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Impact of AI-Based Learning Tools on Teaching Skills of ICT Teacher Trainees in Sri Lankan National Colleges of Education

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ABSTRACT

Artificial Intelligence (AI)-based learning tools are increasingly integrated into teacher training programmes worldwide, offering potential to enhance lesson planning, instructional delivery, assessment and reflective practices. However, empirical evidence regarding their association with teacher trainees, particularly within the Sri Lankan context, is limited. This study examines the association between AI-based learning tools and the teaching skills of ICT teacher trainees in Sri Lankan National Colleges of Education (NCoEs). A quantitative research design was employed, using a structured questionnaire administered to 112 second-year and third-year ICT teacher trainees at Ruwanpura National College of Education. Data were analyzed using descriptive statistics and Pearson correlation analysis. The findings indicate that AI-based learning tools were perceived to positively support lesson preparation ($M = 4.12$, $SD = 0.68$) and instructional delivery skills ($M = 3.98$, $SD = 0.72$), while relatively lower perceived support was observed in assessment ($M = 3.54$, $SD = 0.81$) and reflective practices ($M = 3.47$, $SD = 0.79$). A strong positive association was identified between AI tool usage and self-reported teaching skill development ($r = 0.68$, $p < 0.01$). These results highlight the necessity of structured integration of AI tools into teacher education programmes and the need for targeted training to maximize their effectiveness, particularly in assessment and reflective domains. The study contributes to the growing body of literature on AI in teacher education and provides practical implications for curriculum designers and policymakers in Sri Lanka. The main limitations are the single-institution convenience sampling and the use of self-reported measures.

1. Introduction

Artificial Intelligence is transforming the education sector in the modern era. Teaching to the test is transforming how instructors design lessons, implement instruction and examine student learning. AI-based learning tools are being used by an increasing number of teachers to improve effectiveness (Holmes, Bialik and Fadel, 2019; Zawacki-Richter et al., 2022). This includes intelligent tutoring systems, automated lesson planners and content generation tools. The technological shift offers opportunities as well as challenges for teacher education. It's more than introducing new tools, we need to prepare tomorrow's teachers for a future with AI. It requires a rethinking of how pedagogical and technological competencies are developed during teacher training (Chai, 2021).

Teacher education institutions prepare future educators for the changes brought on by technology (Redecker, 2023). In Sri Lanka NCoEs are one of the educational institutions offering pre-service teachers training. Pre-service teachers training is delivered through a well-structured programme. The pedagogical and technological competencies of teacher trainees, particularly ICT trainees are developed. They need to not just know how to access a digital tool but use it meaningfully within the teaching and learning process (Schmidt et al., 2009). The rise of learning tools based on artificial intelligence adds a new dimension to this.

The trainees engage extensive lesson planning and teaching in schools during their second-year (internal teaching practice) and third-year (internship) training period. AI-based learning platforms can provide opportunities for developing the skills (Ng et al., 2021). These tools can assist in coming up with lesson ideas, creating instructional materials and even giving feedback on teaching approaches. Nonetheless, not much research assessed the association of these measures in the context of Sri Lanka. Most existing research has been conducted in learning environments in the West or East Asia, where the technological infrastructure and pedagogic traditions differ substantially from those in Sri Lanka (Bond, Zawacki-Richter and Nichols, 2019).

This study is important because its results can help policy-makers and teachers to improve teacher education practices. As Sri Lanka's education system undergoes digitalization as witnessed by the introduction of smart classrooms in National Colleges of Education (NCoEs) and the launch of a trilingual AI platform accessible to teachers (UNESCO, 2021), it is becoming increasingly urgent to understand how AI tools are associated with teacher trainees in Sri Lanka. Curriculum designers may either mistakenly amplify the benefits of AI or ignore the drawbacks altogether in the absence of data.

The study focuses on the association between AI based learning tools and the teaching abilities of ICT teacher trainees. It specifically analyzes the connection between using AI tools and students' teaching skills of lesson preparation, instructional delivery, assessment and evaluation and reflective practice. The study is guided by the following research questions.

