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Formation Of Independent Information Search Skills Based On Heuristic Learning Technologies

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Abstract: Today, this article describes the content of forming the skills of critical thinking and independent search of information, development of educational activity and intellectual creativity of primary school students on the basis of heuristic educational technologies.
Key words: Heuristic function, creative activity, flexibility of thinking, heuristic education, information transfer, criticality, development, learning activity, activity

Evristik Ta’lim Texnologiyalari Asosida Axborotlarni Mustaqil Izlash Ko‘Nikmalarini Shakllantirish

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Annotasiya: Ushbu maqolada bugungi kunda evristik ta’lim texnologiyalari asosida boshlang‘ich sinf o‘quvchilarining tanqidiy fikrlash va axborotlarni mustaqil izlash ko‘nikmalarini shakllantirish, o‘quv-bilish faolligini rivojlantirish mazmuni va o‘quvchilar intelektual ijodkorligini mohiyati bayon etilgan.
Kalit so‘zlar: E*vristik funksiya, ijodiy faoliyat, fikrlashning moslashuvchanligi, evristik ta’lim,axborot uzatish, tanqidiylik, rivojlanish, o‘quv-bilish faolligi, faoliyat*

The continuous education system formed in the Republic of Uzbekistan serves to ensure the effective organization of the process of training a competent person and a qualified specialist. Development of educational activity of elementary school students based on heuristic educational technologies in the

continuous education system, taking into account the special emphasis on the development of critical thinking, independent information search and analysis competencies and skills, modern innovative The problems of using information technologies are becoming one of today's tasks.

The purpose of study is to prepare the young generation for an independent life related to work, filled with creativity and initiative, using the project method and strengthening them in practice, improving work skills and abilities by developing students' creative abilities, classroom , formation of stable interest in the studied subject through extracurricular activities.

The state's modern policy aimed at the production of technologically advanced, knowledge-demanding, competitive products in the world market creates a basis for revising the educational process, setting new tasks for the younger generation. The manifestation of these trends is manifested in the opening of large technological parks, orientation to technological production, approval of programs for the development of the state economy, and, as a result, in the formed concept of modernization of general secondary education. The main goal of modernization of education is to prepare a qualified specialist who is competitive in the labor market, able to work effectively based on world standards, ready for creative growth, and who meets the needs of everyone to obtain relevant information.

Thus, the direction of education has changed: from the accumulation function (for the formation of a certain level of knowledge of the student) to the ability to acquire new knowledge, adapt to modern socio-economic conditions, and develop after studying is becoming a function of personal development that allows for continuity and is viewed in terms of continuous development.

The main goal of improving the educational process is to attract the attention of students, to increase their interest in solving educational problems and later applying the acquired knowledge.

Thus, today, the use of "Heuristic education" technologies in the development of learning activity of elementary school students is becoming an important tool in forming students' skills of critical thinking and independent search for information. Among many innovative methods of teaching, heuristic education stands out, its prototype is the method of questions and reasoning created by the Greek scientist Socrates, in other words, the use of methods he called "Socratic irony". It is known that the ancient Greek philosopher led his students to the true judgment of scientific hypotheses through the dialogue method. In

this, he first asked a general question and after receiving an answer, re-entered a clarifying question until he received a final answer, and so on [2].

The increasing flexibility of modern pedagogy allows teachers to use many methods.

One of the most popular innovative methods of teaching is heuristic learning. Heuristic, translated from the Greek Heuristic, means "I open", "I find". Heuristic education is aimed at forming diagnostics and awareness in the process of determining the student's own activities, in the form of forming goals, in the content of education and in the process of its organization. The student's personal experience becomes a component of his education and becomes the basis for the creation of educational content.

The integral purpose of heuristic education is to help the student to develop the unique content, goals and creative formation of education.

Heuristic activity is often related to creative activity, which includes the creative process of creating educational products. Heuristic activity provides organizational, psychological, methodological, creative and cognitive activity [2].

The result of the student's creative activity is one of the types of activity that cannot be predicted at all, and as a rule, the result depends on the personality of the student.

The final goal of heuristic education is not the acquisition of specific knowledge, but the student's creative self-awareness. Accordingly, the child's creative achievements in this field are not evaluated.

