

The Digital Transformation in Education and Its Impact on the Role of the Teacher



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Date of transmission: 09/06/ 2025, date of acceptance: 09/07/ 2025

Abstract:

This study aims to highlight the importance of digital transformation in education and its profound impact on the role of teachers, who are no longer mere transmitters of knowledge, but rather facilitators and guides in a dynamic digital learning environment. The COVID-19 pandemic accelerated this transformation through increased reliance on distance learning, digital platforms, and online resources, thereby emphasizing the need to reconsider the pedagogical competencies required in this new context.

The study's findings revealed that digital transformation has fundamentally reshaped the teacher's role, turning them into active partners in the educational process, now expected to acquire new technological skills and adapt their teaching strategies to digital developments. It also uncovered disparities in teachers' readiness due to unequal access to training and support, indicating the need for structural intervention to bridge this gap.

The study recommends adopting a comprehensive national strategy for continuous teacher training in educational technology, updating pedagogical programs to include digital competencies, and improving the educational infrastructure. These measures are essential to ensure an effective digital transition that enhances the quality of education and meets the evolving needs of the modern learner in a rapidly changing environment.

key words: Digital Transformation; E-Learning; Teacher's Role; Technological Training; Digital Educational Interaction.

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Introduction:

Today, the world is undergoing profound digital transformations that have directly impacted various sectors, particularly education. In an era marked by rapid innovation and the evolution of knowledge tools, it is no longer feasible to rely on traditional educational methods. Digital transformation has thus become a strategic necessity to meet the demands of the modern age and address the needs of new-generation learners. In the educational context, digital transformation refers to the comprehensive integration of technology into the educational process, reshaping teaching and learning models, and redefining the roles of educational stakeholders — especially the teacher, who is no longer merely a transmitter of knowledge but rather a facilitator and designer of interactive digital learning environments that promote critical thinking and innovation. The significance of digital transformation lies in its urgency as a response to the challenges of the 21st century. It offers broader opportunities for flexible learning and open access to rich educational resources, helping to reduce educational disparities and empowering learners to take control of their own learning paths. Furthermore, it enhances the teacher's role in utilizing effective digital tools for planning, teaching, and assessment. Several factors have accelerated the pace of this transformation, most notably the rapid technological advancement and the widespread use of smart devices and high-speed internet. The COVID-19 pandemic also represented a pivotal moment, imposing remote learning and revealing both the critical importance of digitization and the challenges faced by educational institutions in transitioning swiftly to a digital environment. Consequently, the evolving demands of the labor market have become a central driver of this transformation, as there is an increasing need for advanced digital skills that go beyond traditional academic knowledge. This shift has compelled educational institutions to review and adapt their curricula in line with the knowledge economy. Today's learners, born into a highly interactive technological environment, are less responsive to traditional methods and more inclined toward digital and audiovisual content. This reality imposes on teachers the necessity of upgrading their pedagogical and digital competencies to keep pace with this shift. Therefore, the success of digital transformation in education hinges on the readiness of educators to actively engage in this process and turn its challenges into opportunities for improving the quality of education.

1. The Problematic:

Amid the accelerating digital transformation, educators face fundamental challenges related to redefining their pedagogical roles. No longer merely transmitters of knowledge, teachers are now expected to perform multiple roles that require evolving digital and educational competencies. The core issue lies in understanding the extent to which this transformation impacts teaching practices, the teacher's relationship with learners and the overall educational environment. It also raises critical questions about the teacher's readiness to adapt to these changes, the obstacles hindering the acquisition of digital skills, and the implications for the quality of education.

1.1 Research Questions:

- How has digital transformation changed the role of the teacher?
- What are the new skills and competencies that teachers are required to acquire in the digital environment?
- What challenges hinder teachers from adapting to digital transformation?
- To what extent has digital transformation contributed to improving the quality of education from the teacher's perspective?
- What is the teacher's stance toward this transformation? Is it viewed as an opportunity or an added burden?

