UDC 373.3
IRSTI 14.25.09
DOI 10.37238/1680-0761.2022.87(3).115

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APPROACHES TO THE STUDY OF COGNITIVE ACTIVITY OF PRIMARY SCHOOL STUDENTS

Annotation. This article discusses the theory of cognitive learning in elementary school, the structure of cognitive activity of a student, project examples of the implementation of cognitive activity of students, and their development. The characteristics of the theory of cognition, age, and psychological characteristics of younger schoolchildren, patterns, and principles of development are given. Numerous upgrades and modifications have been made to the primary school system in our nation in light of the successes of the global educational sphere at this time. The state educational standard has been updated and new requirements have been established. The educational standards define learning in the form of personal, meta-subject, and subject results, reflecting the types of activities that students should specifically master in the process of completing the initial level.

The educational process is carried out based on the educational and cognitive activity of students, and based on educational and cognitive activity, the cognitive activity of students is formed. Interest in active cognitive activity develops based on understanding the social essence of education, and the need to accelerate the pace of service to society. The issues of determining the level of cognitive activity of younger schoolchildren, considering the effectiveness of ways to form readiness for project activities were highlighted. On this basis, the relevance of the study of the development of intellectual, personal qualities, and professionally significant skills of students is substantiated. This, in turn, is the result of the unity of cognitive, volitional sensory processes and motives, including cognitive interests and needs of the individual, activity, and curiosity.

Keywords: theory of cognitive learning; cognitive activity; cognitive interest; cognitive search; educational activity; project method.

Introduction

The Republic of Kazakhstan's priority areas for education serve as a justification for the necessity to look for and update creative pedagogical activity in the educational process. The primary education system, has educational programs called "pedagogy and methods of primary education," which give teachers the chance to become proficient in cutting-edge pedagogical technologies while teaching difficult subjects and implementing initiatives to enhance student cognitive orientation. In this regard, the arming of the younger generation with knowledge provides for the improvement of cognitive teaching of academic subjects in such a way that a young generation with high intelligence, deep knowledge, and prospects is formed in the personality. It can be noted that the theory of cognition is reflected in the pedagogical educational process as the main means of teaching.

In the research of Kazakhstani scientists such as (K.K.Zhampeisova, A.A.Beisembayeva, A.M.Muhambetzhanova, G.A.Ergalieva, A.Kalieva, A.H.Arenova) in the field of the theory of cognition, which is at the junction of philosophical, psychological, pedagogical sciences, it is

possible to trace the research of the foundations of the philosophical aspect of a person's opinions and conclusions [1].

At the same time, age and psychological features, patterns, and principles of the development of Primary School students have found their place in the works of L. S. Vygotsky, L. V. Zankov, V. V. Davydov, D. B. Elkonin, S. L. Rubinstein [2].

The term "theory of cognition" was introduced into philosophical science in 1854 through the writings of the Scottish philosopher J. Ferrera. But the question of cognition has been raised for a very long time. After all, there can be neither knowledge nor science outside of knowledge. The theory of cognition is closely connected with ethics, aesthetics, and philosophical teachings about a man. Nevertheless, the theory of philosophical teachings about a man in the aspect of language development retains its significance as an independent section.

The process of cognitive learning of a child at school requires a transition from a tutor to a teacher or a transition from the process of "playing" to the process of "learning". Educational activity forms the mental development of Primary School students. As shown by A. N. Matyushkin, the cognitive need arises when there are opportunities to perform actions to achieve goals, i.e. the need-encourages the child to a comprehensive search, and master new information, forming the necessary solution for him [3].

In the works of H. Heckhausen's cognitive needs, mental activity, which is formed in the student, is activated through the joint influence of teachers of the mass media, parents, fiction, and popular science work.

In several studies, the problem of studying cognitive activity has been considered in the context of creativity. The theory of cognition directly relates to educational activities. The assimilation of knowledge is always connected with cognition. The task of training is to introduce into the student's consciousness the laws of the development of mental processes of nature, society, and the student. Educational and cognitive activity is external cognition to master cultural wealth, organized by the special student himself and accumulated by humanity. Its subject result is scientific knowledge, skills, behavioral model, and types of activities that students master.

