



## Research Article

# ROLE OF PROBLEM EDUCATIONAL TECHNOLOGIES IN TEACHING PEDAGOGICAL SCIENCES

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## ABSTRACT

This article describes the main features of the development of problematic teaching technologies in pedagogical sciences. The essence of problem-based education, today's pedagogic researches and the relationship to the opinions of researchers regarding problem-based education in the educational process are given. The importance of problem-based educational technology in developing critical and analytical thinking skills of students is analyzed.

## KEYWORDS

Problem-based education, pedagogy, competence, development, analysis, research, improvement.

## INTRODUCTION

Among the concepts that form the basis of problem-based education are the concepts and considerations related to problem solving. It is very important to explain their content. For all of the above concepts, the initial term "problem" is a question or task that requires a solution, research, because it contains an explicit or implicit contradiction. The concept of a problem creates difficulties that need to be solved clearly and the need to find solutions to uncertain situations. This, in turn, provides an opportunity to deeply analyze the content of the situations that have

arisen. "Difficulty" should be understood as the process of forming and uncovering problems in educational activities described in detail in a specific problematic task. In recent decades, changes in human society have become the basis for the humanization of the educational system in pedagogy, its transformation into a paradigm of competence. This transition, on the one hand, provides a high level of knowledge of the world around us, as well as setting a target process for designing a new pedagogical technology.



Nowadays, in the views of scientists who research the concept of problem-based education in the science of pedagogy, these important aspects are shown, that is, the basis for the creation of knowledge about the student's independent activity and independent implementation of solutions related to problematic situations in the educational process. They claim that education is organized by D. Konkov, M. Glebova, E. Yakovleva and others. I can see different approaches that are unique within the framework of practical activities aimed at developing analytical thinking. According to pedagogue A.M. Matyushkin, studying problem-based learning in education means organizing a learning task in education and forming a problem in it, helping students to solve problems in this education, strengthening the knowledge acquired by students and is to create a set of actions to check. Another well-known scientist A. Verbitsky emphasizes the following points regarding the development of students' analytical thinking in educational processes. That is, students rely on developing their creative abilities in solving specific problems by mastering knowledge of different levels of complexity. At the same time, the educational content of pedagogues focused on the individual is closely related to them.

Since ancient times, scientists ask complex questions that require independent thinking, and the idea of obtaining new knowledge through analytical thinking has been rooted in foreign didactics and philosophy for a long time and is embodied in the philosophical views of Socrates, the works of F. Aquinas, F. Bacon, and I. Kant. goes back. Philosophers of pedagogy in their works create the idea of refusing to memorize ready-made knowledge, which contradicted the views of the subject's great activity in learning knowledge. This contributed to the formation of independent approaches in didactics at the beginning of the 20th century for example, the method of laboratory training, science teaching techniques, as well as

heuristic, experimental-heuristic, laboratory-heuristic, etc. Nowadays, according to the opinion of many pedagogic scientists, these above methods are based on scientific research. That is, in the educational system, along with the development or activation of the thinking of learners, by implementing motivational effects aimed at developing their creative abilities, many scientists V. Ratiev, R. Rafikova, etc. emphasize. In the 20th century, two main approaches to problem-based education were formed in US pedagogy. The first is the ideas of the teacher and psychologist D. Dewey, who is the founder of the philosophy of pragmatism. In his pedagogical views, he repeated the opinion of the founder of empiricism, F. Bacon, who believed that the basis of knowledge about the surrounding world can only be his empirical activity, which confirms or rejects knowledge. D. Dewey, at the same time, made sure that without practical actions, the knowledge skills of a person are only guesses, in education, that is, the learning process is aimed at students who have educational and practical directions. should be based on free activity. In this school, educational processes were carried out within the pedagogical game technology of students. But he could not create a whole system. Nevertheless, the solutions and theories of these were created in the middle of the dead century.

Polish scientist V. Okon demonstrated the method known to foreign scientists. In his book "Fundamentals of problem-based education", he believes that the essence of problem-based education is to create an educational situation based on the knowledge of the teacher, which forces the student to search for an individual solution in it. The process of solving the problem itself depends on several factors, in particular, the nature and complexity of the problem. According to V. Okon, in addition to simple problems, the student may encounter more complex problems, the successful solution of which is connected with



additional actions. In this regard, V. Okon repeats the implementation of the scientific method discovered by R. Descartes, in particular, the solution of the main problem is achieved by dividing a complex problem into the required number of small parts and then solving them in a certain order.

In the case of teaching students, it is necessary to take into account the specific features of improving the analytical thinking skills of students, in which the main focus is on the role of the analytical thinking development model in the development of students' analytical thinking skills. This approach requires conducting activities related to the modeling of methodological content problems in the processes of educational organization. Research-based modeling of the development of students' analytical thinking is also an important factor in the large-scale coverage of students' research in this area.

The methodological aspects of researching the peculiarities and development of analytical thinking through the pedagogical model are that the problem of developing analytical thinking is not only related to one field, but also the problems of a complex of philosophical and integrative sciences are of great importance. Another important point in the organization of today's educational processes is that students' learning is related to their ability to think analytically. Based on the pedagogical model that we have developed, we believe that it is necessary to focus on the uniqueness of the methodological and organizational elements of the model, aimed at increasing the analytical thinking of students, on the importance of determining the growth of their analytical thinking. We have shown that they are related to the issues of analytical thinking, based on requirements, social requirements, and conditions. In pedagogical situations or pedagogical structures: standard and non-standard thinking of students is widely used in necessary conditions and in solving

existing problems. Analytical abilities of students are developed on the basis of students' analytical thinking. This pedagogical model has several components. The distribution of the specified components allows to determine the criteria for the development of students' analytical thinking in higher education institutions.

### CONCLUSION

The structural aspect of knowledge acquisition in higher education institutions includes the product of educational activities that students should know. This is the system of knowledge in the studied field, as well as mastering the management of knowledge with generalized and individual methods and approaches. Skills and abilities are formed on the basis of such methods. As for problem-based education, analytical thinking is expressed on the basis of problem situations, problem tasks and problem issues.

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