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THE IMPORTANCE OF USING THE PROBLEMATIC TEACHING METHOD OF PHYSICS

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Annotation. In this article, the model of problem-based learning in the learning process is designed for students' thinking and consists in creating a problem situation in the minds of children with the formulation of tasks in learning; finding ways to solve the task, expressing hypotheses; applying the chosen method, a hypothetical task to perform; consolidating knowledge by making a conclusion on the completed task, applying the conclusion in practice

Keywords: problem model of learning, passive, active, differentiation, synthesis, comparison, directive, analysis and synthesis, comparison, generalization

As a result of the change in society from year to year, changes in pedagogical processes are in low demand. It remains to be seen that the traditional method of teaching is currently unable to provide sufficient levels of knowledge. The preparation of the individual for life is starting to consist of basic practical work. Currently, there is a focus on educating a person who is free-thinking, bold, mature, has management skills, while advancing ideas towards himself and towards other people. To this end, pedagogy should be the science of educating, giving knowledge and teaching people, a discipline that has become a pedagogical process that guides them to develop their personal creativity.

Currently, in personality-oriented education, the main person is a teacher. One of the main goals is considered a cultured person. A free person is meant to be creative. The main thing in the formation of such a personality is determined by the desire for the future, the presence of self-confidence and the possibility of personal achievements, which his potential inierkin can realize.

Creativity kata plays a role in personality formation. Creativity is treated as an orientated upbringing and training as a subject in the satisfaction of the process and demand of an individual's promotion in the upbringing of an individual. The formation of creative thinking in students is today considered one of the main issues in education. Striving to show its capabilities is an initial guiding state. This, in turn, is manifested in all forms of human life. The field of creative thinking is theoretically based, as a result of the research of many foreign, native pedagogues vapsychologists. At the same time, work continues to be aimed at further exalting this Hussite. Much attention is paid to clarifying the mechanisms of creative activity and determining the nature of creative thinking. Educators and psychologists researching in this area distinguish the following basic conditions that affect the formation of creative thinking.

- individualization of Education.

Received: October 04, 2023 / Revised: October 30, 2023 / Accepted: November 18, 2023 / Published: December 18, 2023

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- method of teaching research.
- problem training.

One of the main reforms in the educational process in our republic is aimed at further improving the quality and effectiveness of Education. The introduction of new teaching methods into the teaching process, on the basis of new pedagogical technologies into the process of teaching subjects, it is possible to show the work aimed at using information technology. This in turn occupies a special place in the formation of a creative thinking, highly knowledgeable reader, as noted above. Particular attention is also paid to the creation of these technologies when teaching physics in order to ensure continuity and continuity of Education. A special place is occupied by the correct choice of teaching methods when creating lesson technologies. In the educational process, at the same time in the teaching of physics, teaching methods are divided into several groups. One of these methods is problematic teaching. The difference between the method and the traditional method is that in the traditional method, usually the learner's learning is systematic and his memory is developed, but little attention is paid to activities aimed at developing thinking skills. In problematic teaching, these shortcomings are eliminated, in which the thinking activity of the student is activated, his interest in knowledge is formed. In teaching physics, the idea of using the problematic teaching method, among other subjects, was practiced much earlier.

The theoretical basis for the practical application of problem teaching has been studied much earlier by foreign educators. The imposition of a problem in teaching was considered as one of the main laws of the formation of mental activity of students. As a result of popularization, the use of the problematic teaching method in general secondary schools has expanded into the higher education process, the special schools. Methodists who have carried out methodological work on the use of the problem teaching method believe that problem teaching is an activity in which students should study the entire material with an independent solution to the problem posed in the educational material and not acquire new knowledge, but carry out activities together with the teacher in it. The process involves the teacher's explanation, reproductive activity with students, the imposition of the issue, and the students' exercise. But the organization of the educational process will be based on problematic teaching, and the problem of the imposed training will be systematically solved. Teaching in such a form is considered one of the main characterizations of problem teaching.

The problem may be questions about this-assignment, issue, theory or practice.

Problem teaching is such a manifestation of teaching, in which the lesson is organized in relation to the independent research activities of students, as a result of which they acquire new knowledge, develop general abilities, increase research activity, form creative learning. In such teaching, slow teaching leads to the focus on the object, the desire to master the subject leads to the fact that it is not afraid of the difficulties encountered in the process of reading. Solving problem issues plays an important role in problem teaching. In the imposition of problematic issues, the reader understands its meaning, while feeling the difficulty of physical processes. The desire to find a solution to the problem, even if there is not enough skill in performing the mathematical actions used in solving the problem, awakens him to think. When the problem posed is inventive, the inventor is replaced by hayolan, feeling the satisfaction generated by mental labor. When solving such issues, it provides an

opportunity to compare the results obtained with those given in the theoretically studied material, draw conclusions, think about what error was allowed if the results obtained did not match. Responding to a problematic issue posed at this point also leads to positive results. If the reader, on the basis of his theoretical knowledge, solves the issue and does not coincide with the answer, he again switches to thinking and begins to reanalyze the solution of the issue, as a result of which he will notice a very large internal satisfaction if he is able to find the error he made. As already said, confidence begins to form that difficulties can be overcome. Problematic questions can also be used in problem teaching.

