

# Role of Teachers in the Age of Digital Classrooms: Changing Responsibilities, Competencies, and Challenges

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## Abstract

Teachers' duties and responsibilities in contemporary classrooms have been redefined by the rapid progress of digital technology, which has drastically changed teaching and learning processes. This study investigates the evolving roles, critical skills, and major obstacles that educators encounter in digital learning settings. The study, which uses a qualitative descriptive research approach, is founded on a thorough analysis of pertinent literature, including research articles, policy documents, and theoretical viewpoints on digital education. The results show that in technology-mediated learning environments, teachers serve as facilitators, mentors, content creators, and ethical advisors in addition to being knowledge providers. In order to improve effective teaching practices, the study emphasizes the significance of digital literacy, pedagogical adaptability, content knowledge, and ongoing professional development. It also highlights issues including poor infrastructure, restricted access to digital resources, inadequate training, and institutional limitations. The study comes to the conclusion that in order to promote high-quality education and get students ready for active engagement in a world that is becoming more and more digital, it is crucial to develop teachers' professional capacities through ongoing support, digital infrastructure, and legislative efforts.

**Keywords:** Digital classrooms; Teacher competencies; Digital pedagogy; Professional development; Educational technology; Digital literacy.

## 1. Introduction:

Teaching in the twenty-first century is not the same as teaching in the twentieth. In today's digital world, a teacher's presence is no longer determined only by his charm ( Kari and Sugiyanto, 2006). Teachers now play the role of facilitators rather than just knowledge providers. The teaching-learning process has been completely transformed by the emergence of digital classrooms, requiring that educators adjust to a technologically advanced setting. Modern digital learning environments need teachers to take on a variety of responsibilities, such as facilitators, content designers, mentors, evaluators, and ethical advisers, in contrast to conventional classrooms where a teacher's primary duty was to impart knowledge. In the digital era, teachers are expected not only to deliver curriculum content but also to integrate technology effectively, design interactive learning experiences, and nurture students' critical thinking and digital literacy. This shift emphasizes student-centered approaches, collaborative learning,

and engagement through digital tools and platforms. Moreover, governments and educational institutions are increasingly prioritizing digital education to ensure students are prepared for a globally competitive and technologically advanced world. The shift to digital classrooms presents a number of difficulties for educators, such as restricted access to technology, inadequate training, a range of students' digital competencies, and the requirement to uphold moral and social-emotional advice in virtual settings. This essay examines how teachers' roles in digital classrooms are changing, the skills they need to be successful, the difficulties they encounter, and practical suggestions for improving their efficacy in the digital era.

## **2. Objectives of the Study:**

1. To analyze the evolving responsibilities of teachers in digital classrooms.
2. To identify the key competencies required for teachers in the digital era.
3. To examine the challenges faced by teachers in implementing digital pedagogy.
4. To suggest strategies for empowering teachers in technology-enabled classrooms.

## **3. Methodology:**

A qualitative descriptive research design was adopted in this study to examine the evolving responsibilities, essential competencies, challenges, and empowerment strategies of teachers in digital classrooms. This approach was chosen to gain a deeper understanding of teachers' experiences, attitudes, and practices within technology-enhanced learning environments. The study relied on a literature-based analysis, reviewing relevant research articles, policy documents, theoretical works, and empirical studies to identify emerging trends in digital pedagogy. Through thematic analysis of existing literature, the study explored the changing roles of teachers, the key skills required in the digital era, the challenges faced in implementing digital teaching practices, and effective strategies for empowering teachers in technology-enabled classrooms. This qualitative approach enabled a comprehensive and meaningful interpretation of existing knowledge related to digital education.

## **4. Review of related literature:**

Ajani (2024) looks at the competencies teachers need for successful digital integration in classroom practices, emphasizing content expertise, pedagogical knowledge, and technological proficiency as crucial abilities. The study highlights how these skills help educators design dynamic, student-focused, and technologically enhanced learning environments. It also addresses issues like inadequate infrastructure, policy support, and training, emphasizing the significance of ongoing professional development to improve teaching strategies and student learning outcomes in the digital era.

