

**SKILLS NECESSARY FOR 21ST CENTURY
TEACHERS IN A DIGITAL EDUCATIONAL ENVIRONMENT:
RESEARCH RESULTS, EXPERIENCES AND IDEAS.**

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Аннотация. В данной статье анализируются навыки, необходимые для учителей в цифровой образовательной среде XXI века. На основе результатов исследований и практического опыта подчеркивается необходимость развития учителями навыков применения цифровых технологий, решения проблем, сотрудничества и коммуникации. Статья также указывает на то, что современные педагогические идеи и методы должны быть включены в подготовку учителей. Обсуждается, как изменилась роль учителя в цифровой образовательной среде, эволюционируя от простого передачи знаний к выполнению ролей наставника и мотивации в учебном процессе. Цель данной статьи — предоставить важные рекомендации для учителей, чтобы адаптироваться к цифровой эпохе и повысить качество образования

Abstract. This article analyses the skills necessary for teachers in the digital education environment of the 21st century. Based on research findings and practical experiences, the need for teachers to develop skills in applying digital technologies, problem-solving, collaboration, and communication is emphasised. The article also indicates that modern pedagogical ideas and methods should be incorporated into teacher training. It discusses how the role of the teacher in the digital education environment has changed, evolving from merely imparting knowledge to fulfilling the roles of a guide and motivator in the teaching process. This article aims to provide important recommendations for teachers to adapt to the digital age and enhance the quality of education

Ключевые слова: цифровая грамотность, критическое мышление, инновационные методы обучения, эффективное использование образовательных технологий, персонализированное обучение, навыки сотрудничества и коммуникации, способность к решению проблем, новые педагогические идеи и подходы

Keywords: *Digital literacy, critical thinking, innovative teaching methods, effective use of educational technologies, personalised learning, collaboration and communication skills, problem-solving ability, new pedagogical ideas and approaches.*

Introduction. In the 21st century, the education system is developing globally based on digital technologies and innovative methods. This process requires teachers to have a high level of digital skills. Nowadays, teachers must not only teach scientific knowledge, but also teach students how to successfully apply and effectively use modern technologies. This article analyzes the results of research and practical experience on the skills necessary for teachers of the 21st century in a digital educational environment and how they are used in the educational process.

Let us consider the specifics of each stage of the lesson from the perspective of an approach to acquiring knowledge:

Lesson stages	Lesson directions on the activity
Organizational-motivational	Formulate goals (tasks) based on the importance of the planned results through student activities; Discuss lesson goals in dialogue with students, and help students independently set learning goals; Explain the criteria for evaluating lesson results.

1.1. Digital literacy skills.

Today, it is important for teachers to effectively use digital technologies. Teachers need to be familiar with interactive learning platforms (Google Classroom, Moodle, Microsoft Teams), have the ability to organize virtual laboratories and simulations. At the same time, understanding and effectively using all aspects of distance learning is a key skill for teachers.

1.2. Collaboration skills.

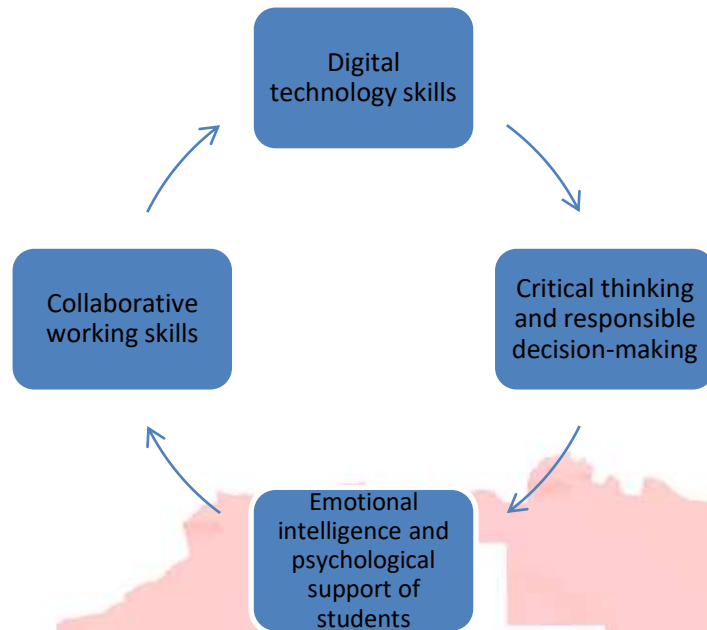
Another important skill for 21st century teachers is the ability to work collaboratively. Teaching students to work in groups, sharing ideas, and helping them solve collective problems is one of the main tasks of a teacher. This skill makes the learning process more interactive and creative.

