

THE IMPORTANCE OF USING PROBLEM-BASED LEARNING TECHNOLOGIES IN  
TEACHING THE SUBJECT “INFORMATION AND COMMUNICATION  
TECHNOLOGIES AND SYSTEMS IN ECONOMICS”

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**Abstract:** This scientific article analyzes the theoretical and practical aspects of using problem-based learning technologies in teaching the subject “Information and Communication Technologies and Systems in Economics.” The study examines the essence of problem-based learning, its main principles, and its advantages over traditional teaching methods. Furthermore, the possibilities of developing students’ independent thinking, problem analysis, and practical solution-building skills through the implementation of this approach in the educational process are substantiated. The research results demonstrate that the use of problem-based learning technologies is an important factor in increasing student engagement, ensuring deep understanding of knowledge, and developing professional competencies.

**Keywords:** problem-based learning, information and communication technologies, innovative pedagogy, teaching methods, critical thinking, interactive learning, professional competence, pedagogical technologies

### Introduction

The modern education system is undergoing fundamental transformations in accordance with the demands of a rapidly developing information society. In particular, the widespread use of information and communication technologies (ICT) in the field of economics requires specialists to possess not only theoretical knowledge but also practical skills and independent thinking abilities. From this perspective, the application of innovative pedagogical technologies in teaching the subject “Information and Communication Technologies and Systems in Economics” is becoming increasingly relevant.

Traditional teaching methods are mainly teacher-centered and do not sufficiently develop students’ activity and independent thinking. As a result, students often face difficulties in applying acquired knowledge to real-life situations. This leads to serious challenges, especially in dynamic fields such as economics.

Problem-based learning technologies, on the other hand, contribute to the development of students’ critical thinking, analytical abilities, and problem-solving skills. This approach makes the learning process more active, interactive, and practice-oriented. Therefore, this article analyzes the theoretical foundations, methods, effectiveness, and practical significance of using problem-based learning technologies in teaching ICT in economics.

### Methods

In this study, a number of scientific and methodological approaches were applied. First, pedagogical and scientific literature was analyzed to explore the essence, principles, and advantages of problem-based learning technologies. In addition, existing methodological approaches to teaching ICT in economics were compared.

The following methods were used in the research process:



1. **Analytical method** – to study the theoretical foundations of problem-based learning technologies and determine the possibilities of their application in teaching ICT in economics;
2. **Comparative method** – to evaluate the effectiveness of traditional and problem-based teaching methods;
3. **Experimental method** – to create problem situations during the learning process and observe student activities;
4. **Survey and observation** – to study the opinions of students and teachers and determine the effectiveness of problem-based learning.

As part of the experiment, classes based on problem-based learning were organized for a group of economics students. During the lessons, real economic problems were presented, and students were engaged in solving them in small groups.

## Results

The results of the study showed that the use of problem-based learning technologies significantly increases the effectiveness of teaching ICT in economics.

First, student engagement increased considerably. Students who were passive in traditional classes became actively involved in lessons organized around problem situations. They developed skills in expressing their ideas freely, analyzing problems, and working collaboratively.

Second, the level of knowledge acquisition improved. Topics studied through problem-based learning were understood more deeply by students, as they acquired knowledge through independent exploration rather than receiving it in a ready-made form.

Third, practical skills were developed. Students gained hands-on experience by completing tasks closely related to real economic situations, such as working with e-commerce systems, databases, and economic analysis software.

Fourth, critical thinking skills improved. Students learned to analyze problems from different perspectives, compare alternative solutions, and choose the most optimal one.

In addition, collaboration between teachers and students strengthened. The teacher acted not as a source of knowledge, but as a facilitator and advisor.

## Discussion

The effectiveness of problem-based learning technologies can be explained by several factors. First of all, this approach is based on constructivist learning theory, where knowledge is actively constructed by the learner. This makes the learning process more effective.

A specific feature of the ICT in economics subject is that it requires both theoretical knowledge and practical skills. Problem-based learning effectively addresses this need by engaging students in solving real-world economic problems, thereby preparing them for future professional activities.

Moreover, problem-based learning has several pedagogical advantages, including the development of independent learning competence, enhancement of information analysis and processing skills, and improvement of teamwork and communication abilities.

However, there are also certain challenges in implementing problem-based learning technologies, such as:

- insufficient methodological preparedness of teachers;
- limited class time;
- complexity of designing problem-based instructional materials;
- lack of technical resources.



Therefore, to effectively implement problem-based learning, it is necessary to improve teacher training, develop methodological guidelines, and enhance modern technological infrastructure.

## Conclusion

In conclusion, the use of problem-based learning technologies in teaching the subject “Information and Communication Technologies and Systems in Economics” is an innovative approach with high effectiveness. This technology enhances student engagement, develops independent thinking, and forms practical skills.

Through problem-based learning, students are better prepared to solve real economic problems, which is essential for their future professional activities. Therefore, it is advisable to widely implement this approach in higher education institutions.

In the future, it is important to further deepen research in this area, develop new methodological approaches, and integrate modern technologies into the educational process.

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