Khatout (2024) examines how teachers' roles are changing in the age of digital transformation, emphasizing the opportunities and difficulties of using technology into the classroom. While highlighting benefits like improved student participation, individualized learning, and fair access to educational resources, the report also identifies challenges such as gaps in technical proficiency, inadequate infrastructure, and challenges in adopting pedagogical techniques. It also provides useful insights for enhancing teaching and learning outcomes in digitally rich classrooms by outlining best practices for educators, such as creative teaching methods, efficient use of digital tools, and creating digitally literate learning environments.

Gupta, Gaur, Bhatt, and Parveez (2024) examine how important teachers are in online learning environments and virtual classrooms for improving students' academic abilities. The study outlines tactics teachers use to encourage participation, give constructive criticism, support group projects, and apply individualized teaching methods. The results show that encouraging motivation, academic success, and skill development in virtual environments requires active teacher presence, meaningful contact, and customized feedback. Additionally, although individualized instruction meets each student's requirements and fosters academic progress, teacher-led collaborative learning experiences enhance knowledge sharing and critical thinking. With implications for continued educational development in the digital age, the study emphasizes the significance of utilizing technology and pedagogical innovation to construct dynamic, inclusive, and adaptable online learning environments.

Desniyanti (2025) examines the fundamental skills educators must possess in order to successfully incorporate digital technologies and resources into their teaching methods. The study highlights topic expertise, pedagogical understanding, and technological ability as essential competencies for developing dynamic, student-centered digital learning environments. It also draws attention to issues including inadequate infrastructure, policy support, and training, highlighting the significance of continuing professional development to improve teaching methods and student learning results in the digital age.

## 5. Analysis:

### **Objective 1: Changing Responsibilities of Teachers in Digital Classrooms**

The fast advancement of technology and the trend toward online, blended, and personalized learning settings have significantly changed the role of teachers in digital and virtual classrooms. Teachers now act as mentors, advisors, facilitators, and designers of enriched learning experiences in addition to being information transmitters as education becomes more and more digital. The demands of decentralized knowledge networks, digital pedagogical advances, and adaptive learning systems are reflected in their changing responsibilities (Gupta et al., 2024; Fitria & Suminah, 2020).

The increasing focus on individualized instruction and personalized learning is a key component of this change. Customizing learning routes, content, and pace to each student's unique requirements, interests, and strengths is known as personalized learning. Teachers can design personalized learning experiences that improve student engagement and academic performance with the use of flexible digital resources, analytics, and adaptive technologies. This is enhanced by differentiated education, which adapts assessments, instructional procedures, and content to suit a range of learners. Teachers can incorporate interactive simulations, multimedia resources, and a variety of assignment formats into digital classrooms, making them accessible to students with varying learning preferences. However, issues including algorithmic fairness, teacher workload, data privacy, and technological inequality must be addressed for deployment to be effective (Gupta et al., 2024).

Professional development and ongoing teacher training are now crucial to meeting these needs. In addition to becoming proficient with digital technologies, educators must learn how to purposefully and meaningfully incorporate technology into their teaching. Designing interactive exercises, creating virtual learning communities, giving prompt feedback, and encouraging learners' autonomy are all necessary for effective online education. Therefore, peer collaboration, mentorship, reflective practice, and continuous adaptation to new technological trends should all be encouraged in professional growth. Inequitable access to infrastructure and high-quality training continues to be a major obstacle in many areas (Gupta et al., 2024).

The production of knowledge has become more dispersed as digital networks grow. Information is no longer solely under the hands of professors, as seen by platforms like Jardiknas and Indonesia's Inherent Network. Rather, educators take on the role of learning consultants, helping students find, assess, and use information in an appropriate manner. According to Fitria and Suminah (2020) and Sudiarta (2007), they assist students in navigating enormous digital landscapes and promote inquiry, discovery learning, and problem-solving in real-world situations. Strong digital literacy is necessary for teachers to carry out this work successfully. This includes the capacity to select reliable sources, solve digital problems, participate in online communities, and provide an example of moral digital conduct.

