

THE ROLE OF DIGITAL RESOURCES IN DEVELOPING TEACHERS’ DIGITAL COMPETENCE

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Abstract: This article examines the role of digital resources in developing teachers’ digital competence in higher education. In the context of rapid digital transformation, the use of modern educational technologies has become essential for improving teaching quality. The study analyzes widely used platforms such as Google Classroom, Moodle, and Canva, highlighting their effectiveness in organizing the learning process. The research is based on analytical and observational methods. The findings indicate that digital tools significantly enhance teachers’ professional skills, support interactive teaching, and improve student engagement. The study concludes that the systematic integration of digital resources contributes to the overall effectiveness of the educational process.

Keywords: digital competence, teacher competence, digital resources, higher education, ICT, e-learning.

Introduction

The issue of developing teachers’ digital competence has been widely studied in modern pedagogical research. According to the European Commission, digital competence is defined as the confident, critical, and responsible use of digital technologies for learning, teaching, and professional development (European Commission, 2017). The DigCompEdu framework identifies several key areas of teachers’ digital competence, including professional engagement, digital resources, teaching and learning, assessment, and empowering learners.

Christine Redecker emphasizes that teachers must not only use digital tools but also integrate them pedagogically to improve learning outcomes. Similarly, the UNESCO ICT Competency Framework for Teachers highlights the importance of digital literacy, knowledge creation, and the effective use of technology in education (UNESCO, 2018).

Research by Tony Bates (2015) shows that digital technologies significantly enhance teaching effectiveness when used systematically. In addition, Neil Selwyn (2016) points out that digital education requires not only technical skills but also critical thinking and ethical use of information.

The TPACK Framework developed by Punya Mishra and Matthew Koehler (2006) explains the integration of technology, pedagogy, and content knowledge in teaching. This model is widely used to evaluate teachers' readiness to use digital tools effectively.

Overall, the analysis of scientific literature shows that digital resources play a crucial role in developing teachers' competencies and improving the quality of education in higher education institutions.

In conclusion, the development of teachers' digital competence is a key factor in improving the quality and effectiveness of modern education. The study has shown that the use of digital resources such as learning management systems, interactive platforms, and multimedia tools significantly enhances teachers' professional skills and supports innovative teaching practices.

The findings confirm that digital tools not only facilitate the organization of the educational process but also increase student engagement and promote active learning. However, the effective integration of digital technologies requires continuous professional development, methodological support, and institutional readiness. Therefore, it is essential to create favorable conditions for the systematic implementation of digital resources in higher education. This includes providing training programs for teachers, improving digital infrastructure, and developing methodological guidelines. Future research should focus on designing comprehensive models for developing digital competence and evaluating their effectiveness in different educational contexts.

Methodology

The research is based on a combination of qualitative methods, including the analysis of scientific literature and observation of teaching practices. The study also incorporates practical implementation of digital tools in the educational process.

In particular, the author applied Google Classroom as a learning management system to organize course materials, assignments, and communication with students. As shown in Figure 1, the platform was used to structure the learning process and ensure continuous interaction between the teacher and students.