1.2 Research Hypotheses:

- Digital transformation has brought about a radical change in the role of the teacher, who is no longer merely a knowledge transmitter, but a facilitator, guide, and promoter of self-directed and collaborative learning.
- Digital transformation requires teachers to acquire new competencies, particularly the ability to use technology in planning, assessment, and instruction, as well as mastering online learning platforms.
- The main challenges faced by teachers in adapting to the digital environment include insufficient training in technological fields, lack of infrastructure, and increasing administrative and instructional burdens.
- Digital transformation has positively contributed to improving the quality of the educational process by diversifying instructional methods, enhancing interaction, and motivating learners to engage actively.
- Teachers' attitudes toward digital transformation vary; while some see it as an opportunity to renew their pedagogical practices, others perceive it as a burden that adds new challenges to their responsibilities.

2. Importance and Objectives of the Study:

2.1 Importance of the Study:

The study of digital transformation in education holds significant importance in light of the profound changes that are reshaping educational systems across the globe. This is especially true given the rapid pace of technological innovation and the increasing reliance on digital platforms for teaching, assessment, and training. Digital education is no longer a complementary option; it has become a core component of modern educational practice. This necessitates a deep understanding of how the roles of educational stakeholders—particularly teachers—are evolving, as they face new responsibilities that demand advanced digital skills and adaptability to ongoing changes.

2.2 Objectives of the Study:

This study seeks to achieve a set of academic and educational objectives, most notably:

- To analyze the impact of digital transformation on teachers' roles in planning, instruction, assessment, and interaction with learners, and to identify the new digital competencies that teachers must acquire in response to technological advancements in education.
- To diagnose the practical challenges and constraints teachers face in implementing digital transformation tools within classroom practices. This includes examining teachers' perceptions and attitudes toward the effectiveness of this transformation and its contribution to enhancing the quality of education.

3. Review of the Literature:

The field of education has witnessed growing interest in the topic of digital transformation, particularly in recent years, as a result of the challenges and new expectations brought about by accelerating technological change. Numerous academic and applied studies have focused on the impact of this transformation on the role of the teacher, as the central actor in the educational process. These studies have examined various aspects, including the evolution of professional competencies, challenges related to technology integration, and the implications of digitization for classroom pedagogy. Below is a summary of key findings from several relevant studies:

- Abderrazak Al-Arabi's study (2021) titled "The Impact of Digital Transformation on University Teachers' Pedagogical Practices" highlighted the contribution of digitization to diversifying and enhancing teaching methods in higher education through the use of blended learning and distance education. These approaches provided teachers with greater flexibility and interactivity in

content delivery. However, the study also pointed out significant barriers to adaptation, notably the lack of digital training among many instructors and the absence of effective institutional support. The author recommended reinforcing continuous training in educational technology as a foundational pillar for successful digitalization.

- Fatima Zahra Ahmed's study (2020) entitled "The Transformation of the Teacher's Role in the Context of E-Learning: A Field Study on Secondary Education Teachers" focused on the functional shift in the teacher's role within the digital learning environment. It showed that the teacher moved from the role of knowledge transmitter to that of facilitator and guide, which required developing skills in instructional design, remote interaction, and other technical competencies. The study also revealed disparities in teachers' engagement with digital education, with many expressing a need for both technical and pedagogical support from school administration.

These studies collectively indicate that digital transformation in education is not merely a technical shift but a comprehensive reformative process that touches upon the very structure of the school and the roles of educational stakeholders. This transformation demands a particular pedagogical, psychological, and professional preparation for teachers, who bear the responsibility for adaptation, initiative, and innovation in a learning environment that is no longer closed or traditional. It is within this framework that the present study seeks to delve deeper into analyzing this transformation in the local educational context, with a particular focus on teachers' roles and practical practices, in an effort to identify needs and challenges and to explore prospects for development.