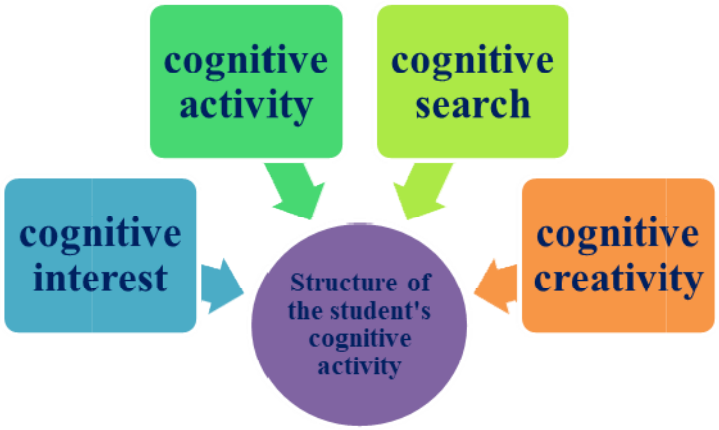

Figure 1 - Structure of the student's cognitive activity.
Compiled on the basis of the work of the author [3]

Since the student is preparing for an important activity in the life of society, his educational and cognitive activity should be a didactic image of future professional activity. Therefore, a student's social and cognitive activity is his desire to determine the path of life [4].

In addition, the features of students' activities include the presence of their own goals and results (mastery of knowledge, skills, and abilities, development of personal qualities); the special nature of the form of education (scientific knowledge, information about future activities, etc.); the systematic flow of students' activities (program, terms of study); the availability of learning tools-

books, laboratory equipment, models of future professional work, technical means, etc. high intellectual load (exams, tests, defense of scientific work, etc.).

L.V.Zankov noted that unjustified simplification of educational material, unreasonably slow pace of its study, and repetitive unidirectional repetitions cannot contribute to the intensive development of schoolchildren. Changes should occur in the deepening of the educational material, in a wide scope of theoretical analysis, generalization, and development of the theoretical outlook of the student. This educational system develops the thinking, and emotional sphere of students, and teaches them to understand and determine the general meaning, and the main content of the material.

The purpose of this article, carried out in line with the problem posed, is to study the important role in enhancing the cognitive activity of students, in which the key role is played by the motivation of the teacher, the logic and consistency of the presented educational material, as well as highlighting the main and important provisions in it. At primary school age, it is useful to teach children to independently highlight the most important things in the teacher's explanation and formulate the most important questions that will be explained in the lesson. Of great importance in the active perception and understanding of the studied material is the ability of the teacher to give his narrative an impressive character, to make it lively and interesting. First of all, it should be remembered that the educational material itself contains many stimuli that awaken students' curiosity and mental activity. These include the novelty of scientific information, the brightness of facts, the originality of conclusions, an original approach to the consideration of formed ideas, and deep insight into the essence of phenomena [5].

According to V. V. Davydov and D. B. Elkonin, the educational process must include the following components:

1. training task.
2. educational activities.
3. Control.

Through these components, the leading role is played by the mental development of the student. Mastering the practical mastery of the theoretical knowledge of elementary school students ("analyzing text information") becomes the basis of future science [6].

N. K. Toksanbayeva highlights the peculiarities of cognitive activity development in the process of primary school education in her introductory work to cognitive activity: the following stages.

The development of cognitive activity in the process of teaching younger schoolchildren is determined by the following features:

- the specifics of the learning process;
- mastering new and interesting knowledge through training;
- learning develops the mind and gives knowledge;
- training takes place together with the group;
- training gives knowledge and literacy;
- learning is manifested based on the individual characteristics of the teacher [7].

Materials and methods

In the methodology of writing the article, the issues of determining the level of cognitive activity of younger schoolchildren in the field, familiarization with the experience of teachers with best practices, and consideration of the effectiveness of ways to form readiness for project activities were highlighted.

The objectives of educational classes in primary schools:

1. Ideal-political, moral and aesthetic education.
2. forming the right attitude to the world.

3. to educate children in a conscientious attitude to work for the benefit of society, morality, respect for each other, honesty and truthfulness, and modesty by familiarizing themselves with exemplary, heroic exploits of adolescents and adults.