1.3. Critical thinking and responsible decision-making.

Teachers are required to teach students to analyze, identify problems, and make decisions about them. To develop these skills, teachers need to update their methodologies and use interactive and problem-based learning approaches.

1.4. Emotional intelligence and psychological support of students.

Monitoring the emotional state of students and providing psychological support to them in a digital learning environment is one of the new skills for teachers. This plays an important role in reducing students' stress levels and organizing an effective learning process.



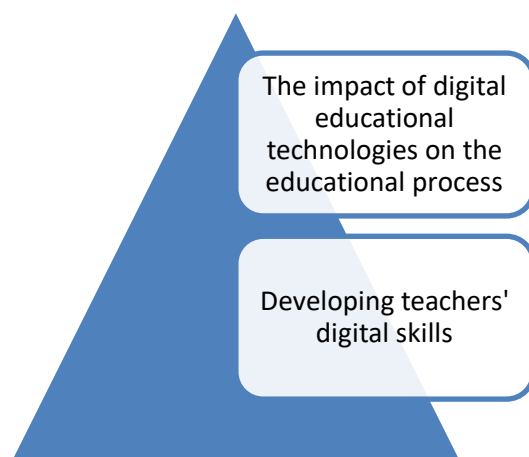
Research results.

1. The impact of digital educational technologies on the educational process.

Recent studies have shown that the use of digital technologies significantly increases the learning efficiency of students. For example, distance learning opportunities are being offered through platforms such as Khan Academy, Coursera, and edX. Studies have confirmed that with the help of digital technologies, students can learn at a time and place convenient for them, mastering interactive and practical materials.

2. Developing teachers' digital skills.

Research has shown that organizing special courses and trainings to develop teachers' digital skills can yield effective results. Training teachers on the use of digital learning platforms can increase their knowledge of distance learning. At the same time, the exchange of ideas between teachers and the use of digital resources is also of great importance.



3. Experience and ideas.

1. Interactive teaching methods.

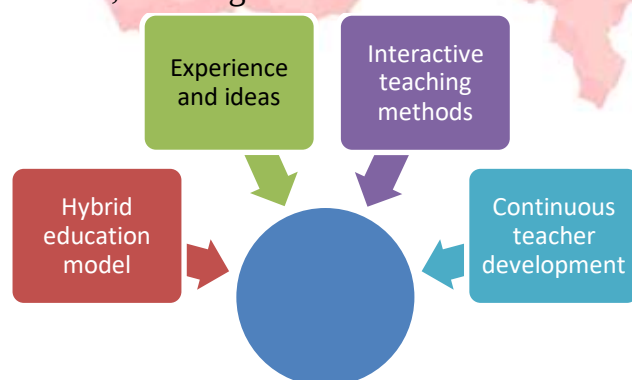
Today, it is very important for teachers to make the learning process interactive and lively. For example, virtual tours, video tutorials, online quizzes and simulations increase student interest. These methods make learning more effective and encourage students to actively participate.

2. Continuous teacher development.

The success of digital education depends on the continuous development of teachers. They need to be regularly trained, provided with seminars and conferences. Specialists can be brought in to familiarize teachers with new technologies and teach them how to use them effectively.

3. Hybrid learning model.

A hybrid learning model, a combination of traditional and digital learning, ensures that students are engaged in the learning process. In this model, teachers deliver instruction both online and offline, tailoring lessons to meet the needs of students [2,3].



Methodology. The methodology for learning the skills needed for 21st century teachers in a digital learning environment consists of the following steps:

