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RESEARCH ARTICLE

IMPACT OF ARTIFICIAL INTELLIGENCE AND CHAT GPT ON PUPIL-TEACHERS

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ABSTRACT

Artificial Intelligence (AI) is reshaping the education sector and its impact on pupil-teachers training to become educators is significant. AI-powered tools like ChatGPT provide numerous advantages, including quick access to information, assistance in lesson planning, and personalized teaching strategies. These technologies help pupil-teachers develop engaging learning materials, refine their communication skills, and receive instant feedback on their instructional methods. Additionally, AI streamlines administrative work, allowing educators to focus more on interactive teaching. Despite these benefits, AI also presents challenges. Excessive reliance on AI-generated content may hinder the development of independent thinking and creativity among pupil-teachers. They might become too dependent on automated lesson planning instead of crafting their own unique teaching approaches. Furthermore, AI lacks the human touch required to understand students' emotions, motivations, and individual learning needs, which are crucial for effective teaching. To maximize the benefits of AI while addressing its limitations, pupil-teachers should be trained in using these technologies responsibly. Teacher education programs must emphasize critical thinking, ethical AI use, and the importance of maintaining a balance between technology and human interaction in the classroom. In summary, AI and ChatGPT are transforming teacher training by offering valuable support and innovative solutions. However, careful integration of these tools is essential to ensure that future educators develop both technological proficiency and essential teaching skills. Proper guidance and a balanced approach will help pupil-teachers become more effective in the modern educational era.

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INTRODUCTION

Artificial intelligence is transforming education at a rapid pace, significantly influencing teacher training. AI-powered tools like ChatGPT are reshaping how aspiring educators prepare for their careers by assisting with lesson planning, offering immediate feedback, and enhancing interactive learning experiences. These technologies provide valuable support, enabling trainee teachers to develop their skills more efficiently. One of the biggest advantages of AI in teacher training is its ability to personalize learning. AI can analyze individual progress and suggest improvements, helping future educators refine their teaching strategies. Additionally, AI-driven tools allow trainee teachers to practice classroom management through virtual simulations, preparing them for real-world challenges. Instant feedback also helps them identify strengths and areas for improvement, fostering continuous learning. However, despite these benefits, over-reliance on AI can have drawbacks. Educators must ensure they develop essential skills such as critical thinking, problem-solving, and emotional intelligence, which AI cannot fully replace. The human connection between teachers and students remains crucial in education, and AI should be used as a supplement rather than a replacement. AI, including ChatGPT, is revolutionizing teacher training by making learning more accessible and efficient. However, it must be integrated wisely to support, rather than hinder, the development of well-rounded educators.

How AI and ChatGPT Support Pupil-Teachers: Artificial Intelligence (AI) is transforming the way pupil-teachers learn and train to become effective educators. AI-powered tools like ChatGPT provide innovative and interactive ways to improve teaching skills. These tools help in various aspects of teacher training, making learning easier, more engaging, and efficient. Below are several ways AI and ChatGPT support pupil-teachers in their learning journey.

Enhanced Learning Materials: AI provides access to a wide range of educational resources, including online courses, interactive tutorials, digital textbooks, and videos. Pupil-teachers can explore different teaching methodologies and understand various concepts in depth. AI-powered search engines and recommendation systems suggest personalized resources based on individual learning needs, making it easier to grasp complex topics.

Instant Teaching Support: ChatGPT and other AI chatbots act as virtual assistants for pupil-teachers. Whenever they have doubts about lesson planning, classroom management, or subject matter, AI can provide instant explanations and guidance. This reduces the need to wait for a mentor or instructor, allowing for continuous and independent learning.

Simplified Lesson Planning: Planning lessons can be time-consuming, but AI simplifies this process. AI tools can organize lesson structures, suggest activities, and offer creative teaching techniques. AI can also align lesson plans with curriculum standards, ensuring that pupil-teachers meet the required educational objectives efficiently.

Efficient Student Assessments and Feedback: Assessing students is an essential part of teaching, but it can take a lot of time. AI helps in grading assignments, quizzes, and exams quickly and accurately. It also provides immediate feedback to students, highlighting their strengths and areas for improvement. This allows pupil-teachers to focus more on personalizing instruction rather than spending hours on manual grading.

Encourages Creativity and Innovation: AI brings new ways to make learning interactive and exciting. Virtual reality (VR) and augmented reality (AR) can create immersive learning experiences, while AI-powered games and simulations make education more engaging. AI also suggests innovative teaching strategies that help pupil-teachers keep students interested and motivated.

Improves Communication and Classroom Management: Managing a classroom effectively is one of the biggest challenges for new teachers. AI-powered tools assist in maintaining classroom discipline, tracking student behavior, and offering suggestions for better classroom management. AI chatbots can also facilitate communication between students and teachers by answering common questions and sending reminders about assignments and deadlines.

Personalized Learning for Pupil-Teachers: Everyone learns differently, and AI recognizes this by providing customized learning experiences. AI can analyze the strengths and weaknesses of pupil-teachers and recommend courses or activities that suit their learning styles. This personalized approach helps in improving knowledge retention and skill development.