Nowadays, heuristic learning is often confused with problem-based learning, but there are significant differences between these methods. According to the cognitive task, there is a problem, a clear solution or at least a direction of the solution, which the teacher poses to the child in problem-based education. An open-ended task in heuristic learning does not contain a correct solution, and the result is not always predictable for the learner or the teacher [3].

The task of problem-based education is to transfer the experience of the teacher to the student in a non-standard way, for example, by formulating a cognitive problem. Heuristic education involves the creation of personal experience by the student. In such conditions, problem-based learning serves as a preparatory stage for heuristic learning, that is, before creating his own product, the student must learn how to create it. It helps him solve cognitive problems.

Heuristic learning can be used in teaching almost any general education subject, the main thing is to create a high-quality open-ended task. Naturally, heuristic education cannot completely replace traditional education, but it makes it possible to use it as an addition to traditional methods to develop the student's creative ability. It allows the student to acquire knowledge independently by practice and error, by trial and error, rather than forced acquisition [4].

In the personality development system, the heuristic method is focused on organizing students' activities aimed at finding a solution to the problem. This process of activity is common with the logical laws of researching the development of learning activity of elementary school students based on heuristic educational technologies, and it is characterized not only by the theoretical, but also by the empirical level of education.

Scientific intuition is crucial in moving from evidence and numbers to accepting scientific hypotheses, as well as from theoretical conclusions to practical testing. Intuition, its connection with logic, the problems of determining its place in the origin of ideas of creativity are complex, and it can be said that it has not been fully resolved so far. We have analyzed the definitions given to intuition in the literature, including in the psychological dictionary it is defined as "the process of finding a solution to a problem in a situation that is not logically connected or is not sufficient to draw a logical conclusion" [5]. The nature of intuition in the definitions given in this and other literature, interpreting the basis of its formation from the point of view of research, intuition - arising in an unconscious state based on the experience and knowledge accumulated by the subject on the questions and problems put to him in his mind. we looked at the answers [5].

The analytical method of solving creative problems involves building a mathematical model of the problem to find a solution. In this case, the accuracy of the solution is evaluated by the degree of proportionality of the object or process indicators to the indicators of the model developed for its study. In order to adapt the given group of methods of researching creativity issues to the activities of students, it is necessary to simplify the ways of their implementation and use them as a common set of methods belonging to both groups.

Summing up the analysis of scientific and theoretical works on the formation of students' creativity qualities, it can be said that the researchers have conducted research on the general aspects of creative activity, periods of implementation, methods, and features of the thinking process. However, they have not studied

the qualities of a person who performs creative activities, ways of improving information supply, and the stages of preparing a person for creative activities in the state of a single system. According to the current state of creative activity, it can be noted that without introducing modern pedagogical and information technologies in gathering, processing and receiving the latest information, information and knowledge required for the development of a new technical solution, the field has been developed at the level of world requirements. Not

According to Ye.G. Romysyna, "living in the shadow of paradoxes" (creating a creative situation, understanding the problem, knowing the contradictions in existence), "connecting the unconnected" (the heuristic stage - the development of ideas birth, thinking, synthesis of the new), "check, is the foundation strong?" (completion stage - new grounding, control and implementation, implementation) is a characteristic description of the stages of creative activity. An important place in the list of qualities of a creative person given by experts is the following: the ability to see the unconventional in the unconventional, the art of looking at the ordinary with a different perspective, the ability to overcome imbalances, the ability to feel something new , ability to cope with contradictions, have a sense of humor, intuition, sharp mind, mental mobility, freedom of thought and courage, ability to synthesize and analyze ideas, ability to stand in one's opinion , the ability to take risks [4].

Elementary and algorithmic levels serve as criteria for determining productive (creative) knowledge and skills. The technological process that helps determine these levels of mastery can be called executive technology[4]. The level of activity aimed at memorizing the learning material and creating skills requires combining the reproductive and productive activities of students. This situation is realized by the application of problem-developing technology to the organization of the educational process. The organization of the educational process based on this technology should teach students to analyze the educational material, participate in classes with their own independent thoughts, actively participate in discussions and business games.

When the educational process reaches the heuristic and subsequent creative levels, it is possible to use methods such as high-level problem-based, problem-developmental education, tasks analyzing situations, business games, as well as independent work and problem-based educational tasks.

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