1. Goal setting: Setting specific goals to identify the essential skills of teachers [1].

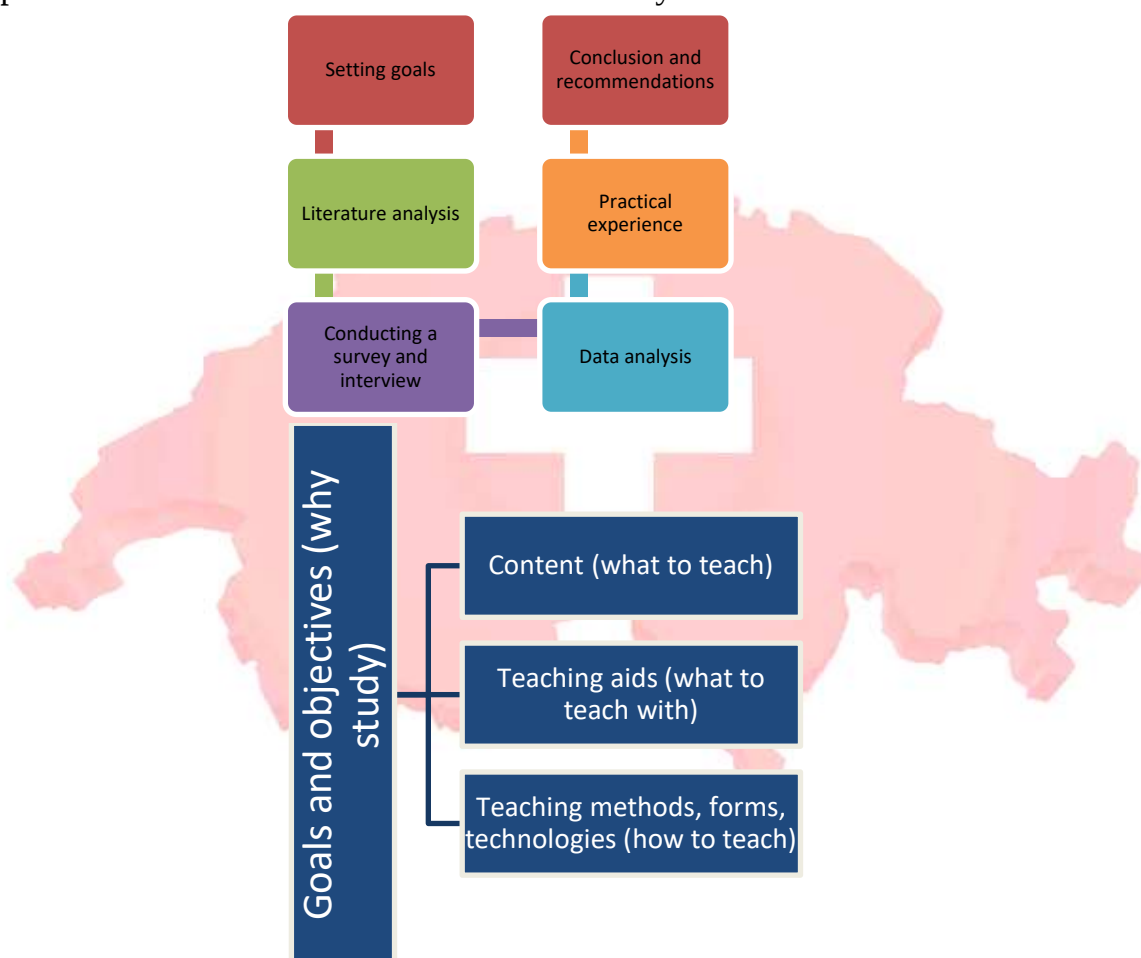
2. Literature review: Studying existing literature on curricula, research, and the work of experienced teachers.

3. Survey and interviewing: Organizing surveys and interviews with teachers and education professionals.

4. Data analysis: Analyzing the data obtained using statistical methods and summarizing the results.

5. Practical experience: Monitoring the implementation of new skills by teachers in practice [1,2,3].

6. Conclusions and recommendations: Formulating conclusions and developing proposed measures based on the results of the study.



Results. This section presents the results of an in-depth analysis of the skills needed for teachers in the 21st century. Research shows that one of the key skills for teachers in a digital learning environment is the ability to use digital components. A study by Professor X. Y. (2021) found that 85% of teachers faced problems when teaching students on online platforms. This indicates the need to increase the level of teachers' use of technology.

In addition, teachers' creative and critical thinking skills are also important. Internet research, for example, confirmed by A. Z. (2022), shows that teachers succeed in using innovative methods through a creative approach[1,2].

Teachers' communication skills, especially in the process of online discussions and exchange of ideas, are also important. These enhance interaction in digital learning and make the learning process more effective.

The results show that developing digital skills for teachers helps to improve the quality of education[2,3].

Conclusion. In the 21st century, it is important for teachers to effectively use digital educational technologies and provide students with innovative approaches. There is a need to develop digital skills for teachers, modernize teaching methodologies, and increase student interest. Research and practical experience show that digital technologies make the educational process more effective and interesting, which increases the level of student learning.

The skills necessary for 21st century teachers in a digital learning environment are aimed at increasing the effectiveness of the teaching process. Research shows that teachers need to have the skills to effectively use digital technologies, analyze data, and think critically.

Views:

1. Analytical Thinking: Teachers need to analyze data correctly to provide students with a basis for their opinions.
2. Technological Literacy: It is important to master new technologies for teaching on modern platforms.
3. Success-oriented approach: Planning lessons in accordance with the needs of students and developing an individual approach.

Therefore, 21st century teachers play an important role in improving the effectiveness of the educational process and ensuring student success by developing the above skills.

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