

TECHNOLOGIES FOR SYSTEMATIZING THE RESEARCH ACTIVITIES OF FUTURE TEACHERS IN THE PROCESS OF EDUCATIONAL INTEGRATION

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Abstract

This article studies the technologies of systematization of research activities of future teachers in the process of educational integration. The study analyzed the effectiveness of project-based learning, integrated lessons, e-learning platforms and mentoring systems. Based on the results of experimental work, questionnaires and monitoring, it was confirmed that the technologies of systematization of research activities according to the principles of educational integration are of great importance in increasing the scientific potential of future teachers, improving independent thinking and professional training. The difficulties that arise in the use of new technologies and ways to overcome them were also considered. The article can be a useful resource for educators and researchers interested in the innovative development of the educational process.

Keywords: Educational integration, research activities, systematization technologies, future teachers, project-based learning, e-learning platforms.

INTRODUCTION

Today, changes and global processes taking place in the field of education require education systems to introduce new approaches. In particular, the organization of educational processes based on the principles of interdisciplinary integration is of great importance for the formation of knowledge and skills in a modern way. Educational integration is a method of providing students with comprehensive and in-depth knowledge by combining knowledge from different disciplines and areas, which plays an important role in expanding the scope of students' thinking, developing their critical and creative thinking.

In particular, educational integration creates the opportunity to systematically organize research activities in the process of training future teachers. Research activities not only increase the professional potential of the teacher, but also create a basis for improving the quality of the educational process, introducing innovative pedagogical technologies, and forming independent learning skills in students. Therefore, the systematization of the research activities of future teachers in the process of integration of education is an important task for improving the quality of education and ensuring the effectiveness of the educational process.

Today, innovative approaches implemented in the field of education, in particular, the widespread use of interactive, project-oriented, interdisciplinary and digital technologies, allow teachers to make their research activities more effective. At the same time, through the effective systematization of research activities, students will have the opportunity to develop their scientific abilities, put theoretical knowledge into practice and integrate scientific results into the educational process.

The article discusses in detail the technologies for systematizing the research activities of future teachers in the process of integration of education, their advantages, practical application and results. It also analyzes the main pedagogical and information and communication technologies used in modern educational institutions. This study aims to study the effectiveness of technologies for systematizing the research activities of future teachers in the process of educational integration. The

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main goal of the study is to identify modern technologies for the effective organization of research activities in an integrated educational environment and to implement them in practice.

The research activity of future teachers in higher education institutions was chosen as the object of the study. As a subject, pedagogical and information and communication technologies used in the systematization of research activities were considered:

- Theoretical analysis: The main conceptual foundations were identified through a study of the literature on educational integration, pedagogical research, and modern educational technologies.

- Experimental work: The process of research activities organized on the principles of educational integration was tested. In this process, project-based learning, integrated lessons, electronic resources, and a mentoring system were used.

- Questionnaire and interview: Feedback was collected with the participation of future teachers and scientific supervisors to determine the effectiveness of research activities.

- Monitoring and observation: The phased implementation of the research process and its results were regularly monitored.

- Data analysis: The data obtained were processed using statistical and qualitative analysis methods, and the effectiveness of systematization technologies in the educational process was assessed.

The effectiveness of technologies for systematizing the research activities of future teachers in the process of educational integration was determined. As a result of experimental work, it was shown that project-based learning, integrated lessons, e-learning platforms and mentoring systems play an important role in organizing research activities.

According to the analysis of the questionnaire and interviews, future teachers and scientific supervisors expressed the opinion that the use of modern technologies makes the research process effective and systematic, helps to develop students' scientific abilities, independent thinking and analytical skills.

During the monitoring process, it was found that the phased control of research activities is an important factor in improving the quality of activities, and it was observed that this brought more consistency and accuracy to the systematization process.

Based on the data obtained, technologies for systematizing research activities based on educational integration not only increase the scientific potential of future teachers, but also improve their professional training. These technologies make the learning process more interesting and interactive and serve to meet modern pedagogical requirements. In general, the study showed that the use of effective technologies for educational integration serves to systematically organize the research activities of future teachers, increase their scientific and creative potential, and also improve the quality of education.

In particular, project-based learning technology plays an important role in developing the skills of independent thinking, problem solving, and step-by-step organization of the research process in future teachers. This approach provides students with practical experience in scientific research and serves to increase their research potential. Integrated lessons and seminars, on the other hand, are important in deepening interdisciplinary connections and developing students' comprehensive knowledge and skills. With the help of this technology, students can connect different disciplines and view scientific issues from a broader perspective. At the same time, research conducted in integrated lessons stimulates students' independent scientific thinking. Modern e-learning platforms and information and communication technologies significantly increase the efficiency of the research

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process. They provide students with free access to a wide range of scientific information, as well as create conveniences in organizing and managing scientific work. However, the study revealed that some students and teachers encountered initial difficulties in using electronic platforms. This situation indicates the need to further strengthen the system of technical and pedagogical support in the educational process. The mentoring system has proven to be an effective mechanism for guiding future teachers in their research activities. With the help of experienced scientific supervisors, students received assistance in conducting their research more systematically, analyzing results, and drawing conclusions. The existence of the mentoring system has served to improve the quality of scientific research and increase student motivation. The gradual implementation of monitoring and control processes has helped to improve the quality of research activities. Students have the opportunity to analyze their activities and identify and correct their shortcomings in a timely manner. This has proven to be an important factor in achieving consistency and results.

CONCLUSION

It was found that project-based learning, integrated lessons, e-learning platforms and mentoring systems are important in improving the quality of research activities. The technologies used in educational integration serve to develop independent thinking, interest in scientific research, analytical and creative abilities of future teachers. At the same time, monitoring and systematization processes ensure the consistency of research activities and increase the efficiency of the educational process. However, the need for additional methodological support and technical support was noted to overcome the initial difficulties encountered by teachers and students in the implementation of e-learning resources and new technologies. Measures to strengthen the mentoring system and increase motivation also serve to further improve the quality of education. Therefore, the systematic and effective use of research systematization technologies in the process of educational integration is an important factor in improving the professional training of future teachers and raising the educational process to a qualitative and innovative level.

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