Reduces Workload and Saves Time: Administrative tasks such as scheduling, record-keeping, and report generation can be tedious. AI-powered systems automate these tasks, allowing pupil-teachers to dedicate more time to improving their teaching techniques. By reducing their workload, AI helps pupil-teachers focus on what truly matters—engaging with students and delivering quality education.

Enhances Language and Communication Skills: For pupil-teachers who are not native speakers of the language they teach, AI-powered language tools can be highly beneficial. AI provides grammar corrections, pronunciation assistance, and vocabulary suggestions, helping teachers communicate more effectively. This is especially useful for teaching in multilingual classrooms.

Provides Real-Time Simulations and Practice Opportunities: AI-powered simulations allow pupil-teachers to practice teaching in a virtual classroom before stepping into a real one. These simulations help them gain confidence, learn how to handle different student behaviors, and experiment with various teaching techniques in a risk-free environment.

Promotes Lifelong Learning: Teaching is a profession that requires continuous learning and improvement. AI ensures that pupil-teachers stay updated with the latest educational trends, new teaching strategies, and research-based best practices. AI-driven learning platforms offer ongoing professional development courses, webinars, and workshops to keep educators informed.

Supports Collaborative Learning: AI connects pupil-teachers with educators from around the world. Online AI platforms encourage collaboration by enabling teachers to share ideas, lesson plans, and teaching experiences. This global network fosters professional growth and allows pupil-teachers to learn from different perspectives.

Helps in Understanding Student Needs: AI analyzes student performance data and identifies learning gaps. Pupil-teachers can use these insights to modify their teaching approaches, ensuring that students receive the support they need. AI also suggests differentiated instruction methods to cater to diverse learning abilities within a classroom.

Develops Problem-Solving Skills: AI challenges pupil-teachers to think critically and solve problems creatively. AI-driven case studies and real-life classroom scenarios allow teachers to practice decision-making and develop strategies for dealing with challenges in their future teaching careers.

Improves Accessibility for All Learners: AI ensures that education is inclusive and accessible to everyone, including students with disabilities. AI-powered tools offer text-to-speech, speech-to-text, and other assistive technologies that make learning easier for students with special needs. Pupil-teachers can use these tools to create an inclusive classroom environment where every student can thrive.

Boosts Confidence in Teaching: AI provides constructive feedback and suggestions, helping pupil-teachers refine their skills. The more they practice with AI-driven tools, the more confident they become in their teaching abilities. Confidence plays a crucial role in delivering engaging and effective lessons.

Encourages Experimentation with Different Teaching Methods: AI allows pupil-teachers to explore and experiment with different teaching styles. They can try out project-based learning, flipped classrooms, and gamified lessons, among others. AI helps them assess which methods work best for different subjects and student groups.

Ensures Continuous Improvement: With AI's ability to track progress and provide feedback, pupil-teachers can continuously work on improving their skills. AI-generated reports highlight areas where they excel and where they need improvement, ensuring steady professional growth.

Bridges the Gap Between Theory and Practice: Teacher training programs often focus on theoretical knowledge, but AI helps bring practical applications into the learning process. Through real-time simulations, case studies, and AI-assisted teaching exercises, pupil-teachers can bridge the gap between what they learn in training and what they experience in actual classrooms.

Encourages Reflective Teaching Practices: AI tools can analyze teaching sessions and provide constructive feedback, allowing pupil-teachers to reflect on their teaching styles. This self-reflection helps in making necessary improvements and becoming a more effective educator.

Challenges of Using AI in Teacher Training: Artificial Intelligence (AI) is transforming many fields, including education. It offers new opportunities to enhance teacher training by providing personalized learning experiences, automating administrative tasks, and offering data-driven insights. However, despite these advantages, AI in teacher training also presents several challenges. Below are some key difficulties that arise when integrating AI into teacher training programs.

Limited Human Interaction: One of the biggest challenges of using AI in teacher training is the lack of human interaction. Teaching is not just about delivering information; it requires interpersonal skills, empathy, and emotional intelligence. AI can provide automated feedback and guidance, but it cannot replace the deep, meaningful conversations that experienced mentors offer to new teachers. Without human interaction, trainees may struggle to develop essential communication and classroom management skills.

Dependence on Data Quality: AI systems rely on data to function effectively. If the training data used to develop AI models is biased, incomplete, or inaccurate, the AI may provide misleading recommendations. Poor data quality can result in incorrect assessments of teachers' progress and abilities. Moreover, if AI systems are trained on outdated teaching methods, they may fail to provide relevant and up-to-date training experiences.

Resistance to Change: Many educators may be hesitant to adopt AI in their training due to a fear of losing their jobs or uncertainty about new technology. Traditional teacher training methods are well-established, and shifting to AI-powered solutions requires a change in mindset. Some teachers may not feel comfortable relying on technology for their learning and development, leading to resistance in adopting AI-based training programs.

High Costs of AI Implementation: Developing and implementing AI-driven teacher training programs require substantial financial investment. AI technology needs continuous updates, maintenance, and expert supervision to function effectively. Not all educational institutions, particularly those in underprivileged areas, can afford these costs. The high expense of AI adoption may limit its accessibility, preventing many teachers from benefiting from these advancements.