4. Digital Transformation in Education – Concept, Characteristics, and Educational Dimensions:

4.1 The Concept of Digital Transformation in Education:

Digital transformation in education refers to the shift from the traditional model of teaching and learning to a digital model that relies on information and communication technologies (ICT), such as computers, smart boards, educational platforms, cloud-based resources, artificial intelligence, and augmented reality. This transformation entails changes in the design of educational content, the organization of classroom activities, assessment methods, and the roles of both teachers and learners (Hammoudi, 2020, p. 34). It represents a structural, cultural, and pedagogical shift that impacts all levels of the educational process, aiming to make education more flexible, interactive, and aligned with the realities of the digital age.

4.2 The Difference Between Digitization and Digital Transformation:

Any discussion on the development of education must clearly distinguish between digitization and digital transformation, as this distinction has a direct impact on how educational policies are formulated and implemented. Digitization refers to the technical process of converting traditional content or tools into digital formats—such as using a computer instead of paper, replacing the chalkboard with a smart board, or turning textbooks into PDF files or interactive applications. This process mainly focuses on updating tools without necessarily changing the essence of educational practice or the underlying philosophy of teaching. As such, it can be considered more of a “functional modernization” or a “technological adaptation” rather than a profound transformation.

By contrast, digital transformation is a much broader and deeper concept. It is not limited to integrating technology into education but involves a complete and radical restructuring of the entire educational system—curricula, pedagogy, assessment, teacher training, and stakeholder roles, especially that of the teacher. Digital transformation seeks to establish a new educational culture based on innovation, flexibility, and interaction. It redefines the relationships between teacher and learner, and between school and society (Ben Yahia, 2021, p. 71). It is thus a structural and cultural transformation that reshapes the core goals of education and positions it as an active partner—not just a passive follower—in the digital knowledge society.

4.3 Characteristics of Digital Transformation in Education:

- **Comprehensiveness and Integration:** Digital transformation in education is characterized by inclusiveness and integration, as it goes beyond merely using technology in classrooms to encompass all levels of the educational system. It necessitates a restructuring of pedagogical and organizational relationships, the modernization of school management through digital systems, the enhancement of communication with families, and the development of teachers’ professional training. Additionally, it requires the digitization of curricula to suit distance or blended learning, taking into account learners’ cultural and cognitive diversity. This transformation demands institutional coordination among all stakeholders to ensure its success, through a systemic approach that bridges the technical and pedagogical dimensions, thus avoiding reliance on temporary or limited experimental initiatives (Abdallah, 2019, p. 93).

- **Interactivity and Flexibility:** Digital transformation has brought about a significant shift in the educational relationship, expanding interaction between teachers and learners into flexible virtual spaces and beyond fixed timeframes.

Thanks to tools such as platforms, forums, and chats, learning has become more collaborative, enhancing learners' sense of responsibility as well as their digital and social competencies. This model also facilitates easier access to education for diverse groups and reinforces the principle of lifelong learning. In this context, the teacher's role shifts to that of a guide and facilitator, rather than a mere transmitter of information (Al-Drini, 2022, p. 57).

- **Customization and Adaptability:** One of the most important features of digital transformation is the ability to personalize and adapt educational content to individual learner needs—something not easily achieved in traditional settings. AI tools and performance-tracking algorithms allow precise monitoring of each learner's progress and the identification of strengths and weaknesses. This enables teachers to design individualized activities and provide differentiated support. Personalized learning increases engagement and effectiveness, allowing learners to take ownership of their learning process.

