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DIRECTIONS OF PROBLEMATIC TEACHING TECHNOLOGY IN ENGINEERING SCIENCES AND PROBLEM-BUILDING TECHNOLOGY

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ABSTRACT: - Today, students need to learn as much information as possible from various fields of science, as well as to develop the skills of independence and creative attitudes toward life. To that end, it is proposed to be based on methods that remind students of the study, end with "Discoveries," that is, they independently draw conclusions and solve some practical task.

KEY WORDS: - students of the study, end with "Discoveries," that is, they independently draw conclusions and solve some practical task.

INTRODUCTION

A lot of research has been done on problematic education issues, and these work is still being done continuously. Today, the following five main methods of education vary among higher education institutions:

RESEARCH METHOD

This method is primarily focused on ensuring the creative application of knowledge, and second, in the process of searching for methods of scientific knowledge, learning these methods and their application. Third, creativity develops qualities, and fourth, it is a prerequisite for intrigue and need for such activities.

Given these characteristics, the method should be described as a way for students to organize creative work to solve a new problem for themselves. Readers will solve problems that are newly dated for themselves. In the research method, the shape of assignments may vary, such as fast-paced assignments in the classroom and at home, activities that prohibit the learning process, and homework for a certain but limited period of time. Therefore, the tasks of studying the company's automobile history are very useful and effective activities.

The stages of the research method:

1) observation and study of facts and events;
2) clarifying incomprehensible events related to research;
3) the abscess of the hypothesis;
4) formulat a plan for research;
5) implementation of the plan;
6) create a solution;

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7) check the solution;
8) Practical conclusions.

The research method can also use oral and press releases, instructive tools, practical, written and graphical work, laboratory work, and judges.

Partial research or Method of Christianity. To bring students closer to solving problems independently, they first need to be taught to perform certain stages of the solution, gradually developing skills. The first version of the research method teaches students to be able to see problems and draw conclusions from the facts mentioned by recommending drawing up questions about the picture shown and the content described.

Another option of this method is to divide a complex issue into smaller issues that make it easier to understand, and each one can facilitate approaching solving the main issue.

Creating a Christian conversation consisting of interrelated questions is the third variant of a research method, each of which is a step toward solving the problem, and many require students not only to use their knowledge but also to do research.

Explanation, demonstration method. The main task of this method is to organize students' learning of information. It is also called a recipe method. (resepsiya - perception) and the work of the teacher and the student continues in it. This activity is such that the teacher provides ready-made information in a variety of ways, and the students understand and remember this activity. The teacher provides information using oral words (stories), phrases on the press (textbooks, additional manuals), instructional weapons, and so on.

Teachers do the necessary work to learn—listen to, see, read, observe new information, and compare it with previously developed information and take it in their memories.

Problematic explanation. The essence of this method is that the teacher solves the problem himself and shows the importance of the solution to the students through understandable conflicts.

Readers will observe the logic of the road leading to a solution, the fact that the recommended hypotheses are similar to reality, and the reliability of proof. Although they did not believe the conclusions in the early days, they would later be able to draw conclusions as a result of the gradual coordination of the process of solving problems with a problematic statement, possibly to make the logic of their own discussions. Accordingly, it will be possible to choose more complex problems than the problems that the teacher can solve independently.

Reproductive method. In order for students to acquire skills and skills, thereby achieving the second level of learning, the teacher reminds them several times of the knowledge they have been given through a system of assignments. He gives assignments, and the students carry out

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their assignments—solving similar issues, looking at the template, and so on. How many times and at what intervals the teacher repeats depends on his or her ability, difficult or easy to assign.

Explain with a problematic start. If the teacher creates a problematic situation in starting to explain new knowledge, then explains the learning material in a traditional, informational way.

The problem arises only at the very beginning of the explanation, the educational material itself is not described as solving the problem. It is considered the simplest and is used for a certain period of time. How to explain the problem in general depends on the teacher's abilities and experience.

Problematic education employs students' thought processes and has a profound effect on their subjective thinking, analytical and synthetic activities because this technology prohibits a student from finding solutions to the learning material outlined on a problem. Students will have to explain the material not in readiness, but in a way that compares new facts and events for themselves based on previously known knowledge. The educational process takes place by achieving the high activity of students' thinking and gradually ifying their independence.

A problematic situation is a unique type of interaction between an subject (reader) and an object (issue). The problem characterizes a particular psychological state that arises first in the process of performing a task that requires "Discovering" new knowledge of the student's science, methods or conditions for completing the assignment.