Lack of Customization: While AI can provide general training programs, it may not always cater to the specific needs of individual teachers. Every teacher has unique strengths, weaknesses, and learning styles. Human trainers can adjust their approach based on the needs of each trainee, while AI often follows standardized methods. This lack of customization may hinder the effectiveness of AI-powered teacher training.

Ethical Concerns: AI systems can unintentionally reinforce biases that exist in their training data. If an AI model is trained on biased information, it may perpetuate discriminatory practices or provide unfair assessments of teachers. Additionally, the use of AI raises concerns about data privacy. Many AI-driven training tools collect personal data from users, which, if not properly managed, could lead to privacy breaches or misuse of sensitive information.

Technical Limitations: AI is still evolving and is not perfect. Errors in AI algorithms can lead to incorrect evaluations, ineffective recommendations, or technical glitches. AI cannot fully replicate human intuition, creativity, and decision-making skills. Teachers often need to make spontaneous adjustments in the classroom, something AI struggles to handle effectively. Therefore, relying solely on AI for training may not prepare teachers for real-world classroom challenges.

Digital Divide: Not all teachers have equal access to technology and the internet. In many rural or economically disadvantaged areas, access to computers, stable internet connections, and AI-powered learning platforms is limited. This digital divide makes it difficult for all teachers to benefit from AI-based training equally. Those without access to the necessary technology may be left behind, increasing the gap between well-trained and undertrained teachers.

Emotional and Social Skills Development: Teaching involves more than just academic knowledge; it requires social skills, emotional intelligence, and the ability to handle student interactions effectively. AI struggles to train teachers in these areas because it lacks real emotions and human experiences. Human mentors can guide teachers on how to deal with different classroom situations, manage conflicts, and support students emotionally—something AI cannot fully replicate.

Over-Reliance on AI: There is a risk that teachers may become overly dependent on AI tools for their training and professional development. If AI systems handle most aspects of teacher training, teachers may not develop their critical thinking or problem-solving skills as effectively. AI should serve as a support tool rather than a replacement for human-led training. An over-reliance on AI could lead to a decline in traditional teaching expertise and adaptability.

CONCLUSION

AI and ChatGPT are transforming teacher training by making learning more accessible, efficient, and engaging. With AI, teachers-in-training can receive personalized learning experiences, access vast educational resources, and improve their teaching methods. AI helps by providing instant feedback, analyzing teaching styles, and suggesting improvements. Additionally, it assists in automating administrative tasks like grading, lesson planning, and attendance tracking. This allows teachers to focus more on developing their instructional skills and interacting with students. One of the biggest advantages of AI in teacher training is personalized learning. Every teacher has unique strengths and weaknesses, and AI can help by tailoring learning materials to their specific needs. For example, if a trainee struggles with classroom management, AI can provide targeted training videos, articles, and exercises to improve this skill. Similarly, AI-powered simulations allow trainee teachers to practice handling different classroom situations in a virtual environment, making them better prepared for real-life teaching. AI also enables self-paced learning, which means

that trainee teachers can learn at their own speed. Traditional training programs often follow a fixed schedule, which may not be suitable for everyone. AI-driven platforms offer flexibility by allowing teachers to study whenever and wherever they want. This is particularly helpful for those balancing studies with other responsibilities. Furthermore, AI-powered tools can analyze large amounts of data to identify trends and patterns in teaching. This helps educators understand what teaching strategies work best and how they can be improved. AI can also provide insights into student performance, helping teachers adapt their methods to meet the needs of different learners. For example, if AI detects that a student is struggling with a particular topic, it can recommend additional resources or alternative teaching approaches. Despite its many benefits, AI in teacher training also presents challenges. One major concern is the lack of human interaction. Teaching is not just about knowledge transfer; it also involves building relationships, understanding emotions, and responding to students' needs. AI cannot replace the emotional intelligence and empathy that human mentors provide. Therefore, AI should be used alongside human trainers to ensure a balanced approach. Another challenge is data dependency. AI systems rely on large amounts of data to function effectively. If the data is inaccurate or biased, it can lead to misleading conclusions and poor recommendations. Additionally, not all educational institutions have the necessary infrastructure to support AI integration, leading to a digital divide where some trainees benefit more than others.

Resistance to change is another hurdle. Many educators may be hesitant to adopt AI due to fear of technology replacing their roles. It is important to emphasize that AI is a tool designed to assist, not replace, teachers. Training programs should include guidance on how to use AI effectively, ensuring that educators feel confident and comfortable using these technologies.

AI also raises ethical concerns, such as data privacy and the fairness of AI algorithms. It is crucial to establish clear guidelines and policies to protect users' data and ensure AI systems operate fairly and transparently. To make AI in teacher training effective, a balanced approach is needed. Combining AI-driven insights with human mentorship creates a well-rounded training experience. By addressing challenges and ensuring AI is used as a supportive tool, future teachers can benefit from enhanced learning experiences and become more skilled educators. The key is to integrate AI thoughtfully while preserving the essential human aspects of teaching.

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