4.4 Educational Dimensions of Digital Transformation:

- **Redefining the Roles of Educational Stakeholders:** Digital transformation has radically redefined the roles of educational stakeholders, particularly the teacher. The teacher's role is no longer to simply transmit knowledge or control information access. Instead, the teacher now acts as an educational facilitator, guide, and designer of interactive and technology-enhanced learning experiences. Teachers are expected to integrate technology into their pedagogical strategies and create motivating digital environments that are flexible and learner-centered. This transformation has also expanded the learner's role—from passive recipient to active participant in co-constructing knowledge. With digital tools, learners manage their learning paths, choose resources, evaluate their progress, and contribute to knowledge production. This enhances learner autonomy and develops critical thinking, research, and collaboration skills. Consequently, the teacher–learner relationship becomes more balanced, dynamic, and less hierarchical.

- **Emergence of New Pedagogies:** Digital transformation has given rise to new learning environments that demand modern pedagogical approaches compatible with their interactive and flexible nature. Among the most prominent is flipped learning, where learners engage with instructional content at home via videos or digital materials and use classroom time for discussion, interaction, and application. This model promotes active learning and places the learner at the center of the educational process, allowing them to manage their learning time more effectively (Zarouki, 2021, p. 119).

○ **Reforming Assessment Methods:** Digital transformation has led to a fundamental development in educational assessment methods, moving beyond traditional paper-based exams to adopt diverse digital evaluation approaches. These include individual and collaborative assessments, immediate and formative assessments, as well as self and external evaluations. Such models allow continuous monitoring of learner performance and provide instant, personalized feedback. They also offer precise indicators to identify areas for improvement, enhancing fairness and accuracy in evaluation. Thus, assessment becomes an educational tool that supports continuous learning, aligning with a modern educational philosophy that respects individual differences in an advanced digital environment.

5. The Transformation of the Teacher's Role in the Context of Digital Transformation:

5.1 Traditional Roles of the Teacher:

○ **The Instructional and Transmissive Role:** In the traditional model of education, which prevailed for decades before the emergence of digital transformation, the teacher was regarded as the sole source of knowledge and held the epistemic and pedagogical authority in the classroom. Their primary role was to transmit and explain academic content directly, usually through lecture-based methods, without actively involving students in the construction of knowledge or the direction of the lesson. This approach positioned the teacher as the central figure in the educational process, while students were confined to passive roles of memorization and recall, with little space for critical thinking or personal creativity (Zaitouni, 2020, p. 45).

○ **Limited Interaction and Innovation:** The absence of digital tools and interactive content significantly limited the scope for engagement within the traditional classroom. Teachers relied heavily on conventional materials such as textbooks, blackboards, and oral delivery, which led to standardized teaching methods that often failed to consider learners' individual differences or provide opportunities for creativity and self-expression. Consequently, the learning process became stagnant, with knowledge delivered in a uniform and inflexible manner, disconnected from learners' interests and progress rates. Moreover, traditional classrooms lacked collaborative practices, with little to no emphasis on group activities or participatory learning strategies. Modern pedagogies such as project-based or problem-solving learning were rarely, if ever, employed—thereby denying students opportunities to develop critical thinking and communication skills (Al-Azzawi, 2019, p. 60). These limitations inherent in the

traditional system are what have made digital transformation not just a technological upgrade but a deeply needed pedagogical reform aimed at creating a more open, adaptive, and innovative educational environment.

5.2 The Professional Role Shift of the Teacher

- **From Knowledge Transmitter to Learning Facilitator:** Digital transformation has fundamentally redefined the traditional perception of the teacher as the sole knowledge provider. In the digital age, the teacher is repositioned as a facilitator and guide—someone who supports learners on their journey of knowledge acquisition, rather than handing it to them prepackaged. The teacher's role has shifted from merely explaining and lecturing to directing students toward appropriate digital resources and training them in how to search, analyze, critique, and evaluate information—skills that are essential in an open, complex information landscape. This shift represents a move from a hierarchical teaching model to a more horizontal and collaborative framework for knowledge construction. In this new role, teachers employ technological tools as effective instructional media: educational search engines, learning apps, multimedia, and online discussion platforms (Khalil, 2022, p. 88). Thus, the teacher evolves from an authoritative source to a supporter of self-directed learning, offering students broader opportunities for deep, independent study beyond the confines of time and space.