Sanjaya (2006) offers a comprehensive viewpoint by conceptualizing seven responsibilities of educators in the digital age:

1. Learning resources: provide clear and understandable information as required.
2. Facilitators providing effective and significant learning opportunities.
3. Managers establishing orderly, secure, and stimulating educational settings.
4. Demonstrators are those who inspire students with their attitudes, values, and behaviors.
5. Guides are mentors who help pupils grow both personally and academically.
6. Motivators fostering zeal, perseverance, and internal drive.
7. Elevators using introspection and enrichment to enable pupils to realize their greatest potential.

The transition from teacher-centered to student-centered, digitally mediated pedagogies is reflected in these jobs. Research shows that through interactive discussions, multimedia-based training, group projects, and individualized feedback, teachers in digital environments play a crucial role in improving educational skills. Teachers use data-driven decision-making and adaptive technologies to continuously assess students' progress and adjust their lessons to suit changing demands. They promote digital literacy, critical thinking, creativity, and socioemotional growth—skills necessary for learning in the twenty-first century. Crucially, educators also act as moral role models, encouraging lifelong learning habits, a growth mentality, and good digital citizenship (Gupta et al., 2024). All things considered, the evolving role of educators in digital classrooms necessitates a well-rounded blend of technology expertise, creative pedagogical approaches, social awareness, moral accountability, and ongoing professional development. In today's digitally connected world, educators are change agents, knowledge reformers, and learning advisors who make sure kids succeed academically, socially, and emotionally.

## **Objective 2: Competencies Required for Teachers in Digital Classrooms:**

As technology continues to transform teaching and learning processes, the incorporation of digital tools and learning materials into classroom instruction has emerged as a crucial necessity in contemporary education (Ajani, 2024). In order to accomplish curriculum objectives, improve learning outcomes, and increase student engagement, teachers are no longer restricted to using traditional approaches. Instead, they must successfully use digital resources. Understanding the skills instructors need to successfully incorporate digital technologies into dynamic classroom contexts is the main goal of this study. Examining how educators may close the gap between their current level of digital competency and the requirements of technology-enhanced instruction is part of this. A central component of teacher competencies is technological proficiency. Teachers need the ability to use digital devices, software, and online platforms effectively for teaching purposes (Eke, 2019). In South African schools, however, disparities in access to technology and infrastructure, such as internet connectivity and reliable electricity, create challenges that impact teachers' ability to integrate digital content meaningfully

(Chigona & Chigona, 2010; Ertmer, 2012). Understanding technological competencies involves assessing how teachers can operate devices, troubleshoot issues, and incorporate tools such as educational apps, digital textbooks, and virtual learning environments into their instructional practices. To create and carry out successful learning experiences using digital resources, educators need pedagogical understanding in addition to technological expertise. In technology-mediated contexts, educators must be able to match digital content with curriculum objectives, choose effective teaching techniques, and evaluate students' learning results (Doherty, 2017). Research indicates that although many educators are aware of the potential advantages of digital technology, they frequently lack the pedagogical skills necessary to use these resources for deep learning (Finger & Houquet, 2012). To ensure that digital integration improves rather than detracts from learning, it is imperative to close this gap. Another crucial skill is content competence, which guarantees that educators can choose and modify digital learning resources in line with curricular requirements. One of South Africa's challenges is the scarcity of high-quality, culturally appropriate digital information that is adapted to the various demands of learners (Herselman et al., 2011). To ensure that digital integration promotes genuine learning rather than superficial technology use, teachers must be able to critically evaluate digital resources, create tailored content when needed, and contextualize information for their particular classroom situations. To improve teachers' digital integration skills, professional development is essential. The development of digital skills is hampered by systemic obstacles such as disjointed training programs, no continuous support, and a lack of incentives for creative instruction (Chigona & Chigona, 2010; Gamede et al., 2022). The goal of the study is to pinpoint professional development tactics, such as peer support networks and collaborative learning communities, that offer ongoing direction and empower educators to successfully implement digital integration techniques. Educational policy, teacher preparation, and classroom practice are all significantly impacted by an understanding of teachers' digital integration competencies. Stakeholders can create interventions that improve digital integration and boost student learning outcomes by determining the necessary knowledge, abilities, and support networks (Ajani, 2024). By concentrating on these skills, educators may utilize the transformative power of digital tools to create inclusive, equitable, and engaging learning environments in a variety of educational settings.