The problem arises in the following circumstances:

- A problem arises when there is a discrepancy between students' knowledge and the requirements imposed on them when they are solving new learning tasks. When the reader is convinced that his or her knowledge is not deep enough or is extremely superficial, he or she is more likely to develop new theoretical and practical knowledge and skills and to master the methods of their use.
- A problem arises when the reader does not know how to select the necessary knowledge at once, which allows him to correctly solve the task when using his or her system of knowledge. If solving the task with incomplete information makes the student want to learn independently, putting before the reader tasks that are solved with more information will force the reader to select and evaluate knowledge, i.e. activate his or her independent research activities.
- When a student faces new practical conditions for using his or her knowledge, a problem arises. In fact, this will consist of looking for ways to apply their knowledge in practice.
- A problem arises when a conflict arises between the theoretical way to solve a task and the inability of the selected method to be implemented in practice, as well as the practical outcome of solving the task and its theoretical validity. The use of such problematic situations will be of particular importance when solving machines and mechanisms and the functions of

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solving constructive issues of technological processes, modeling and rationalizing them in a technical way.

Solving the problems posed by the teacher and accepted by the students begins with analyzing the problem, understanding its differences, and gradually expressing the specific theoretical and practical issues that are required to be resolved. As a result, each student will face a number of such questions that require him to make hypotheses, base them, verify them, and evaluate the results obtained.

It won't be enough just to gather additional facts to find a way to solve the problem. This will definitely be related to students' personal thinking abilities aimed at redesign and application of their experience and knowledge. As the students solve the problem, it is as if they had re-opened for themselves a new world, a world that until then was unknown to them. The resulting embryo was allowed to develop in research and then inserted into her womb, where it implanted.

Solving the problem is the main moment of problem-based teaching, which requires the teacher to skillfully manage students' thinking activities. In order for the teacher to advance the learning problem only without explaining the material, students must independently understand the problem, look for ways to solve it, and draw specific conclusions in this area. To do this, under the guidance of the teacher, they need to gradually develop the skills to work independently on solving the problem. To that end, the teacher will put a problem in the first phase and show students a way to solve it, thus equiding students with knowledge methods.

In the second phase , the teacher challenges students to look for ways to solve the problem after they have had a problem in front of them. Or he asks students questions that target their thinking activities and lead them toward solving a consistent problem.

Later, as students grow in their ability to work independently, the teacher's assistance in solving the problem raised in the middle should gradually shrink, resulting in the teacher's ability to solve the problem posed independently. For example, at this stage, students can be advised to solve the problem in such a way. After the problem arises, the teacher conducts a demonstration experiment that does not explain during the experiment. Students draw conclusions from the experience themselves based on their observations and using the knowledge they previously gained.

They also understand that the process of solving theproblem can be solved in the same way, using students' manufacturing experience and life observations. While students work in educational institutions or enterprises, they encounter various machines, equipment, materials and apparatus every day, observe how they are used in manufacturing, and get acquainted with a number of technical events before they are yet to study them in the classroom. The use of these events and student life observations will allow students to engage in solving the learning problems posed during the course.

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Creating problematic situations in the classroom, looking for and identifying ways to solve them, and actually examining the problem-solving process itself, how accurate the conclusions drawn, remain important elements of the learning process.

Creating problematic situations in the classroom is a necessary prerequisite for students' active mental activity. A certain task is put before the reader, which is of interest in it, and the reader tries to solve the task, but notices that his knowledge and experience are not sufficiently full and in-depth, that is, he faces a clear challenge. An internal need arises, such as finding a way out of the situation generated by the reader, and feeling the difficulty encourages him to analyze the conditions that arise and find ways to solve the issue. Thus, conflicts arise between practical tasks and the level of students' knowledge, which intensify intensive thinking activities aimed at addressing the difficulty that arises. The problematic task offered to the shooter is to match the reader's intellectual capabilities. The q level of goodness of the task is assessed by two main k indicators: the level of novelty of the dead shot material and its level of integration.

Typically, the problematic task must be given before the educational material that must be integrated. But if students do not have enough knowledge and training to solve the problematic task, it is necessary to explain the necessary information to them or teach them specific actions. In such cases, the teacher will tell you the characteristics of the processes, accurate information, and so on, and students will creatively integrate the general characteristics, methods, and conditions of the actions to be studied based on this information.

The teacher should always direct the process of learning new knowledge by solving problematic issues for students. To ensure that a certain complex system of knowledge and movement is problematic, a particular system needs to be followed in creating problematic situations. Therefore, ways to solve the problem that has been put together in the first place and the solutions announced by the reader should be considered approximately.

It should be noted that creating problematic situations in the classroom will ultimately help you to know much more than intelligently mastering specific learning material, as students will learn to solve them, think, reason, and draw conclusions. Such a method of teaching helps to educate a person to be active, creatively married. It helps closely to resolve all types of situations in a positive way.

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