



Online and Blended Learning in Teacher Education

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Abstract

Blended learning is an educational approach that combines traditional face-to-face classroom method with online learning activities, allowing for a more flexible and personalized learning experience (Garrison & Kanuka (2004). The integration of digital technology has significantly transformed teacher education in recent years. Online and blended learning have emerged as effective approaches for preparing teachers to meet the changing demands of contemporary education. Online learning enables teacher trainees to access instructional materials, lectures, and learning resources through digital platforms, while blended learning combines online instruction with face-to-face classroom experiences. This conceptual paper aims to examine the role and importance of online and blended learning in teacher education and highlighting how these learning approaches support flexibility, self-paced learning, and continuous professional development among teachers. The use of digital tools such as learning management systems, virtual classrooms, discussion forums, and online assessments enhances teaching effectiveness and learner engagement. The paper also discusses key challenges related to online and blended learning, including limited digital competence, unequal access to technology, lack of training, and resistance to change. Emphasis is placed on the need for institutional support, proper planning, and capacity-building initiatives to ensure successful implementation. The study concludes that online and blended learning play a vital role in improving the quality of teacher education by promoting technological skills, reflective practice, and lifelong learning. Strengthening these approaches will help prepare teachers who are adaptable, innovative, and capable of addressing the needs of modern classrooms.

Keywords: online learning, blended learning, teacher education, digital technology, professional development

Introduction

Teacher education is a crucial component of educational quality, as teachers play a central role in shaping learners' academic and personal development. In the digital age, rapid technological advancements have brought significant changes to the way teaching and learning are designed and delivered. Traditional teacher education programs, which rely heavily on face-to-face instruction, are no longer sufficient to meet the evolving needs of contemporary education systems. As a result, online and blended learning have gained prominence as

innovative approaches in teacher education. Online learning refers to instructional practices that are delivered entirely through digital platforms, allowing teacher trainees to access learning materials anytime and anywhere. This mode of learning provides flexibility and convenience, especially for in-service teachers who need to balance professional responsibilities with continuous learning. Blended learning combines online learning with face-to-face instruction. It integrates the strengths of both approaches by offering direct interaction with instructors while also promoting independent and



technology-supported learning. The adoption of online and blended learning in teacher education supports the development of essential digital competencies among teachers. Teachers are not only learners in these programs but also future practitioners who are expected to integrate technology effectively into their own classrooms. Through exposure to digital tools such as learning management systems, virtual classrooms, and online collaborative platforms, teacher trainees develop confidence and skills in using technology for instructional purposes.

Moreover, online and blended learning encourage self-directed learning, reflective practice, and collaboration among teacher trainees. These approaches foster active participation and continuous professional growth, which are essential for lifelong learning. Despite these advantages, challenges such as limited access to technology, inadequate digital training, and resistance to change remain barriers to effective implementation. Therefore, understanding the role of online and blended learning in teacher education is essential for improving teacher preparation and ensuring quality education in the digital era.

Conceptual Framework

Online and blended learning in teacher education are grounded in the effective use of digital technology to enhance teaching and learning experiences. Online learning refers to instructional practices that are delivered entirely through digital platforms such as learning management systems, virtual classrooms, webinars, MOOCs, and online discussion forums. This approach allows teacher trainees to access learning materials, recorded lectures, and assessments at their own pace, promoting flexibility and self-directed learning.

Blended learning is an instructional method that merges the traditional teaching with online learning components. It integrates digital tools with in-person interaction to create a balanced and engaging learning environment. In teacher education, blended learning allows trainees to participate in classroom discussions, practical teaching activities, and

workshops while also engaging with online resources and collaborative platforms. This combination supports deeper understanding and skill development. The conceptual framework of online and blended learning in teacher education is closely linked to constructivist learning theory, which emphasizes active participation, collaboration, and knowledge construction. According to this theory, learners build knowledge through interaction with content, peers, and instructors. Online discussion forums, collaborative projects, and reflective activities support this process by encouraging active engagement. Blended learning further strengthens constructivist principles by combining digital interaction with real-world classroom experiences.

Another important theoretical foundation is adult learning theory (andragogy), which highlights the need for autonomy, relevance, and practical application in learning. Teacher trainees, especially in-service teachers, benefit from online and blended learning because these approaches respect their prior experiences and professional responsibilities. Flexible learning schedules and practical digital activities make learning more meaningful and applicable. Andragogy places importance on the ground that learners must actively involved in the formation, delivery, and assessment of their own learning at all levels leading to a life long learning in contrast with pedagogy, which focuses on teaching children. In essence, andragogy recognizes adults as self-directed learners who get benefit from a more autonomous and experiential approach to learning. In the current scenario ambient learning and heutagogy approach (Stewart Hase and Chris Kenyon 2000) are also being considered. Online and blended learning also support professional learning communities, where teachers collaborate, share experiences, and reflect on teaching practices. Digital platforms enable continuous interaction beyond physical classrooms, promoting peer learning and professional growth. Through this framework, teacher education becomes learner-centered, technology-enabled, and aligned with the demands of 21st-century education.