### **Objective 3: Challenges Faced by Teachers in Developing Digital Literacy:**

A key component of successfully integrating ICT in the classroom is teachers' growth in digital literacy. Teachers are unable to properly acquire and utilize these competences due to a number of obstacles. Unfair access to technology infrastructure is a significant barrier, particularly in rural and underfunded institutions. Chigona and Chigona (2010a) claim that schools in underprivileged areas frequently lack enough computers, tablets, or interactive whiteboards, and that teachers are unable to obtain practical experience with these resources. On the other hand, there is a digital divide that impacts kids' learning possibilities and the quality of instruction because teachers in urban schools have greater access to contemporary technology. Teachers' capacity to regularly use digital materials is further hampered by restricted internet access and unstable electrical supplies in addition to infrastructure issues (Chigona & Chigona, 2010b; Bladergroen & Chigona, 2012). Teachers may be taught to use online learning platforms, for example, but it might be challenging to use these resources in the classroom due to sluggish internet speeds or frequent power outages. These restrictions deter educators from incorporating digital tools into their regular lessons, which lessens the potential influence of technology-enhanced

learning on students' results. The absence of sufficient professional development centered on digital literacy is another major obstacle. Many educators lack the pedagogical expertise and technical proficiency necessary to effectively incorporate ICT into curriculum-aligned education (Botha & Herselman, 2015). Teachers are unable to properly implement new skills because professional development programs are frequently one-time workshops or training sessions without follow-up support. The integration process is further complicated by the fact that teachers are occasionally obliged to modify generic digital materials that might not be in line with the South African curriculum or accommodate local cultural and student settings (Nyathi et al., 2023). The growth of teachers' digital literacy is also hampered by systemic issues in the educational system. Teachers that innovate in their use of technology in the classroom often lack institutional support, incentives, or recognition (Nyathi et al., 2023). Teachers could be hesitant to implement new digital practices in the absence of a collaborative and encouraging environment. Further impeding their professional development in this field are persistent issues including big class numbers, demanding workloads, and a lack of time to experiment with digital tools. A diversified strategy is needed to address these issues. To promote persistent technology use, schools and legislators must give equal access to digital infrastructure first priority and offer dependable electricity and internet connectivity. To improve both technical and instructional competencies, professional development programs should be ongoing, context-specific, and in line with instructors' pedagogical demands. Supporting cooperative communities of practice can also promote peer learning and the exchange of best practices for incorporating technology into various school settings (Chigona & Chigona, 2010a; Nyathi et al., 2023). By removing these obstacles, South African teachers can acquire strong digital literacy abilities, which will ultimately enhance instructional strategies and student learning results.

#### **Objective 4: Strategic Recommendations for Strengthening Teachers' Role:**

Teachers are essential in incorporating digital tools and technology into classroom activities in today's ever changing educational environment. Improving their professional capacity, knowledge, and abilities is crucial to improving student learning outcomes and teaching quality.

- **Regular Professional Development Programs:**

Regular professional development programs are crucial to improving teachers' capacity to successfully use digital resources into the classroom. These courses should include digital pedagogy, online assessment techniques, virtual classroom administration, and responsible technology use in addition to fundamental ICT skills. Teachers can stay current in the ever changing digital landscape by participating in online certification courses, webinars, conferences, and peer mentoring. Additionally, effective professional development increases teachers' self-assurance, improves their capacity to create captivating online courses, and encourages creative teaching methods.

- **Institutional Infrastructure and Technical Support:**

Effective digital teaching requires a strong institutional framework. Access to necessary technology resources, including computers, tablets, projectors, reliable internet connectivity, and digital content platforms, must be guaranteed in schools. Technical support teams are crucial in helping teachers with software installation, cybersecurity maintenance, and troubleshooting in addition to hardware. Teachers experience disruptions that impact lesson continuity and student engagement when there is insufficient infrastructure. The digital divide is lessened and teachers' capacity to regularly integrate technology is improved when they have fair access to digital resources, particularly in remote or underdeveloped

locations. According to research, teachers are greatly motivated and instructional efficacy is increased by well-supported digital environments.

