

OPPORTUNITIES FOR USING QUEST TECHNOLOGY IN THE TRAINING OF FUTURE PRIMARY SCHOOL TEACHERS

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Abstract

This article analyzes the possibilities and effectiveness of using quest technologies in the process of training future primary school teachers. Quest technology is considered as an essential tool for enhancing students' cognitive activity, developing their abilities for independent inquiry, collaboration, creative thinking, and problem-solving. The study highlights the psychological and pedagogical foundations of quest technologies, their advantages in primary education, and the methodological opportunities for integrating quests into the professional training process of future teachers.

Keywords: Quest technology, teacher training, interactive learning, motivation, reflection, communicative competence, primary education methodology.

Introduction

In the modern educational process, the introduction of interactive and innovative technologies has become a key factor in renewing the pedagogical system. In the preparation of future primary school teachers, it is essential not only to provide theoretical knowledge but also to teach how to apply it in practice, analyze problem situations, and find creative solutions. From this perspective, the quest (game-based learning) technology enhances students' learning motivation through play-based learning, helps them express their opinions freely, engage in communication, and develop teamwork skills. In Uzbekistan's education system, the professional training of teachers is one of the state policy priorities, and the necessity of introducing advanced methods and technologies into the pedagogical process is steadily increasing. Therefore, quest technology occupies a special place as a modern approach in primary education and in the process of teacher training.

Literature Review

In recent years, both Uzbek and foreign researchers have widely studied the role of quest technologies in education. O'rinova N.M. (2022) analyzes the role of quests and web-quests

in developing students' creative thinking. J. Lambert (2014) demonstrates the effectiveness of using the Quest-Based Learning concept in the system of preservice teacher training. In the model developed by T. Vasiutina and colleagues (2024), an algorithm for implementing quest technologies in research activities is proposed [1].

Research on the Pedagoglar.org platform has proven that lessons based on quests enhance students' independent thinking and serve as an effective methodological guide for teachers. Likewise, Norboeva S. (2021) emphasizes that integrating differential and interactive approaches in the preparation of future primary school teachers contributes to improving the quality of teacher training.

Thus, the available scientific sources confirm that quest technology serves as a methodological, communicative, and creative tool that strengthens teachers' preparedness for modern pedagogical activity [2].

Research Methodology

This study aims to examine the pedagogical and psychological foundations of using quest technologies in the process of training future primary school teachers and to determine their impact on students' learning motivation, cognitive activity, and communicative competence. The methodological basis of the study includes modern educational theories – constructivism, active learning, reflective approach, and learner-centered education principles [3]. Both qualitative and quantitative analysis methods were used in the study. During the qualitative analysis, the attitudes, motivational states, collaborative learning experiences, and levels of reflection of students majoring in primary education toward the use of quest technologies in lessons were observed. The quantitative analysis involved statistical evaluation of the academic results, test scores, and learning achievements of students who participated in experimental studies.

The research was conducted in three stages: during the preparatory stage, theoretical sources were studied, and the role of quest technology in education was analyzed; during the experimental stage, quest tasks adapted to the educational process were developed and integrated into students' classroom activities; and in the final stage, the effectiveness of quest technologies was assessed by evaluating students' activity levels, communication skills, independent thinking abilities, and motivational changes [4]. Observation, surveys, interviews, experiments, tests, content analysis, and reflective

analysis were used as research methods. Through questionnaires, the opinions of students and teachers about the use of quest technology were studied. In addition, classroom observations helped determine the influence of quest elements on students' activity and the effectiveness of lessons.