Review of Related Literature

- Several national and international studies have highlighted the growing importance of online and blended learning in teacher education. Research indicates that these approaches improve accessibility, flexibility, and the quality of teacher preparation programs.
- Sharma and Mishra (2022) examined the impact of online learning in teacher education and found that digital platforms enhance access to learning resources and promote self-directed learning among teacher trainees. Their study emphasized that online learning is particularly beneficial for in-service teachers who require flexible learning opportunities to balance professional and personal responsibilities.
- Kumar (2021) explored the effectiveness of blended learning in teacher education programs and reported that the integration of online tools with face-to-face instruction improves learner engagement and practical skill development. The study highlighted that blended learning encourages active participation and allows teacher trainees to apply theoretical knowledge in real classroom situations.
- UNESCO (2020) emphasized the role of digital technologies in teacher training and professional development. According to UNESCO, online and blended learning approaches support continuous professional growth and enable teachers to update their skills in response to changing educational demands. The report also stressed the importance of institutional support and policy initiatives for effective implementation.
- Singh and Roy (2021) studied the role of e-learning and blended learning in teacher professional development and concluded that these approaches increase collaboration, motivation, and technological competence among teachers. Their findings suggested that online learning environments promote peer interaction and reflective practice, which are essential for professional growth.

Discussion

Online and blended learning have gained significant importance in teacher education due to their ability to address the diverse learning needs of teacher trainees. One of the major strengths of these approaches is flexibility. Online learning allows teacher trainees to access learning materials, recorded lectures, and assessments at their own convenience. This is especially beneficial for in-service teachers who need to manage teaching responsibilities alongside professional development. Blended learning further enhances flexibility by combining the advantages of online learning with face-to-face interaction. Another important benefit of online and blended learning is the development of digital competence among teacher trainees. As future educators, teachers are expected to integrate technology effectively into classroom teaching. Exposure to digital tools such as learning management systems, virtual classrooms, online assessments, and collaborative platforms helps teacher trainees gain confidence and practical skills in using technology for instructional purposes. This prepares them to create engaging and learner-centered classroom environments.

Online and blended learning also promote self-directed and reflective learning. Teacher trainees are encouraged to take responsibility for their own learning by engaging with digital content, participating in online discussions, and reflecting on their learning experiences. Collaborative activities such as discussion forums and group projects support peer learning and professional interaction. These experiences contribute to the formation of professional learning communities, which are essential for continuous growth and improvement in teaching practice.

Despite these advantages, several challenges affect the effective implementation of online and blended learning in teacher education. Limited access to technology and reliable internet connectivity remains a major issue, particularly in rural and economically disadvantaged areas. Additionally, some teacher trainees and educators lack adequate digital skills, which can reduce the



effectiveness of online learning environments. Resistance to change and preference for traditional teaching methods also act as barriers.

To overcome these challenges, institutional support and capacity-building initiatives are essential. Teacher education institutions should provide proper digital infrastructure, training programs, and technical support for both teacher educators and trainees. A balanced combination of synchronous (live) and asynchronous (recorded) learning activities can improve engagement and accessibility. Continuous monitoring, feedback, and evaluation are necessary to ensure quality and effectiveness.

Conclusion

Online and blended learning have brought significant transformation to teacher education by making learning more flexible, interactive, and technology-driven. These approaches enable teacher trainees to access learning resources beyond traditional classroom settings and support continuous professional development. By combining digital tools with face-to-face instruction, blended learning creates a balanced learning environment that enhances both theoretical understanding and practical teaching skills.

The integration of online and blended learning in teacher education promotes the development of essential digital competencies, self-directed learning habits, and reflective practice among teachers. These

qualities are crucial for meeting the demands of modern classrooms and adapting to ongoing changes in the education system. Although challenges such as limited access to technology, lack of digital skills, and resistance to change exist, they can be addressed through proper planning, training, and institutional support. In conclusion, online and blended learning play a vital role in improving the quality of teacher education. Effective implementation of these approaches can prepare teachers to become innovative, adaptable, and lifelong learners. Strengthening digital infrastructure, enhancing teacher training, and promoting supportive policies will ensure that online and blended learning contribute meaningfully to the future of teacher education.

References

1. Kumar, R. (2021). Blended learning in teacher education: Enhancing engagement and practice. *Journal of Teacher Education*, 12(3), 45–55.
2. Sharma, P., & Mishra, S. (2022). Online learning for teachers: Opportunities and challenges. *International Journal of Educational Technology*, 18(2), 23–34.
3. Singh, A., & Roy, M. (2021). E-learning and blended learning in teacher professional development. *Asian Journal of Education*, 15(4), 12–25.
4. UNESCO. (2020). *Digital approaches in teacher training*. UNESCO Publications.