- **Blended and Hybrid Learning Models:**

The advantages of traditional classroom training are combined with the flexibility of digital learning in blended and hybrid learning approaches. With these approaches, teachers can continue to connect with students in person while using online platforms for group projects, videos, assignments, and tests. This method guarantees continuity amid disturbances like pandemics or natural catastrophes, allows self-paced learning, and takes into account a variety of learning demands. Additionally, blended learning allows teachers to present lessons with more flexibility and fosters students' ability to learn on their own.

- **Focus on Digital Literacy and Digital Ethics Education:**

To prepare students to interact properly in the digital world, digital literacy and digital ethics must be incorporated into the curriculum. Instructors must assist students in acquiring skills including assessing online content, spotting false information, comprehending digital footprints, and engaging in polite and secure online conduct. Teaching digital ethics, which includes topics like plagiarism, cyberbullying, privacy, and intellectual property, guarantees that kids won't abuse technology. Rather of restricting these skills to computer classes, integrating them into other disciplines promotes responsible digital citizenship. Teachers are crucial in influencing students' moral, ethical, and knowledgeable usage of digital tools as technology becomes more ingrained in daily life.

- **Peer Collaboration and Communities of Practice:**

In digital education, peer collaboration and communities of practice offer educators invaluable support and chances for shared learning. Teachers can share successful ideas, co-create digital lesson plans, share resources, and work together to address technological difficulties through collaborative networks. This kind of cooperation boosts professional confidence and lessens the feeling of loneliness that is frequently encountered when teaching online. By mentoring colleagues who are less experienced in digital education, seasoned educators can promote a culture of ongoing development. By establishing common resource libraries, frequent discussion groups, and online forums, schools can improve this cooperation. Teachers who participate in collaborative professional communities exhibit superior teaching quality, greater innovation, and stronger digital integration, according to numerous studies.

## 6. Conclusion:

The digital age has significantly altered the function of teachers, necessitating a change from traditional information transmission to a variety of duties that include mentorship, technology integration, evaluation, collaboration, facilitation, digital content creation, and ethical counsel. In order to provide students with engaging, inclusive, and meaningful learning experiences, teachers nowadays need to be technically proficient as well as possess pedagogical flexibility, digital literacy, critical thinking, and social-emotional skills. Although the advantages that come with using digital classrooms, teachers still have a lot of obstacles to overcome, including a lack of supportive regulations, a lack of professional development opportunities, and a lack of infrastructure. Schools, governments, and communities must provide all-encompassing support to address these issues, including frequent training, a strong technology infrastructure, cooperative professional networks, and a focus on digital literacy and ethics. In the end, teachers' capacity to adjust to new technologies while encouraging students' critical thinking, creativity, and responsible digital citizenship will determine how effective digital education is. Teachers can guarantee that pupils are not only academically competent but also equipped to succeed in a quickly

changing and digitally connected world by accepting their shifting roles and consistently enhancing their competencies.