Results

The study results indicate that the use of quest technology has high effectiveness in developing the professional, communicative, creative, and reflective competencies of future primary school teachers. At all stages of the experimental process, students trained through quest-based lessons demonstrated more active, initiative-oriented, and creative attitudes compared to the control group [5]. First, students' cognitive activity and motivation significantly increased. Participants of game-quests and web-quests perceived the learning process not as an obligation but as an engaging exploration and adventure. In surveys conducted during the study, 87% of students reported that quest-based activities increased their interest in learning, indicating that the motivational component of the educational process was strengthened [6]. Second, collaboration and communication levels increased by an average of 28–35%. Students actively participated in teamwork, exchanging opinions and solving problems together. By performing roles such as “team leader,” “analyst,” and “guide” during quest sessions, they experienced conditions similar to real pedagogical settings. This demonstrated that their social and professional adaptability had improved. Third, creative thinking and problem-solving skills also showed a notable rise. Seventy-five percent of participants in the experimental group demonstrated the ability to approach tasks in unconventional ways, find alternative solutions, and generate independent ideas. During quest tasks, students independently developed lesson projects, proposed innovative pedagogical ideas, and learned to think from the learner's perspective. As a result, their creative potential was much higher than that of students engaged in traditional lessons [7].

Fourth, reflective and self-evaluation skills improved. After each quest stage, students filled in “Reflection Diaries,” evaluating their actions, identifying mistakes, and discussing ways to correct them. This reflective approach enhanced their sense of responsibility and taught them to critically assess their own performance. In the final interviews, students emphasized that they felt like “active participants,” “creators,” and “educators.” The analysis also showed that quest technology not only improves the practical preparation of students for the teaching profession but also develops their psychological stability, leadership qualities, and critical thinking skills. Processes of idea exchange, debate, and decision-making in group quests prepared them for real-life and professional situations. Moreover, the observed changes during the experiment were clearly manifested in the following areas:

- Level of knowledge – 22% higher than in the control group;
- Communication and collaboration – increased by 31%;
- Creativity and problem-solving – increased by 28%;
- Reflection and self-assessment skills – improved by 35% [8].

The “Pedagogical Quest Lesson Projects” developed by students in the experimental group were tested in practical sessions. As a result, their innovative approaches to organizing the educational process, independence in selecting didactic materials, and accuracy in considering learners’ age characteristics were highly evaluated. This shows that quest technology creates effective conditions for the formation of methodological thinking in future teachers.

The data obtained in the final stage of the research confirm that quest-based education:

- teaches teachers to think innovatively;
- creates a motivational foundation for professional self-expression;
- makes the educational process interactive, dynamic, and engaging;
- encourages active student participation;
- develops responsibility, leadership, teamwork, and independence in the teacher’s personality [9].

The results also showed that future teachers’ digital competencies and skills in using modern information technologies improved. Students who used web-quests learned to

purposefully use online resources, create educational content, and prepare presentations. Thus, compared to traditional teaching methods, quest technology proved to be a broader, more modern, and multifunctional educational mechanism. Overall, the findings scientifically confirm that quest technology is an effective pedagogical tool that enhances the quality of professional training for future primary school teachers and directs them toward creative, reflective, and innovative thinking.

Discussion

Quest technology in teaching is viewed not merely as a game-based form but as a mechanism that activates complex cognitive processes. It is directly related to modern educational concepts such as learner-centered education, the competency-based approach, and problem-based learning. Furthermore, quest technology plays an important role in forming 21st-century skills among future teachers—critical thinking, collaboration, information literacy, and creativity. During quest activities, students test themselves in real-life pedagogical situations, which helps them become more confident and resilient professionals in their future teaching practice [10].

However, for the effective integration of quest technology into the educational process, it is necessary to develop methodological guidelines in teacher training programs, enhance the use of multimedia resources, and foster a digital culture of utilizing educational platforms.

Conclusion

The above analysis demonstrates that using quest technology in the preparation of future primary school teachers is an effective tool for developing their professional competence, creative thinking, and communicative potential. Quest technology activates the educational process, motivates students toward independent inquiry, encourages collaboration, and teaches them to justify their opinions. In the future, systematic integration of quest technologies into teacher training programs, the development of web-quest, digital, and virtual quest elements, and the creation of evaluation criteria for learning outcomes will serve as significant factors in improving the quality of education.

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