4. through acquaintance with materials about the richest, picturesque, and most beautiful nature of our beloved Homeland, to cultivate the ability to notice changes and phenomena occurring in nature, to appreciate unsurpassed beauty and beauty, to appreciate and love your country, earth.

5. the simplest education from the basics of science in the scope of the program.

6. improving the knowledge, skills, and reading skills acquired by children in the classroom, and further developing the language.

7. the introduction of people to the heroic struggle for freedom, peace (literary works, films, etc.), the formation of children's consciousness in the spirit of Soviet patriotism, love for the Motherland, peace, and friendship of peoples.

8. accustoming to conscious discipline, and norms of correct behavior.

9. to foster interest in work, diligence, and high appreciation of work [8].

It is of great importance to increase the creative potential of activating the educational and cognitive activity of students using new technologies in teaching to the requirements of modern society. To a certain extent, there is a need to activate educational and cognitive activities. It requires the implementation of the tasks of educational and cognitive activity based on the relationship of the methodological system (content, methods, forms of learning, learning tools) in the learning process. For its application in the educational process, the following principles must be implemented:

1. special attention should be paid to the creative works of students, which represent a high form of their independent work with the use of new approaches.

2. the use of new pedagogical technologies will increase the educational and cognitive activity of students and form a personality capable of self-education.

-The task of cognitive training sessions is to form children's correct attitude to the world.

-Projects play a special role in the development of the cognitive activity of students. The project is the independent work of students through a set of actions organized by the teacher. A project is a promising model of an object or action. Projects grouped by content:

-mono projects are carried out in one academic discipline or one area of knowledge.

-interdisciplinary projects are carried out based on the integration of similar knowledge in several disciplines.

- supra-disciplinary projects are carried out in elective classes, teaching integrated courses based on data not included in the school curriculum.

-The main tasks of using the project by primary school students:

- Create an environment in which you can freely express your thoughts.

- It is interesting, it is rational to spend every moment of class, finding a way to the student's heart.

- Formation of a personality among students who can freely argue their thoughts, argue their opinion, and not just be a listener of the transmitted information.

-Develop abilities and develop creativity without destroying the student's enthusiasm, creating opportunities for the development of his abilities.

- Influence on the formation of a student as a person [9];

To solve the tasks set, an experiment was conducted to (identify, form, and control) the cognitive and research abilities of younger schoolchildren. Based on experimental work, the process of developing the cognitive and research abilities of students was monitored both during the educational process and during extracurricular activities.

Research results

Experimental research work was carried out in 3 "a", and 3 "b" classes of secondary school No. 1 in Uralsk, West Kazakhstan region. A total of 50 students took part in the experiment. Of

these, 25 students were taken into the control group, and 25 students were taken into the experimental group.

First of all, let's focus on the results of the conducted ascertaining experiment. At the preparatory stage of the research work, we determined the criteria and indicators of the development of the level of cognitive performance of elementary school student: low, medium, and high. Diagnostic manuals were also selected to study the level of cognitive activity of younger schoolchildren. The purpose of the methodology of A. A. Gorchinskaya's " mental flexibility of a younger pupil ": assess the degree of cognitive activity of younger schoolchildren. To carry out this technique, students were asked five questions. Five questions have three possible answers. The student chooses one of the options of the proposed answers. The results are shown in Figure 2.

