



A COMPARISON OF TRADITIONAL AND ARTIFICIAL INTELLIGENCE-SUPPORTED TEACHER TRAINING METHODS

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ABSTRACT

The rise of artificial intelligence (AI) has significantly impacted various educational domains, including teacher training. This article presents a comprehensive comparison between traditional teacher training methods and AI-supported approaches. Traditional training emphasizes face-to-face interaction, mentorship, and theoretical knowledge, while AI-supported training integrates adaptive learning technologies, virtual simulations, and personalized feedback. This study examines the benefits and limitations of both methods, considering factors such as efficiency, cost, effectiveness, and adaptability. Findings suggest that while traditional methods provide a solid foundation of pedagogical understanding and human interaction, AI-supported training offers greater flexibility, scalability, and personalization.

KEYWORDS: Teacher training, Artificial Intelligence, Traditional methods, AI-supported education, Pedagogical development, Adaptive learning.

INTRODUCTION

Teacher training is a critical component of the education system, ensuring that educators are well-prepared to guide students. Traditionally, teacher training relied heavily on in-person interaction, mentorship from experienced educators, workshops, and structured theoretical courses. However, the emergence of artificial intelligence (AI) has introduced new methods that promise to revolutionize the way educators are trained. This article aims to compare traditional and AI-supported teacher training methods, evaluating their strengths and limitations in the context of contemporary educational demands.[1] Traditional teacher training has long emphasized direct interaction with experienced mentors, observation in real classrooms, and participation in theoretical courses.

One of the hallmarks of traditional training is the in-person exchange between trainers and trainees, fostering a sense of community and direct mentorship. Observing experienced teachers in real-life scenarios helps trainees grasp teaching techniques, classroom management skills, and student engagement strategies. These sessions offer opportunities for professional development, allowing trainees to gain insights into educational trends, lesson planning, and pedagogy. Focused on understanding educational psychology, curriculum development, and assessment methods.[2] Provides a human element, with real-time feedback and emotional engagement. Establishes a mentor-mentee relationship, essential for guidance and inspiration. With years of historical success, traditional training has a track record of producing competent

educators. Requires significant time investment and often comes with higher costs due to the need for physical resources and facilities. Traditional methods may not cater to individual learning styles, with a one-size-fits-all approach. Training a large number of teachers using traditional methods can be logistically challenging.

AI-supported teacher training has gained traction as technology becomes more integrated into the education sector. AI-powered platforms adjust content based on the trainee's learning pace, providing personalized learning experiences. Simulated environments allow teachers to practice classroom management and instructional strategies without real-world consequences. AI can analyze teaching techniques and provide instant, data-driven feedback to improve instructional quality. AI enables the creation of interactive, flexible learning modules that trainees can access from anywhere. AI provides individualized training paths, catering to different learning paces and styles. AI systems can accommodate a large number of trainees simultaneously, making training accessible to more individuals. Reduces the need for physical infrastructure and resources, making training more affordable. AI collects data on trainee performance, allowing for informed decisions on training improvements.[3]

The absence of face-to-face communication can diminish the sense of community and mentorship. AI-supported training requires reliable technology infrastructure, which might not be available in all regions. Data privacy and ethical considerations are a concern when integrating AI into teacher training.

AI-supported training generally offers greater efficiency by allowing trainees to access resources at their convenience, reducing the need for in-person sessions. Traditional methods, however, often involve more hands-on and experiential learning, which may not be as time-efficient. AI-supported training can be more cost-effective in the long run due to reduced expenses related to physical space and printed materials. Traditional training can be more expensive, particularly in settings that require face-to-face interaction and use of facilities. Traditional training's emphasis on human interaction is beneficial for developing interpersonal skills and understanding classroom dynamics. AI-supported methods, while lacking in human interaction, can provide targeted and personalized training that enhances individual learning. AI-supported platforms offer adaptable content that changes based on trainee progress, catering to individual needs. Traditional methods are less adaptable, often following a fixed curriculum without considering individual learning differences.

Many experts argue for a hybrid approach, combining traditional and AI-supported methods. Such a model might involve AI-driven adaptive learning platforms alongside in-person mentorship, allowing trainees to benefit from personalized content while still experiencing the human aspects of traditional training. This approach can provide a balanced and well-rounded teacher preparation experience, leveraging the strengths of both methods.[4] Effectively integrating AI into traditional frameworks requires careful planning to ensure that both systems complement each other. Teachers themselves need training to effectively utilize AI tools, which can be a barrier for institutions that are not technologically advanced. Addressing concerns about data privacy and ethical AI use is essential, especially when AI tools are used to monitor and assess teaching performance.

CONCLUSION

The comparison between traditional and AI-supported teacher training methods highlights the strengths and weaknesses of both approaches. While traditional methods excel in providing a

human touch and a well-established structure, AI-supported methods offer greater flexibility, cost-efficiency, and personalized learning opportunities. A hybrid model, combining the best elements of both, appears to be the most effective strategy for modern teacher training, preparing educators to face the diverse challenges of contemporary classrooms.

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