- **From Traditional Planner to Designer of Learning Experiences:** In the digital learning environment, it is no longer sufficient for teachers to plan lessons in a conventional manner. They are now expected to design comprehensive and interactive digital learning experiences. This requires a deep understanding of learner profiles and learning styles, the ability to select appropriate media, and the use of platforms that help simplify and diversify content—such as Moodle. Instructional design now involves preparing multimedia content including videos, simulations, educational games, and adaptive e-exercises, all of which enhance engagement and interactivity. Teachers must also be capable of creating collaborative digital activities and encouraging learners to explore and interact independently. This role demands digital planning skills, pedagogical creativity, and the flexibility to adapt quickly to evolving technological environments (Bouhamidi, 2021, p. 102).

- **From Examiner to Educational Data Analyst:** The integration of digital learning platforms has transformed the assessment role of the teacher. No longer limited to designing paper-based exams and grading them, teachers now engage with digital systems that provide detailed analytics on each learner's progress,

engagement, and areas of difficulty. Tools such as Learning Dashboards and Learning Analytics offer comprehensive insights into each student's learning trajectory. With these tools, teachers can deliver personalized and real-time feedback, as well as design differentiated support activities aligned with each learner's progress—thus enhancing learning effectiveness and turning assessment into a tool for guidance rather than judgment. These technologies also enable the creation of flexible and formative assessment strategies that allow for continuous performance tracking and a balanced use of both formative and summative evaluation methods (Moussaoui, 2020, p. 67). In this way, assessment within a digital system becomes an ongoing and integrated pedagogical process that contributes to continuous improvement based on real-time data.

6. Challenges Faced by Teachers in the Context of Digital Transformation:

6.1 Professional and Training Challenges:

- **Weakness in Digital Training:** Despite the significant progress made in the field of digitization, the lack of specialized training in digital competencies remains one of the major obstacles preventing teachers from effectively implementing the desired educational transformation. Many teachers—especially those from older generations—did not receive any substantial training in educational technologies or in the use of digital media during their academic and professional preparation (Fetahi, 2020, p. 73). Even after entering the profession, in-service training often lacks practical content or fails to keep pace with the rapid developments in digital education.

- **Lack of Digital Pedagogical Support:** Another barrier hindering digital transformation in educational institutions is the absence of structured digital pedagogical support, which is essential to ensure the safe and effective implementation of technology in schools. In many contexts, specialized support teams—such as educational technologists or instructional technology advisors—are not available to assist teachers with daily technical challenges or to guide them in choosing appropriate digital tools for specific pedagogical objectives (Ghellab, 2021, p. 89). As a result, teachers often face "digital isolation," where they are left alone to create digital resources, activate platforms, manage remote interactions, and troubleshoot technical issues.

6.2 Pedagogical and Educational Challenges:

- **Difficulty of Human Interaction in Virtual Environments:** Direct human interaction remains a cornerstone of the educational process, as the teacher–student relationship in traditional settings relies on non-verbal cues such as body language, tone of voice, and facial expressions. These cues are crucial for building

trust, motivating learners, and understanding their emotional states. However, digital or blended learning environments often lack these essential elements, depriving teachers of many of their traditional communication tools. This challenge is particularly evident in distance education, where the teacher–learner relationship becomes mediated through a screen, limiting spontaneous interaction and sometimes causing learners to feel isolated or disengaged—especially in the absence of genuine classroom dynamics (Al-Qurashi, 2022, p. 51). This gap affects classroom cohesion and energy, prompting the teacher to seek alternative interactive strategies—such as virtual discussion rooms or online polls—to partially compensate for the lack of human connection.

