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THE HISTORY OF THE ORIGIN AND DEVELOPMENT OF PROBLEM-BASED LEARNING TECHNOLOGY

Abstract: *This article reflects on the history of the emergence and development of problem-based educational technology. The main features of problem-based learning technology are analyzed.*

Key words: *problem-based educational technology, pedagogical technologies, method, methodology*

Currently, scientists and practicing teachers pay great attention to improving teaching technologies. A special direction and a new discipline appeared in science - pedagogical technologies.

The term "technology" itself is borrowed from the production sphere of activity and, of course, is used conditionally in education, and pedagogical technology itself, as a kind of social technology, is not as rigid, predetermined as production technology, and is based on the theory of psychodidactics, social psychology, cybernetics and control.

For the first time, Ya.A. Comenius. He saw the ability to correctly determine the goal, choose the means to achieve it and form the rules for the use of these means. A.S. Makarenko wrote in his "Pedagogical Poem" that our "pedagogical production" was never built using technological logic, but only according to the logic of moral responsibility. That is why we simply do not have all the important production departments: the technological process, accounting operations, design work, use of conductors and devices, rationing, control, tolerances, culling.

The idea of problem-based learning technology is not new. The greatest teachers of the past have always been looking for ways to transform the learning

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process into an interesting process of cognition, development of mental strength and abilities of students (J.A. Komensky, J.J. Russo, I.G. Pestalozzi, F.A. Disterverg, K.D. Ushinsky and etc.).

In the 20th century, the ideas of problem-based learning technology were intensively developed and spread in educational practice. In foreign pedagogy, the concept of problem-based learning developed under the influence of the ideas of J. Dewey. In How We Think (1909), the American philosopher, psychologist, and educator rejects traditional dogmatic teaching and opposes it to the active, independent, practical activity of students in solving problems. Thinking, says J. Dewey, is a solution to problems.

In the second edition of this book (1933), J. Dewey substantiates the psychological mechanisms of students' ability to solve problems. He argues that students' ability to solve problems is based on their natural intelligence. "Not everyone can master collective thinking," writes Dewey, "moreover, not everyone can be taught this." According to Dewey, the individual's thought moves to a state where everything in the task is clear, passing through certain stages:

all possible decisions or assumptions are taken into account;

the individual is aware of the difficulty and formulates the problem to be solved;

assumptions are used as hypotheses to guide observation and collection of facts;

argumentation and putting in order of the discovered facts;

a practical or imaginary test of the correctness of the put forward hypotheses is carried out.

The concept of the American psychologist J. Bruner played a significant role in the development of problem-based learning technology. J. Bruner pays attention to the following issues:

the importance of the knowledge structure in the organization of learning;

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the willingness of the student to learn as a learning factor;

intuitive thinking as the basis for the development of mental activity;

motivation for learning in modern society.

The key problem for the scientist is the problem of the structure of knowledge, which, in his opinion, includes all the necessary elements of the knowledge system and determines the direction of the student's development.

The common thing that brings American authors together is the following: recognizing the development of logical thinking as the goal of training, J. Dewey and J. Bruner point out the importance of the problem-based approach in teaching.

The ideas of problem-based learning technology in Soviet pedagogical literature have been updated since the second half of the 1950s. So, M.A. Danilov and V.P. Esipov formulate the rules for activating the learning process, which reflect the principles of organizing technology for problem-based learning:

to lead students to generalization, and not to give them ready-made definitions, concepts;

episodically introduce students to the methods of science;

develop the independence of their thoughts with the help of creative tasks.

Since the beginning of the 1960s, the literature has been developing the idea of the need to strengthen the role of the research method in teaching natural sciences and the humanities. So, N.K. Goncharov notes that during this period the task of a wider application of the elements of the research method, or rather, the research principle, arises. The task is to gradually lead students to master the method of science, to awaken and develop their independent thought. You can formally communicate knowledge to a student, and he will learn it, and you can teach creatively, communicate knowledge in its development and movement.

It was the idea of communicating knowledge in its movement and development that became the most important principle of the problematic

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presentation of educational material and one of the ways to organize problem-based learning. Since the second half of the 60s, the idea of problem-based learning technology has begun to be comprehensively and deeply developed. Of great importance for the development of the theory of problem-based learning were the works of such psychologists and teachers: A.V. Brushlinsky, I.A. Ilnitskaya, T.V. Kudryavtseva, I.Ya. Lerner, A.M. Matyushkina, N.A. Menchinskaya, M.I. Makhmutova, V. Okon, S.L. Rubinstein and others.

In the pedagogical literature, there are a number of attempts to define the technology of problem-based learning. Let's take a look at some of them.

B. Okon understands problem-based learning as a set of actions such as organizing problem situations, formulating problems (students themselves gradually get used to this), providing students with the necessary assistance in solving problems, checking these solutions, and, finally, managing the process of systematizing and consolidating acquired knowledge.

I. Lerner sees the essence of problem-based learning technology in the fact that a student, under the guidance of a teacher, takes part in solving new cognitive and practical problems for him in a certain system that corresponds to the educational goals of the national school.

T.V. Kudryavtsev sees the essence of the technology process of problem-based learning in putting forward didactic problems for students, in solving them and mastering by students generalized knowledge and principles for solving problematic problems.

The most generalized definition of problem-based learning technology was formulated by M.I. Makhmutov: this technology is a type of developmental education technology, which combines the systematic independent search activity of students with the assimilation of ready-made conclusions of science.

The process of interaction between teaching and learning is focused on the formation of cognitive independence of students.

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The presented definitions reflect the essential features of the technology of problem-based learning (specifically organized independent activity of the student; built taking into account the goal-setting and the principle of problematic activity of the teacher; the specificity of the content of education).

References:

1. Razzaqov, B. (2021). Some problems in learning english and ways to solve them. *Интернаука*, (21-4), 92-93.

2. Ilyosbek Ilhomjon O'g'li Tojiboev, Baxrom Abdug'afurovich Razzakov, Munojat Azamjonovna Sharofiddinova, Kamoliddin Kodirovich Khudjayev (2022) Methods of improving students' speaking completence in teaching foreign languages in technical universities (In the example of construction, agricultural mechanization). International Journal of Mechanical Engineering, 3(7), 65-69.

3. Khodjayev, K. K. (2021). The specificity and complexity of the process of learning english.

4. Khodjayev, K. K. (2021). Features of using interactive methods of teaching english. *Экономика и социум*, (5-1), 239-242.

5. Kodirovich, K. K. (2022). Communicative Competence and its Practical Reflection. *American Journal of Social and Humanitarian Research*, *3*(6), 292–294.

6. Kodirovich, K. K (2020) The importance of game methods in learning english. International Engineering Journal For Research & Development, 5, 3.

7. Хужаев К. К. Анваров А. А., Саттаров С. Я. (2016) Classification of programs for learning English. Молодой учёный, 3 (107), 771-772.

8. Mamatova, G. (2021). Improving methodology of game technology in the teaching of lexical materials in English lessons. *Science and Education*, *2*(12), 571-573.

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