

USE OF PROBLEM SITUATIONS IN THE EDUCATIONAL PROCESS

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Abstract: the content of problematic learning technologies in the educational process is described in detail, and issues of developing the creative abilities of students during the educational process are also presented.

Key words: technology, problem-based learning, problem situation, management, creative task, technical and technological situation.

It was implemented in the teaching of technology science through problem-based teaching technologies to students in the educational process. When problem-based teaching technologies are used in technology classes, students' independence increases and plays an important role in the development of their creative thinking.

The science of technology is integrated into the content of mathematics, drawing and physics, and various problem tasks are encountered during the training. The methods of monologue, reflection and discussion, and dialogic presentation are used to reveal the essence of the educational material in the teacher's theoretical training.

Through the method of monologue, the teacher reveals the essence of new concepts, the content of facts, and presents the ready-made conclusions of science to the students.

In the process of thinking and discussion, the teacher conducts the training in the form of a conversation-lecture in order to explain the topic.

In the method of dialogic presentation, the teacher communicates with the students in the group and poses a problem, and with the participation of the students, its solution is found.

The method of heuristic creative assignments is effectively used in conducting practical

training. New rules and regulations are summarized by the students under the guidance of the teacher. This method was implemented by solving problematic issues and tasks related to heuristic conversation.

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In practical training, the method of research tasks related to the general structure of technical objects, the principle of operation, comparison, comparison, analysis and synthesis is used. Problem tasks of a theoretical, abstract and practical nature of a creative level are set before the learner, that is, the teacher of the science of technology conducts independent practical training and organizes classes. Undoubtedly, he encounters problematic situations in such a pedagogical process and finds a solution to the problem under the guidance of the teacher in cooperation with the students.

The learner develops a new understanding and a new way of thinking through independent logical thinking. Possibilities of effective use of the following methods aimed at activating the student's thinking ability in the educational process were studied.

“FSMU” technology is used to solve controversial issues, conduct debates, or after learning a section based on the curriculum, this technology allows learners to defend their opinion, think freely and teaches students to communicate their ideas, to debate openly, and to analyze and evaluate what they have learned in the learning process.

“FSMU” technology is carried out in several stages:

Stage 1. The teacher determines the problem to be discussed and informs that each student will work individually first, then work in small groups, and finally work as a team at the end of the lesson.

Stage 2. Papers with 4 stages of FSMU technology are distributed to each student:

(F) – Express your opinion.

(S) - Give a reason for your statement.

(M) – Give an example that explains (proves) the stated reason.

(U) – Summarize your opinion.

Stage 3. After each student has completed their papers, the teacher divides them into small groups and distributes large-format papers with 4 stages of FSMU technology written on each group.

Stage 4. The groups summarize the 4 stages of the FSMU and prepare for its defense.

Stage 5. Small groups defend their generalized opinions.

Stage 6. The teacher concludes and expresses his reaction to the expressed opinions.

The "Brainstorming" method is an important method of activation, in which the idea attracts all participants of the group equally. The teacher selects a topic or question, and then the learning activity is facilitated within a time limit of 5-10 minutes. Brainstorming is used in different ways, for example, to discuss a topic, to ask a new question or to solve any problem.

Cluster method - helps learners to study a topic in depth and teaches students to freely and openly link a concept or a specific idea related to the topic in a coherent sequence. This method encourages students to consolidate the previous topic, master a new topic, generalize it, and express their ideas on this topic in the form of a drawing.

"Working in small groups" method is a method that requires students to be divided into small groups and develop ways to solve the given task in order to perform a certain task assigned by the teacher. When this method is used, students work in small groups, actively participate in the lesson, take the role of leader, learn from each other and appreciate different points of view.

When using the method of working in small groups, the teacher has the opportunity to save time compared to other non-traditional methods. Because the teacher can attract and evaluate all the students at the same time. This method is often used in practical training and educational efficiency is achieved.

"Role-playing" is a method by which students demonstrate various conditions of the pedagogical situation by staging. The difference between a role-playing game and a business game is that it is not evaluated. Joint active work of the participants to solve the problem set in the role-playing game is organized. Role-playing games form students' interpersonal skills.

The "Blitz game" technology is aimed at teaching students to correctly organize the sequence of actions, to think logically, to choose what they need from many, diverse ideas and information based on the subject they are studying. Through this technology, students can communicate their independent thoughts to others.

Through the "problematic situation" method, students actively acquire knowledge, skills and abilities as a result of creating problematic situations in teaching the theoretical and practical foundations of technology. The problem situation in technology lessons should be implemented by finding a solution to the pedagogical and technical-technological problem situation (assignment) in the activity of the integration of the subjects of the pedagogical category and general professional subjects, i.e. didactic synthesis and the level of interdisciplinary connection.

A problem situation is a situation of mental activity specially created for the purpose of learning. Under such a situation, there is a method of mental or practical work to check whether previously acquired knowledge remains in memory and to solve a new problem.

It is necessary to use teaching technologies that develop students' critical thinking, and the method of organizing problem situations.

In the educational process, teaching on the basis of a problem situation develops students in all aspects, including creative perception.

A distinctive feature of problem-based education in technology lessons is that knowledge is not presented to students in a ready-made way, but one or several problems are set for students to independently complete the assigned tasks. The acquisition of scientific and technical knowledge by students in the process of independent research is sufficiently thorough and conscious, which creates a good basis for forming a modern worldview in them.

A problem represents a problematic situation accepted on the basis of the tools available for its solution (knowledge, ability, experience of research activity). Therefore, in any problem there is a problem situation, but not every problem situation is a problem. A cognitive task represents a problem to be solved in the existing conditions or parameters. The content of such a task, i.e., its emergence, is based on the conflict between the known and the unknown, which is considered a problem.

Problem situations are created on the basis of real, practical evidence and processes that are directly related to the students' activities. It is advisable for students to follow the following

sequence when finding solutions to problems:

1. Provide a description of the problem situation.
2. Divide the class into small groups.
3. To determine the causes of the problematic situation by students.
4. Advancing opinions about the causes and consequences of a problematic situation.
5. Development of an optimal solution to a problem situation.
6. To prove that the solutions to problematic situations are found correctly and precisely.

Pupils learn pedagogical and technical-technological situations in theoretical and practical classes of technology science and encounter similar situations. In certain classes, students identify the unique features of educational institutions that allow for successful lessons, learn the essence of the experiences of creative teachers in creative groups.

They write on video tapes about the solutions to pedagogical, psychological, technical and technological problems that often occur in practical training, and try to justify them in front of a group of experts consisting of teachers and students in classrooms. The teacher and students evaluate each student's work according to the indicators of advanced pedagogical practices. In this process, students discuss the best practices of creative teachers in classrooms and exchange ideas. Best practices are compared with each other, each participant defends his opinion with clear evidence.

Pupils develop the following knowledge by solving tasks with pedagogical psychological and technical-technological problems:

1. Identify various features and connections between pedagogical-psychological phenomena, technical objects, technological processes (perform actions in the form of analysis and generalization);
2. They compare and contrast the situations encountered in technological processes, show the generality, typicality and unique important features of this phenomenon, process and objects.

So, educational tasks are gradually becoming more complicated. Gifted students with the best preparation perform complex assignments that are creative and investigative. Students with less preparation do simpler tasks, but working on the tasks allows them to work together as a

group to solve a common problem. Completing complex tasks allows some students to immediately master pedagogical-psychological and technical-technological concepts at a scientific level.

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