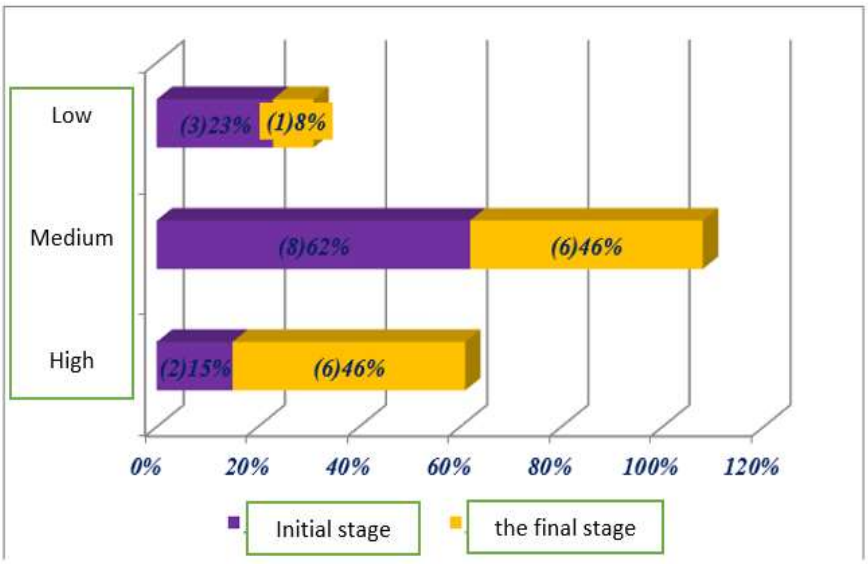

Figure 2 - Dynamics of cognitive activity of Primary School students (initial and final stage)

In the period of formation, we planned to implement project work on the implementation of cognitive learning in elementary school in three areas. It can be seen in Figure 3.

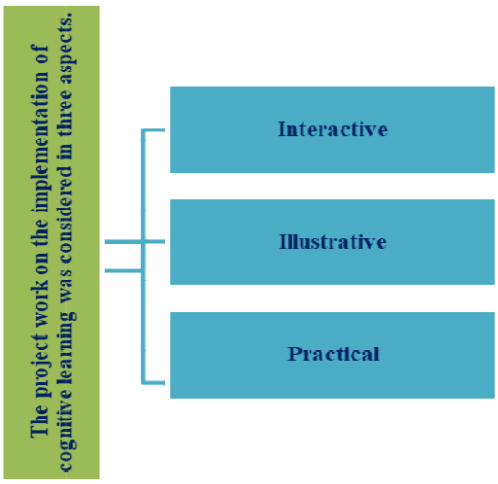

Figure 3 - Three directions of the project work on the implementation of cognitive learning. Compiled based on the work of the author [3]

There were three ways that cognitive training was put into practice.

1) The cognitive process is applied to every student in the class during interactive learning. That is, every child learns his work, ideas, knowledge, and methods of action are constantly exchanged. Along with gaining new knowledge, the learner also strengthens their cognitive abilities.

2) during the illustrative training, the child demonstrates various drawings, posters, and patterns on tables, paintings, and boards.

3) Students receive research assignments throughout practical training. Through their unique work, students may demonstrate their cognitive perspective.

In this, we see the need to improve cognitive thinking and free writing by students of their thoughts. Priority in the development of the cognitive activity of students was given to interactive methods and techniques.

The following cognitive tasks were given in the illustrative direction:

Task No. 1 What types of work would you do if you were a jeweler? Draw. Passed by the method of "pictures speak".

Goal:

Here, students imagine the products they make when they become jewelers by photographing them.;

Develop a child's imagination;

Orientation to the comprehensive study of the child.

The result: the cognitive level increases by studying what you are doing. Formulate the reason for the creation, the meaning of the object, from which material it is better to make, to whom to give, every detail of it, etc. generalize your thoughts, express your drawings;

Task #2 by link (2:22) https://youtu.be/x-pPPz3WU7A after watching the video, tell us how to save your figure or write down your thoughts on paper. A journey into a fantasy world."

Goal: "to develop students' horizons by posing a question, studying a problem, and freely transmitting the game;

Orientation to the formation of personality;

Ability to freely express your thoughts, and opinions;

Students will learn attention to their health by watching the cartoon "the right sculpture". Creates rules in the care of personal health, working individually.

Task #3 https://www.youtube.com/watch?v=6yAEa7KLv-o write down your feelings during the performance of the song "Onerli Bala".

Goal:

Thinking with imagination;

Get used to the meaning of each word:

An artistic child reveals his cognitive abilities by imagining an image. Gives meaning to the words of the song, and forms the skill of writing, and systematization of thought, including fantasy.

Task # 4 https://youtu.be/WCUUT4oHAlI watching the cartoon "art", expressing your thoughts. The "Kinometaphora" technique shows an excerpt from a video on the same issue.

The following cognitive tasks were given in the interactive direction:

Task No. 1 share your opinion about what Ibrai Altynsarin said about art and education. (The "minute thought" method) students can digest a thought by talking to each other, group work takes place.

