognitive activity of primary school students, and they also illustrate the final result of the model's implementation.

It should be noted that the goals should also take into account the level of development and the existing educational base of primary school students. In order to reveal the level of the specified indicators, we suggest conducting a comprehensive pedagogical diagnosis.

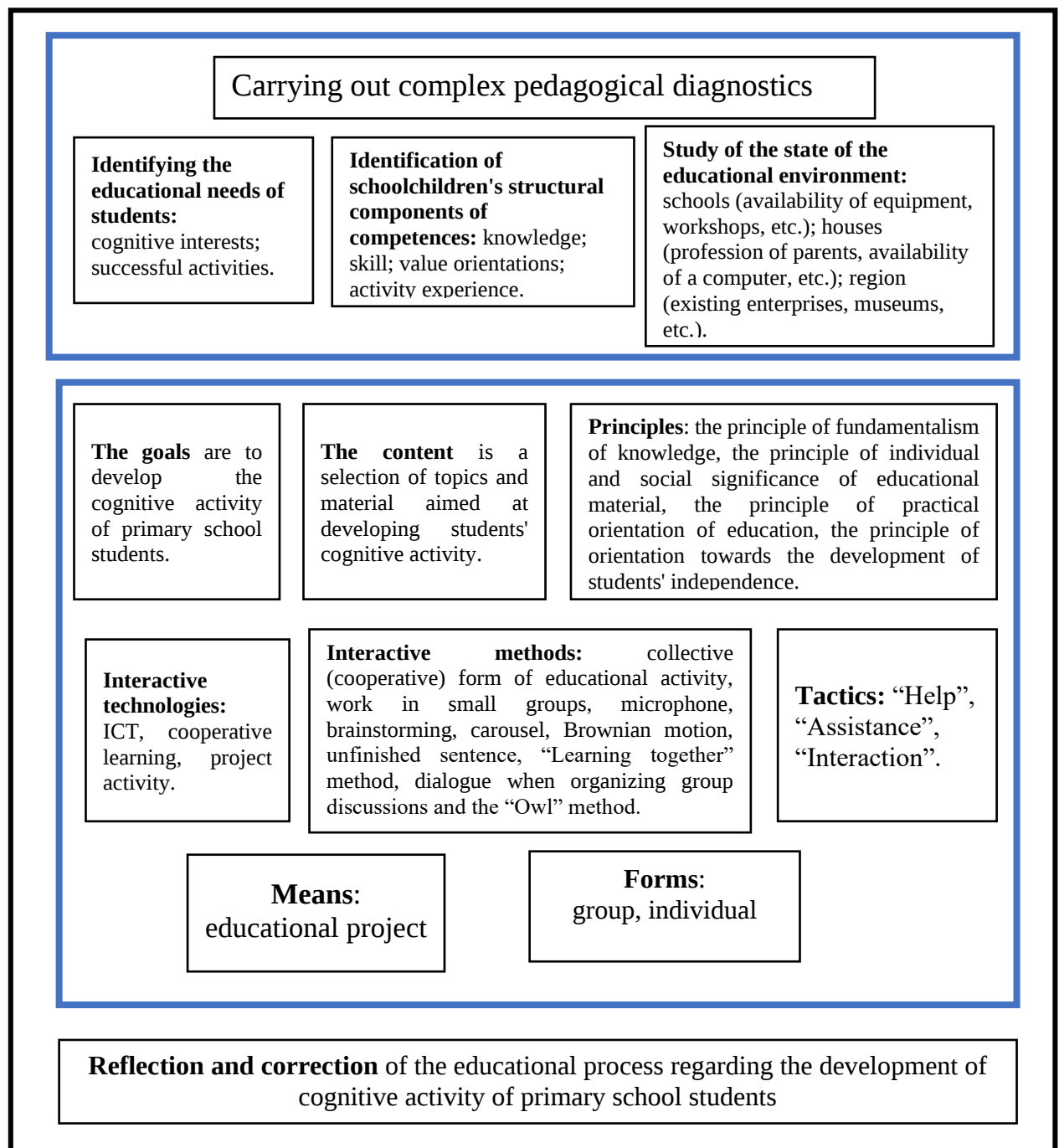


Figure 3. Model of development of cognitive activity of primary school students using interactive teaching methods

It should include such indicators as: identification of educational needs of students, identification of structural components of competencies in elementary school students, study of the state of the educational environment.

As for the content of the model, it involves the selection of didactic material in accordance with the curriculum and the results of diagnostics aimed at developing the cognitive activity of primary school students.

In accordance with the defined goals, it is necessary to justify the system of principles on which the development of a model of the development of cognitive activity of primary school students using interactive teaching methods is based.

Within the framework of the development of the model, these principles were defined as: the principle of fundamentalism of knowledge, the principle of individual and social significance of educational material, the principle of practical orientation of education, the principle of orientation towards the development of student independence.

Let's consider each of them in more detail. According to the principle of the fundamentalism of knowledge, according to which it is necessary to form in students knowledge that forms the basis of world understanding, the methodology of cognition and allows the student to solve tasks of a practical nature.