Problem questions-they are such questions that with the help of them form a problem. Problematic questions and problematic issues are characteristic of the object of thinking. The question can enter into the structure of a problem issue, as a function of its requisition, can manifest as an independent form of thinking, can appear to require a separate problematized opinion. Problem questions differ from questions in the form of information. Such questions will be aimed at solving opposite situations, looking for the unknown, acquiring new knowledge. The achievement of the student in intellectual development is carried out in classes. The teacher is realized when he works face to face with his shogirts. Through the skill of the student, his interest in studying. The systematic organization of the student's cognitive activity will be associated with his skills and the level of interest in studying. At the same time, the level of knowledge, constant readiness for independent education, that is, their intellectual development, is also considered important. These cases are also confirmed by modern pedagogy and psychologists. It is recognized by most scholars that problematic teaching plays an important role in the rise of students' creativity and the increase in their intellectual knowledge. Creativity is achieved through thought activity.

Theoretical foundations of problem teaching.

An important indicator of the comprehensive and harmonic development of an individual is a high level of thinking ability. If teaching is aimed at enhancing creative abilities, then it can be called developmental training. In the process of such teaching, the teacher tries to develop thinking based on the laws of cognition. Mahsus carries out goal-oriented work using pedagogical tools, that is, aimed at students' thinking skills and requirements for knowledge. Such training is considered problematic training.

The goal of activating students' activities with the help of problem teaching is that they learn to analyze, compare, synthesize, generalize, concretize the material being studied, and therefore receive new information as a result. In other words, it is considered the expansion and deepening of knowledge, which is either with the help of previously studied knowledge or by applying the previous knowledge to a new state. The application of advanced knowledge to a new state cannot be given by either a teacher or a book. This is considered one of the new methods of teaching and is called the research method.

Mental search is a difficult process, it usually begins with problematic situations, problems. Such training is also called problematic training if the purpose of the search is aimed at solving theoretical, technical, practical educational problems. The difference between traditional teaching and problem teaching can be seen in two moments. They are seen in the setting of the educational goal and in the principles of organizing the pedagogical process.

The purpose of problem teaching is not only to master the results of scientific knowledge, systematize knowledge, but at the same time it will be aimed at studying the ways of the process of obtaining these results, the forms of independent acquisition of knowledge of students and their creativity skills.

The goal in traditional teaching is to master the results of scientific knowledge, to arm students' knowledge with the basics of science, to bring them to have knowledge and skills, respectively.

On the basis of the purpose of organizing the problematic teaching process, the principle of research into the educational and cognitive activity of the student, that is, the principle of opening conclusions in the discipline, methods of action, will be aimed at creating innovations through established knowledge into practice. The tasks of the teacher in using the problematic teaching method are that in this he explains the difficulties, the necessary ones, systematically creates problem situations, tells the students facts and organizes educational and cognitive activities. Students independently draw and generalize conclusions as a result of the analysis of facts, form concepts, laws with the help of a teacher. As a result, students develop the skill of performing mental operations and actions, the skill of applying knowledge, attentiveness, execution of actions, the imagination of will creativity increases. The activity of the teacher in the formation of a system of problem States. Lays out the teaching material and manages the activities of students, teaching them in the traditional way or independently in the laying of educational problems.

Problem teaching-in the context of problem situations through the teacher's explanation, independent analysis of problem situations, formulation of the problem and solving its solution using the ideas put forward, hypotheses and their justification and proof, while checking the correctness of the solution.

Problem situations are when a person falls into intellectual difficulties. In this, a person cannot explain the process that is formed at once. This in turn encourages the person to find new ways to find the problem or to find new ways to explain it.

Problem situations are characterized by the laws of creative, creative cognitive activities. The full cycle of mental activity from the formation of problem situations to the discovery of its solution consists of several skirts.

1. Derivation of the problem situation;

2. By finding ways to solve, making suggestions and substantiating hypotheses or by resourcefulness;

3. Hypothesis proof;

4. Checking the correctness of the solution to the problem;

General functions of problem teaching

- To assimilate the system of knowledge of students and the paths of mental practical activity.
- the development of conscious independence and creativity abilities.

Special functions of problem teaching.

- training knowledge acquisition creativity skills.
- training the skills of creativity in the application of knowledge.
- formation of the acquisition of experiences of creative.

Problem education and problem situation are of particular importance in the teaching system as an active, method that directs students to active thinking. It is advisable to dream of the present-day teaching process, which is structured taking into account the harmonization of the principles of problem learning by problem education.

References.

1. Makhmutov M.I. Organization of problem-based learning at school. Book for teachers. M.: “Enlightenment”, 1977.
2. Odintsova N. Teaching theoretical methods of research 10th grade. // “Physics”, supplement to “PS”, No. 16/2002, p. 6-8.
3. Pavlova M., Lyubushkina L. Physical experiment - a way to develop creative thinking // “Physics at school”, No. 1/2006 p. 14-20.
4. B.Mirzaxmedov, N.G‘ofurov and others. Theory and methodology of teaching physics Tashkent-2010
5. M.Djoraev Fizika o‘qitish metodikasi. Umumiy masalalar, T.: 2013
6. Sultonov, R. R., Isomaddinova, U. M., & Sharifboyev, A. (2023). Kuch momenti richag va uning muvozanat sharti mavzusini o‘qitishda interfaol usullardan foydalanib darsni tashkil etish. Interpretation and researches, 1(1).
7. Rustamovich, S. R., & Mamurjonovna, I. U. (2022). Problematic educational models in the learning process. Open Access Repository, 8(11), 298-300.