Define and write down the main idea in the text. (The "free song" method) can analyze his thoughts from what he has read. He can reflect on his position on the problem. Can think creatively. In the process of cognitive activity, communication skill increases. Reading, listening, and writing skills are being formed.

The following cognitive tasks were given in the practical direction:

Dedicating the notebook "I am a researcher", students contributed to the disclosure of their personal qualities, stimulating such natural phenomena as curiosity, the desire for observation, and independent experiment. Scientific projects on the topic were awarded. It was carried out under the guidance of a teacher. In addition, his research allowed him to develop intellectual and research skills. With the help of independent research, students sought to learn about the world around them, and independently discover new knowledge, without receiving it.

Results of the final experiment:

To assess the effectiveness of the conducted experimental research work on the development of the cognitive activity of younger schoolchildren with the help of project activities, repeated diagnostics of students of the 3rd "b" class were carried out according to the methodology of A. A. Gorchinskaya "cognitive activity of a younger student" to determine the level of formation of cognitive activity.

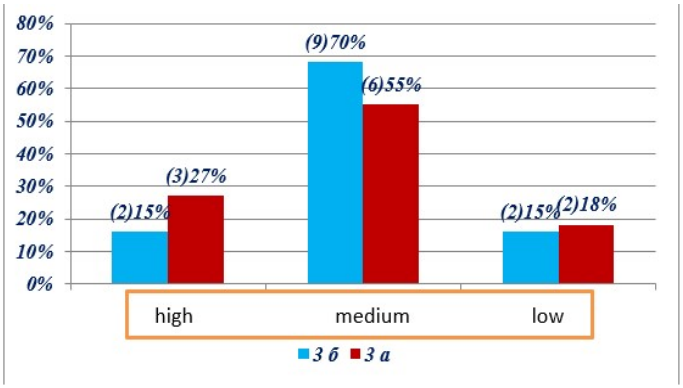

Figure 4 - The level of formation of cognitive independence of Primary School students

Figure 4 shows the rapid changes in the level of development of cognitive activity according to the method of A. A. Gorchinsky's "cognitive activity of younger schoolchildren". Data analysis reveals a rise in the level of cognitive activity generation. Thus, in children with low and medium levels of cognitive activity, there was a decrease. Children with high levels of cognitive activity have become more prevalent. And the experiment with the control class, even as a result of the difference between the class, the percentage of positive results in the experimental class is high. Thus, defining approaches to the study of the theory of cognitive learning in primary school, it is possible to note the effectiveness of project work on the implementation of experimental and exploratory cognitive training conducted to develop the cognitive activity of younger schoolchildren.

Using the study's findings as a foundation, we may discuss the efficacy of experimental research studies conducted to enhance younger students' cognitive activity through project-based learning.

Conclusion

Thus, during the analysis of the examination results, the low cognitive activity of students was revealed. The vast majority are characterized by an average and low level. You can see a low level of critical thinking, and student search. In most cases, it can be noticed that when performing a task in a textbook, it is not analyzed cognitively.

In addition, during the pilot work, we encountered several problems:

- low level of independent work of students in the learning process;
- not reading the task from beginning to end, not understanding the given text;
- not using the skills necessary for search and research activities during the experiment;
- Inability to use the acquired knowledge, skills, and abilities in life:

Many of these problems contribute to the formation of cognitive activity of younger schoolchildren and can lead to a decrease in educational motivation. All this indicates the need to organize research activities for the development of cognitive skills. This, in turn, implies improving the interest of younger schoolchildren using project activities.

During the experimental search work, we took the design method as a basis. This method reflects the student's independent creative search, the depth of knowledge acquisition, and the creative development of the individual. The level of a student's attitude to the learning process is determined. The ability to work in a team and the ability to take responsibility for the quality of the work performed is manifested. Students show educational initiative and independence. This, in turn, leads to the formation of their personality, capable of actively acting in modern life.

The organization of project activities within the framework of experimental research work on the development of cognitive interest of younger schoolchildren is aimed at the formation of the following components of cognitive interest:

1. emotional-realized in the student's interaction with other people in the process of assisting.