Regarding the principle of individual and social significance of educational material, according to it, the educational process should take into account the individual educational needs and abilities of each student and from elementary school students with knowledge, skills, and experience that are in demand in real life.

Analyzing the peculiarities of the principle of practical orientation of education, we note that since the competencies are developed during the activities of elementary school students, it is necessary to offer students a variety of practical tasks united by a common goal

According to the principle of orientation towards the development of students' independence, it is necessary to offer a certain part of practical tasks to schoolchildren for independent creative performance.

Interactive technologies, interactive methods and tactics of their use were determined on the basis of the selected principles and the conducted research. Interactive technologies were defined as: the use of information and communication technologies, the implementation of cooperative learning and the implementation of project activities. Interactive methods that will ensure the implementation of the previous components of the model were defined: collective (cooperative) form of educational activity, work in small groups, microphone, brainstorming, carousel,

Brownian motion, unfinished proposal, “Let's learn together” method, dialogue when organizing group discussions and the “Owl” method. Accordingly, effective tactics for their implementation were defined as: “Help”, “Assistance”, “Interaction”.

As it was mentioned earlier, an effective means of implementing the model of the development of cognitive activity of primary school students using interactive teaching methods is an educational project, which implements individual and group forms of education.

The developed model of the development of cognitive activity of primary school students through the use of interactive methods is illustrated in fig. 3

It should be noted that the model developed by us can be used in the teaching of various elementary school subjects, however, based on the diversity of interactive teaching methods and the defined main tool – an educational project, we will choose the integrated course of the New Ukrainian School “I explore the world” as the basis for the implementation of the proposed methodology.

It is clear that the effectiveness of the specified components of the model will increase under the conditions of the implementation of certain pedagogical conditions for the use of interactive learning methods in the lessons of the integrated course “I explore the world” in elementary school, namely: activation of motivation and interest in the educational process; ensuring emotional contact between the teacher and students, creating a trusting atmosphere; creating a situation of success; giving preference to a visual way of creating problem situations.

Next, we will describe them in more detail. In order to implement the first condition – activation of motivation and interest in the educational process using interactive methods in lessons within the integrated course “I explore the world”, in accordance with the defined forms, methods, and means of implementing the model, we involved students in creating an educational project. According to this condition, during project activities, it is necessary to create problematic situations in such a way that students receive as many positive impressions, emotions, and feelings as possible.

In any project, elementary school students must identify an issue situation and present ways to solve it by performing creative tasks. So, for example, in the project

“High-quality and healthy nutrition”, a problematic situation can be in the form of the question “Is healthy nutrition possible under modern nutritional conditions?”. The stages of project implementation include the preparatory stage, the task formulation stage, the planning stage, research, and conclusions. Next, let's fill each of them meaningfully. Preparatory — definition of the topic and goal of the project. Purpose: to form students' knowledge about the main food groups; create a situation of “deep immersion” in the topic; teach the rules of nutrition; to stimulate the development of initiative, independence, and the desire for self-improvement; promote the development of creative activity, self-educational skills; formation of key competences of students; teach to value life and health; to get acquainted with folk food traditions, food rules. Task: find answers to the following questions (Is healthy nutrition possible in modern conditions? What food do we eat? What are the rules of nutrition? Folk food traditions? (make a poster about healthy nutrition); Planning: it is possible to present the work in the form of demonstration materials on the topic being developed, as well as an oral presentation, for which the Internet will be used. Research: in the lesson, students investigate the current problems of “Quality and healthy nutrition”, students had to independently find a problematic situation on the page of the textbook. During the task, they collect the necessary information on the topic of the project, discuss the progress of the project. After completing the task, work on the preparation of demonstration material and discussion of the research problem should be carried out; Conclusions. At the stage of analyzing information and formulating conclusions, emphasis should be placed on the formation of cognitive skills. Students, with the help of the teacher, analyze their work, check the possibility of implementing the assigned tasks. Pupils publicly defend their research on each subtopic of the project and prove the effectiveness of the methods of solving it. The demonstration of visual materials on the topic of the project was accompanied by an oral presentation.

Summing up, we note that project work should be aimed at forming the ability to find problems and ways to solve them, choosing among the most effective solutions available. When working on projects, students develop skills in collecting and processing information, structuring knowledge, deciding criteria for comparing and

classifying objects, as well as making a performance plan. The most important in project work is the ability to control the process and the result of one's activity.

The next pedagogical condition of ensuring emotional contact between the teacher and students, creating a trusting atmosphere during the use of interactive teaching methods in the lessons can be realized by formulating advice and recommendations to teachers on maintaining discipline in the classroom during the use of interactive methods. For example, “Keep a friendly, major tone, be attentive to each student. Provide the necessary support, celebrate successes, create a cheerful and optimistic mood in the classroom” or “Don't be distracted by minor violations, moralizing”, etc. The importance of implementing these tips and recommendations is aimed at creating a sense of security and psychological comfort in elementary school students during problem-based learning, which serves as a basis for successful implementation of educational activities in lessons within the integrated course “I explore the world”. During the practical application of advice and recommendations to teachers on maintaining discipline in the classroom when involving interactive teaching methods, it is possible to create conditions for the emotional and psychological emancipation of students and the establishment of a kind of emotional “city” between them and teachers.