- **Difficulty in Adapting Traditional Curricula to Digital Media:** Most curricula suffer from structural rigidity, as they were originally designed for direct instruction in face-to-face settings without consideration for the interactivity, pacing, or content diversity of digital environments. This reality poses a serious challenge for teachers, who often find themselves compelled to rework and adapt educational content into digital interactive formats—a process that demands significant technical, pedagogical skills, and time. This difficulty is compounded by the lack of effective coordination among teachers, instructional designers, and school administrations. Teachers are frequently left to carry the burden of content digitization without sufficient institutional support (Afifi, 2019, p. 64). Additionally, certain lessons or curricular content may not lend themselves easily to digital restructuring without compromising their meaning, which sometimes necessitates a complete redesign of curricula based on a comprehensive digital pedagogical vision—an undertaking that cannot be left to individual efforts alone.

- **Multiplicity of Roles and Additional Tasks:** In the digital education environment, teachers' responsibilities have expanded to include technical and administrative roles alongside their educational duties, such as designing digital content, managing platforms, and conducting electronic assessments. This role diversification increases workload without adequate compensation, leading to professional and psychological pressure that negatively affects performance quality. To address this challenge, it is recommended to restructure and fairly redistribute tasks, provide support teams, and reduce non-educational burdens on teachers (Bouzeid, 2021, p. 106).

7. Study Methodology and Sample Population:

The descriptive-analytical method was adopted to study digital transformation in education due to its ability to systematically analyze complex educational phenomena. This method enables the collection of accurate information about the use of digital tools and the analysis of their impact on teachers' roles, teaching

methods, and communication strategies. It also allows for examining relationships between variables without interfering with them, providing an objective scientific framework that can be relied upon to improve future educational practices.

7.1. Research Tools:

○ **First – The Questionnaire:** This was the primary tool for collecting quantitative data from a broad sample of middle school teachers. The questionnaire was designed with both closed-ended questions (multiple-choice) and open-ended questions (to express opinions), and it addressed the following axes:

- The extent of digital tool use in teaching.
- Teachers' perceptions of the impact of digitization on their professional roles.
- Challenges faced during the digital transformation process.
- Availability of training and technological support.

○ **Second – Semi-structured Interviews:** These were used to collect more in-depth qualitative data from a smaller sample of teachers or educational inspectors. The focus was on their personal experiences, attitudes toward digital transformation, and the actual challenges they encountered.

7.3. Sample Population:

A purposive (intentional) sample was selected, consisting of teachers with actual experience using digital teaching tools. The sample size was 41 teachers, and 8 interviews were conducted.

8. Study Results:

• Questionnaires and field interviews revealed that the majority of teachers acknowledge the positive impact of digital transformation on teaching quality. However, they link its success to the availability of proper training, technical, and institutional support.

• Field data indicate that the level of digital adaptation varies depending on the teacher's generation, prior training, and available support. While some teachers show strong enthusiasm and engagement, others struggle with technical and pedagogical barriers.

• Results concluded that successful digital transformation should not be an individual responsibility of teachers but part of a comprehensive national educational policy that includes training, infrastructure, support, and continuous review of curricula and practices.

• Most teachers expressed positive attitudes toward digital transformation, recognizing its role in enhancing educational quality — through diversified methods, enriched content, and improved interaction and assessment tools. Many

noted improved professional performance, especially in making knowledge more accessible and expanding communication opportunities with learners inside and outside class time. However, these positive views were often conditional on key requirements: ongoing digital training, effective technical support within institutions, and the availability of context-appropriate digital teaching resources. Several teachers pointed out that the absence of these conditions turns digitization into a burden rather than a development tool, confirming that effective digitization requires a supportive and motivating institutional structure.

- The results also showed that adaptation to the digital environment is not uniform among all teachers. It varies significantly due to several factors, most notably: the teacher's generation (age and experience), previous training in educational technology, and the availability of training and support opportunities within the institution. While some "digital-native" teachers quickly adapted to new platforms and tools, others — especially from older generations — reported real difficulties in adjusting to the new digital context.