2. intellectual-manifests itself in the analysis, comparison, and generalization of the information received.

3. the creative component is the ability to combine different types of activities.

Based on the results of our analysis, we determined the initial level of development of the cognitive activity of students. Based on these data, we selected special methods and directions for the formation of cognitive activity of younger schoolchildren in the learning process [10].

Thus, cognitive development is qualitative and quantitative changes in the formation of a person as a whole, and separately-anatomical and physiological maturation, maturation of the nervous system, the emergence of feelings and moral impulses, the restructuring of mental processes, the formation of attitudes to the world, the manifestation of activity and independence, attitude to certain behavior.

A person's mental abilities develop through the influence of the external world on the senses, through the training of the senses. Taking into account the age characteristics of children in the implementation of cognitive learning in primary school leads to the successful and effective conduct of educational work: age and individual characteristics, their characteristics, attention, perception, memory, thinking, imagination, feelings, will and personal qualities; teaching children the ability to listen, accurately perform simple tasks.

The cognitive attention of children by age characteristics is brought up by the ability to observe objects and work with them (make words out of letters). When kids view images or hear a narrative or a fairy tale, their attention is more stable. The elements of the game used in the classroom, productive activities, and frequent changes of activities help to form children's cognition.

REFERENCES

[1] Programma Prezidenta Respubliki Kazahstan ot 20 maya 2015 g. «Nacional'nyj plan – 100 konkretnyh shagov po realizacii Pyati institucional'nyh reform» [Program of the President of the Republic of Kazakhstan dated May 20, 2015. "National Plan – 100 concrete steps to implement Five institutional reforms"] [in Russian].

[2] Babaeva S.B. Pedagogika nachal'nyh klassov [Pedagogy of primary school] Almaty: "Legal literature" [in Russian].

[3] Latypov, K.A. (2015) Latypov K. A. Poznavatel'naya deyatel'nost' uchashchihsya nachal'nyh klassov. [Cognitive activity of primary school students] M.: Eksmo [in Russian].

[4] Bratchenya, L.V. (2005) Razvitie poznavatel'nyh interesov uchashchihsya [Development of cognitive interests of students] Razvitie sistemy obucheniya i vospitaniya odarennyh shkol'nikov:

dop. nauchno-prakticheskaya konferenciya, 25 noyabrya 2005 g. Gucanovich S.A. (Ed.). - Minsk: NIO, 200-203. [in Russian].

[5] Korotaeva, E. (2000) Vidy vospitatel'noj deyatel'nosti: pedagogicheskaya taktika i strategiya [Types of educational activities: pedagogical tactics and strategy] School director. *9, 75-80.* [in Russian].

[6] Zajceva, I.A. (2005) Formirovanie poznavatel'nogo interesa k obucheniyu kak razvitie tvorcheskih sposobnostej cheloveka [Formation of cognitive interest in learning as the development of creative abilities of a person.] 124 p. [in Russian].

[7] Kalmykova, Z.I. (1979) Psihologicheskie osnovy razvivayushchego obucheniya [Psychological principles of developing learning]. - Moscow: Znanie, 48 p. [in Russian].

[8] Firstova, S.M. (2015) Problemy nizkoj obuchaemosti mladshih shkol'nikov [Problems of low learning ability of younger schoolchildren] Moscow: Eksmo, P.102 [in Russian].

[9] El'konin, D.B. & Vengera, A.L. (2016) Diagnostika uchebnoj deyatel'nosti i intellektual'nogo razvitiya detej [Diagnostics of educational activity and intellectual development of children] collection of scientific works. - Moscow: NIOPP, p.230. [in Russian].

[10] Galalieva, G.A. & Tapaeva, L.S. (2021) Podgotovka uchashchihsya k mezhdunarodnym issledovaniyam PIRLS cherez poznavatel'noe obuchenie na urokah kazahskogo yazyka v nachal'nyh klassah» stat'ya [Preparing students for international PIRLS studies through cognitive learning at Kazakh language lessons in primary grades" article] Nauchno-metodicheskij zhurnal Daraboz, *6, 24*. [in Russian].