The third pedagogical condition is giving preference to a visual way of creating problem situations using interactive learning methods. A visual way of creating problem situations should be implemented by selecting and implementing this type of problem situations that can be applied or demonstrated in the real life of students. However, important criteria for the selection of such educational material are: connection of the new material with previously learned material; the possibility of logical division of educational material into clear steps and elementary tasks; existence of a contradiction between basic and new knowledge; willingness of schoolchildren to participate in search activities.

Taking into account the above requirements, we offer to master certain topics through direct educational excursions through the streets of the city, etc. It should be

noted that the use of issue situations in lessons not only contributes to the development of students' mental powers, but also to great interest in learning.

The fourth and last pedagogical condition is the need to create a situation of success in order to form students' own dignity and self-respect, awareness of the individual significance of themselves and others. When implementing the model developed by us, this pedagogical condition should be implemented in the application of differentiated learning during the creation of problem situations in lessons. Because it is much easier and simpler for the teacher to involve advanced students in problem-based learning. Pupils with an average or low level very often remain outside the proper attention of the teacher. The lack and limitation of time to prepare students for the next lesson with the use of problem situations elevates the capable and completely eliminates the mediocre. The implementation of a differentiated approach is carried out by increasing the complexity of tasks and regulating the amount of additional information. In general, it can be noted that an individual approach to students in the process of their performance of problematic tasks is carried out by increasing (reducing) additional information. If necessary, if the students have questions during their implementation of the problematic situation, the teacher conducts ongoing instruction.

Therefore, with the observance of certain pedagogical conditions during the implementation of the model of the development of cognitive activity using interactive teaching methods, elementary school students develop the ability not only to create problem situations, but also to solve them, process and prove the obtained results, which contributes to the general development of cognitive abilities and skills.

Conclusions. The study made a theoretical generalization of the problem of implementing interactive learning methods for the development of cognitive activity of primary school students, which was reflected in the theoretical and methodological justification of the research tasks.

In accordance with the first task of the research, it was found that in pedagogical practice, cognitive activity is considered as an external stimulus for the processes of upbringing and learning, as a means of activating the student's cognitive activity, as an

effective tool of the teacher, which allows making the educational process mobile, differentiated and individual. It has been proven that the cognitive activity of elementary school students involves the development of such abilities as: the ability to analyze, synthesize, compare, generalize, establish cause-and-effect relationships, develop purposefulness, planning, variability, and hypothetically. It was determined that the increased activity of primary school students directs them to search for means of expression, provides a departure from stereotypes, contributes to becoming in a position of active cognition, creation, transformation, and directs them to an independent, creative search for a solution to the problem.

Under the conditions of the implementation of the second task of the research, it was determined that one of the directions of the development of the cognitive activity of students in primary school is the use of interactive technologies and teaching methods. In particular, the use of various information and communication technologies, cooperative learning technologies, project learning technologies and their integration, which is widely used in the educational process of the New Ukrainian School, is of particular importance. It has been proven that the effective implementation of the specified technologies is facilitated by the use of the following interactive methods: collective (cooperative) form of educational activity, work in small groups, microphone, brainstorming, carousel, Brownian motion, unfinished proposition.

Regarding the implementation of the third task, a model of the development of cognitive activity of primary school students using interactive teaching methods was theoretically substantiated and developed. The model includes the following components: goals: development of cognitive activity of primary school students), which illustrate the result of the implementation of the model; content — involves the selection of educational topics and didactic material in accordance with the curriculum and diagnostic results; principles: which include the principle of the fundamentalism of knowledge, the principle of individual and social significance of educational material, the principle of practical orientation of education, the principle of orientation towards the development of students' independence; interactive technologies, namely

ICT, cooperative learning, project activities; interactive methods: collective (cooperative) form of educational activity, work in small groups, microphone, brainstorming, carousel, Brownian motion, open-ended sentence, “Learning together” method, dialogue in organizing group discussions, and the “Owl” method and tactics of their use (“Help”, “Assistance”, “Interaction”); as well as means (educational projects) and forms (individual and group) of training; the last component of the model included a comprehensive diagnosis of the effectiveness of the development of cognitive activity of primary school students and correction of the educational process. Pedagogical conditions were determined for the effective implementation of the model, namely: activation of motivation and interest in the educational process; ensuring emotional contact between the teacher and students, creating a trusting atmosphere; creating a situation of success; giving preference to a visual way of creating problem situations.

The conducted research does not cover all aspects of research on this topic. It will be appropriate to conduct a pedagogical experiment to determine the effectiveness of the model for the development of the cognitive activity of primary school students using interactive teaching methods.