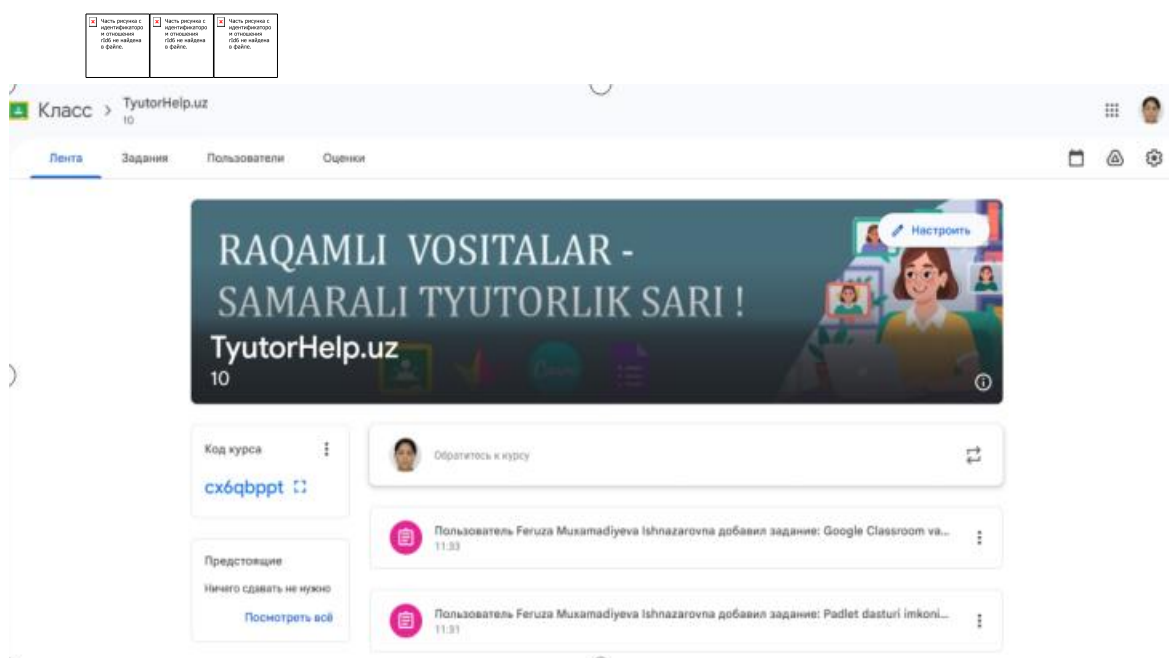


Figure 1. Learning process organization using Google Classroom

In addition, online teaching sessions were conducted using video conferencing tools, which enabled real-time interaction and collaborative learning. As illustrated in Figure 2, students actively participated in online lessons, discussions, and presentations.



Figure 2. Online learning process using video conferencing tools

The use of these digital platforms allowed for effective integration of technology into teaching practice and provided valuable insights into the development of teachers' digital competence. In particular, the implementation of Google Classroom facilitated the systematic organization of the learning process, including the distribution of educational materials, assignment management, and continuous communication between the teacher and students (see Figure 1).

The results of the study indicate that the integration of digital resources significantly improved the effectiveness of the educational process. The use of Google Classroom enabled better organization of educational materials, timely feedback, and efficient monitoring of students' progress. As a result, students demonstrated increased responsibility for completing tasks and improved independent learning skills.

Furthermore, online learning sessions increased student engagement and participation. Based on practical observations, student activity during virtual classes increased noticeably compared to traditional formats. Students demonstrated higher levels of involvement during online sessions, as they were able to interact directly with the teacher and their peers in a dynamic digital environment (see Figure 2).

Figure 1 illustrates the structured organization of the learning process using a digital platform, while Figure 2 demonstrates active student participation and interaction during online learning sessions. These findings confirm that digital tools not only facilitate the management of the educational process but also create opportunities for more interactive, flexible, and student-centered learning.

The practical application of these tools confirmed that digital technologies enhance communication, support collaborative learning, and improve the overall quality of education. Overall, the integration of digital resources into teaching practice proved to be effective in developing teachers' digital competence and improving learning outcomes in higher education.

In general, the study confirms that the integration of digital resources into the educational process plays a crucial role in the development of teachers' digital competence in higher education. The effective use of modern digital tools and platforms not only improves the organization and management of the learning process but also enhances student engagement, interaction, and independent learning.

The practical implementation of platforms such as Google Classroom, Moodle, and other digital tools has demonstrated their effectiveness in supporting innovative teaching methods and creating a more flexible and student-centered learning environment. The findings indicate that digital technologies contribute to the improvement of teaching quality and the development of professional skills among teachers.

At the same time, the successful application of digital resources requires continuous professional development, methodological support, and appropriate digital infrastructure. Therefore, it is essential for higher education institutions to create favorable conditions for the systematic use of digital technologies.

Overall, the study highlights the importance of integrating digital resources into teaching practice and provides a foundation for further research aimed at improving digital competence and educational outcomes.

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