- This disparity affects not only teaching practices but also the quality of learning provided to students, and the degree of benefit from available digital possibilities. It highlights a gap within the educational system between those equipped to engage with digitization and those lacking such capability. There is thus an urgent need for targeted support policies that address these differences, providing differentiated training programs according to each teacher category's needs.

- The analysis concluded that digital transformation should not be reduced to individual efforts or isolated initiatives but must be part of a comprehensive national educational strategy with clear strategic dimensions and long-term vision. The success of this transformation requires integration between infrastructure, digital equipment, continuous training, technical support, pedagogical guidance, and curriculum reform to suit the new digital environment. This strategy should also include mechanisms for monitoring, evaluation, and adjustment, allowing for progressive, realistic improvement and ensuring the involvement of all educational actors in formulating and implementing policies. The absence of such a strategy could exhaust teachers and deepen educational disparities, whereas its presence represents a real opportunity for qualitative progress in the overall educational system and a sustainable and fruitful digital shift.

- The study demonstrated that digital transformation in education is no longer a future option but a current reality imposed on all components of the educational system. Teachers are among the most affected stakeholders in this shift — in their

roles, tools, and daily practices — necessitating a reconceptualization of the teaching profession itself.

- The analysis revealed that the modern teacher is no longer merely a transmitter of knowledge, but rather a facilitator, guide, and designer of digital learning experiences, requiring a combination of technological, pedagogical, and communicative competencies. This means that the teaching profession has become more complex and specialized than before.

- The study identified real gaps that hinder effective digital transformation, including weak digital training, lack of infrastructure, insufficient institutional support, and varying individual preparedness among teachers — all contributing to disparities in the quality of digital implementation across educational institutions.

- Based on theoretical frameworks and field analyses, the study confirmed that digital transformation is not merely a temporary response to emergencies (e.g., pandemics) or labor market demands, but a structural reality reshaping the landscape of contemporary education. Modernizing the educational system is now inseparable from embracing this transformation, which has affected teaching tools, learning environments, stakeholder roles, and interaction and evaluation methods.

Conclusion:

The study concluded that digital transformation in education is no longer a temporary option or an emergency technical response, but rather an unavoidable strategic path for rebuilding schools in line with the demands of the digital age. The accelerating knowledge and technological revolution has compelled educational systems to reassess their structures and functions. Digitization has thus become one of the most important pillars of educational development, a means to achieve educational equity, and a tool for enhancing learning quality.

The findings of both theoretical and field analysis revealed that, despite its promising potential, this digital shift imposes new and more complex challenges on teachers. Educators are now required to combine technical proficiency in using digital tools with pedagogical planning skills and communication competencies within digital or hybrid learning environments. This necessitates ongoing investment in professional training and technical support, alongside constant adaptation to rapid technological changes. The study confirms that the teacher remains at the core of the educational process; digitization cannot replace the teacher but rather serves to enhance and redefine their role.

Furthermore, the study indicates that the success of any digitization project depends fundamentally on effectively empowering teachers—through continuous training, reduced workloads, and supportive environments that encourage pedagogical creativity. However, this path faces several structural obstacles, such as weak infrastructure, limited resources, and varying levels of digital readiness among educational stakeholders. Overcoming these challenges requires a systematic and comprehensive approach.

Based on these insights, the study emphasizes that successful digital transformation in education calls for a national vision that places teachers at the heart of reform—not just as implementers of directives, but as active partners in shaping and executing them. Digitization must be linked to well-defined pedagogical projects and supported by institutional environments that foster innovation, respect gradual change, and ensure digital equity across institutions, regions, and educational groups. Ultimately, digitization is not merely a shift from paper to screen; it is a profound cultural and pedagogical transformation that redefines society's relationship with knowledge and opens broad horizons for deep and sustainable educational reform.

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