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ПОДХОДЫ К ИЗУЧЕНИЮ ПОЗНАВАТЕЛЬНОЙ ДЕЯТЕЛЬНОСТИ МЛАДШИХ ШКОЛЬНИКОВ

Аннотация. В данной статье рассматривается теория познавательного обучения в начальной школе, структура познавательной деятельности школьника, проектные примеры реализации познавательной деятельности учащихся, их развитие. Дана характеристика теории познания, возрастных и психологических особенностей младших школьников, закономерностей и принципов развития. С учетом достижений мировой образовательной сферы на современном этапе в нашей стране внесен ряд обновлений и изменений в систему начального образования. Обновлен государственный образовательный стандарт и установлены новые требования. Образовательные стандарты определяют обучение в виде личностных, метапредметных и предметных результатов, отражая виды деятельности, которыми учащиеся должны конкретно овладеть в процессе прохождения начального уровня.

Учебный процесс осуществляется на основе учебно-познавательной деятельности учащихся, а на основе учебно-познавательной деятельности формируется познавательная деятельность учащихся. Интерес к активной познавательной деятельности развивается на основе понимания социальной сущности образования, необходимости ускорения темпов служения обществу. Освещены вопросы определения уровня познавательной активности младших школьников, учитывая эффективность способов формирования готовности к проектной деятельности. На этой основе обосновывается актуальность изучения развития интеллектуальных, личностных качеств, профессионально значимых умений и навыков студентов. Это, в свою очередь, является результатом единства познавательных, волевых, сенсорных процессов и мотивов, включающих познавательные интересы и потребности личности, активность, любознательность.

Ключевые слова: теория познавательного обучения; познавательная деятельность; познавательный интерес; познавательный поиск; учебная деятельность; метод проектов.

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БАСТАУЫШ СЫНЫП ОҚУШЫЛАРЫНЫҢ ТАНЫМДЫҚ БЕЛСЕНДІЛІГІН ЗЕРТТЕУ ТӘСІЛДЕРІ

Аңдатпа. Бұл мақалада бастауыш сыныптағы танымдық оқыту теориясы, оқушының танымдық іс – әрекет құрылымы, оқушылардың танымдық белсенділігін, артттырудағы жүзеге асырудың жобалық жұмыс үлгілері қарастырылған. Таным теориясы, бастауыш сынып оқушыларының жас және психологиялық ерекшеліктері, даму заңдылықтары мен принциптеріне сипаттама берілген. Елімізде қазіргі кезеңдегі әлемдік білім саласының жетістіктерін ескере отырып бастауыш білім беру жүйесінде бірнеше жаңартылулар мен өзгерістер енгізілді. Мемлекеттік білім беру стандарты жаңарды және жаңа талаптар қойылды. Білім беру стандарттарында бастауыш буынды аяқтау барысында оқушылардың нақты меңгеруі қажет іс-әрекеттің түрлерін көрсету, жеке, метапәндік және пәндік нәтижелер түріндегі оқыту анықталды.

Оқу үрдісі оқушылардың оқу-танымдық әрекеті негізінде жүзеге асады, ал оқу-танымдық әрекеті негізінде оқушылардың танымдық белсенділігі қалыптасады.Белсенді танымдық іс-әрекеттің көздейтін мүддесі білімнің қоғамдық мәнін ұғыну, қоғамға қызмет ету қарқынын үдету қажеттілігі негізінде дамиды. Бастауыш сынып оқушыларының танымдық белсенділік қабілеттерінің деңгейін анықтау, жобалық жұмыстарға баулуды қалыптастыру жолдарының тиімділігін қарастыру мәселері қамтылды. Осының негізінде оқушылардың оқу-танымдық іс-әрекеті жеке тұлғаның танымдық қызығушылығы мен қажетсінуін, белсенділігі мен ізденімпаздығын қамтитын танымдық, еріктік сезімталдық үрдістер мен мотивтері бірлігі нәтижесінде оқушылардың интеллектуалды, жеке қасиеттерін және кәсіби маңызды біліктерін дамыту зерттеудің көкейкестілігін дәлелдейді.

Кілт сөздер: танымдық оқыту теориясы; танымдық белсенділік; танымдық қызығушылық; танымдық ізденіс; оқу іс-әрекеті; жобалық әдіс.