## References

1. Ajani, O. A. (2024). Teachers' competencies in digital integration of learning contents in dynamic classroom practices: A review of teacher professional development needs. *Acta Educationis Generalis*, 14(3). <https://doi.org/10.2478/atd-2024-0016>
2. Alfianto, A., & Hidayati, N. A. (2022). Digital literacy skills of teachers and students in the digital era: A systematic review. *Journal of Education Technology*, 6(2), 234–245. <https://doi.org/10.23887/jet.v6i2.45291>
3. Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education*, 20(2), 107–128. <https://doi.org/10.1016/j.tate.2003.07.001>
4. Bladergroen, B., & Chigona, A. (2012). Educator discourses on ICT in education: A critical analysis—under-resourced schools context. *ERIC*. <https://files.eric.ed.gov/fulltext/EJ1084168.pdf>
5. Botha, A., & Herselman, M. (2015). A teacher tablet toolkit to meet the challenges posed by 21st century rural teaching and learning environments. *South African Journal of Education*. <https://www.sajournalofeducation.co.za/index.php/saje/rt/prinFRIENDLY/1218/0>
6. Chigona, A., & Chetty, R. (2012, March). Integration of ICTs in teacher education programs in South Africa. In *Proceedings of the Society for Information Technology & Teacher Education International Conference 2012*. Association for the Advancement of Computing in Education (AACE). [https://www.researchgate.net/publication/277830112\\_Integration\\_of ICTs\\_in\\_Teacher\\_education\\_programs\\_in\\_South\\_Africa](https://www.researchgate.net/publication/277830112_Integration_of ICTs_in_Teacher_education_programs_in_South_Africa)
7. Chigona, A., & Chigona, W. (2010a). An empirical survey on domestication of ICT in schools in disadvantaged communities in South Africa. *ERIC*. <https://files.eric.ed.gov/fulltext/EJ1085003.pdf>
8. Chigona, A., & Chigona, W. (2010b). An investigation of factors affecting the use of ICT for teaching in the Western Cape schools. *AIS eLibrary*. <https://aisel.aisnet.org/ecis2010/61>
9. Chigona, A., & Chigona, W. (2010). Barriers to ICT integration in teaching in South Africa. *International Journal of Education and Development using ICT*, 6(1), 14–23.
10. Doherty, I. (2017). Pedagogical innovation in online and blended learning. *Education Technology Research and Development*, 65(4), 939–956. <https://doi.org/10.1007/s11423-017-9535-7>
11. Eke, C. (2019). Teachers' digital competencies in integrating learning content: A global perspective. *Journal of Digital Learning*, 10(2), 33–48.
12. Ertmer, P. A., Addison, P., Lane, M., & Ross, E. M. (1999). Examining teachers' beliefs about the role of technology in the elementary classroom. *Journal of Research on Computing in Education*, 32(1), 54–72. <https://doi.org/10.1080/08886504.1999.10782269>
13. Finger, G., & Houguet, C. (2012). Professional development in ICT for teachers: A review of literature. *Australasian Journal of Educational Technology*, 28(8), 1233–1248. <https://doi.org/10.14742/ajet.1272>
14. Gamede, V., Govender, T., & Mthembu, S. (2022). Challenges in teacher digital competency development in South Africa. *African Journal of Teacher Education*, 11(2), 50–66.

15. Gupta, N., Gaur, V., Bhatt, A., & Parveez, S. (2024). The role of teachers in virtual classrooms and online learning environments to improve educational skills. *Educational Administration Theory and Practice*, 30(5), 4792–4797. <https://doi.org/10.53555/kuey.v30i5.3701>
16. Herselman, M., Botha, A., & Jacobs, S. (2011). Digital learning resources for teachers in South Africa: Access and use. *South African Journal of Education*, 31(4), 453–466.
17. Johler, M., Krumsvik, R. J., Bugge, H. E., & Helgevold, N. (2022). Teachers' perceptions of their role and classroom management practices in a technology rich primary school classroom. *Frontiers in Education*, 7. <https://doi.org/10.3389/educ.2022.841385>
18. Nyathi, T., Moyo, T., & Dlamini, N. (2023). Empowering South African educators: Navigating the challenges of digital teaching and learning competencies. *SA Journal of Human Resource Management*. <https://sajhrm.co.za/index.php/sajhrm/article/view/2591/4226>
19. Todorova, T. (2023). The teacher in the digital world: New roles, representations, perceptions. *Proceedings of The International Conference on Future of Teaching and Education*, 1(1), 70–80. <https://doi.org/10.33422/icfte.v1i1.5>
20. Turman, A. H. (2022). Teachers' perceptions of the effectiveness of positive behavior interventions and supports during virtual learning (Doctoral dissertation, Piedmont University). ProQuest Dissertations & Theses. <https://www.proquest.com/docview/29395571>
21. Thankachan, T. C., & George, A. (n.d.). Classroom management in the digital context: A vision for Gen Next. *International Journal of Creative Research Thoughts*. Retrieved December 9, 2025, from <https://www.ijcrt.org/papers/IJCRT1134433.pdf>