1. What is the extent of AI-based learning tool usage among ICT teacher trainees?
2. How are AI tools associated with different dimensions of teaching skills?
3. What is the relationship between AI tool usage and overall teaching skill development?

2. Literature Review

2.1 AI in Education: Promises and Challenges

The use of Artificial Intelligence in Education has gained a lot of popularity since it has the potential to improve teaching and learning (Holmes, Bialik and Fadel, 2019). According to studies, AI-based tools facilitate personalized learning, provide adaptive feedback and improve instructional design. Studies show that AI can help teachers prepare lessons, generate content and assess students (Luckin, 2022). A recent opinion paper published within the Journal of Educational Technology Systems examined the utility of ChatGPT and other large language models in generating lesson plans and creating differentiated materials (Holmes, Tuomi and Kitto, 2024).

However, the literature also shows considerable challenges. Many educators do not have enough training to use these tools well (Baker, Smith and Anissa, 2019). According to Holmes, Tuomi and Kitto (2024), ethical issues, accuracy of AI-generated content and critical evaluation are major barriers. Researchers warn that AI systems often produce plausible-sounding output despite this being factually incorrect, also known as hallucination (Ng et al., 2021). So, when teachers use it to generate content, this can pose a risk. Many AI platforms lack pedagogical structure. As a result, they provide answers without consideration of students' learning contexts or institutional curricula (Chai et al., 2021).

2.2 AI and Teacher Education

According to Redecker (2023), research indicates that AI can enhance the quality of instruction and skills of teachers. Research specifically concentrating on pre-service teacher trainees is scanty (Zawacki-Richter et al., 2022). Based on a systematic review of AI in pre-service EFL/ESL teacher education, most empirical studies were done in Asia and used qualitative approaches (Bond, Zawacki-Richter and Nichols,

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2019). The studies were dominated by large language models, especially ChatGPT, which were largely used for instructional preparation, language and academic learning, development of professional competence and reflective practice (Holmes, Tuomi and Kitto, 2024).

While teacher trainees are generally aware of the existence of AI tools, their confidence in using them for teaching is moderate (Chai et al., 2021). According to Lucas et al. (2025, cited in Redecker, 2023), pre-service teachers in Portugal and Spain felt unprepared to integrate AI into their future teaching, due to limited hands-on practice opportunities in their courses. A study of Kenyan pre-service EFL teachers using the TPACK framework found that teachers felt more confident about their integrative knowledge than about its actual application in lesson planning (Schmidt et al., 2009).

The findings can be understood using the TPACK framework -Technological Pedagogical Content Knowledge. Technology, Pedagogy and Content Knowledge (TPACK) are a theoretical framework developed by Mishra and Koehler (2006). It focuses on knowledge required to effectively integrate technology into learning experiences (Koehler and Mishra, 2009). This framework suggests that true technology integration requires understanding and negotiating relationships among these three knowledge domains in specific contexts. This viewpoint clarifies why improved teaching skills may not simply follow these teachers receiving access to a technology (Schmidt et al., 2009).

2.3 Theoretical Frameworks for AI Adoption

Several theoretical frameworks inform research on AI adoption in education. According to Scherer, Siddiq and Tondeur (2023), the application of the Technology Acceptance Model (TAM) and its extensions on teachers' intention to use AI tools has been popular. Perceived usefulness and perceived ease of use are consistent predictors of adoption (Aldunate and Nussbaum, 2013). According to Scherer, Siddiq and Tondeur (2023), there are studies that utilized the UTAUT framework that looked into how social influence which is impact on acceptance of AI.

According to research, pre-service teachers make different technology acceptance decisions compared to in-service teachers. Pre-service teachers seem to prioritize usability and enjoyment, while in-service teachers worry more about pragmatic integration and proven advantages (Aldunate and Nussbaum, 2013). This is important for teacher education programmes, trainees may need different types of support and evidence to meaningfully adopt AI tools (Redecker, 2023).

2.4 AI in Assessment and Reflective Practice

The literature indicates that AI tools are more commonly used for planning and delivering than for assessing and reflecting on practices (Zawacki-Richter et al., 2022). AI can provide support for teachers in their reflection on learning design, orchestration, assessment and ethics. According to a systematic review, there are five dimensions of a sound AI as a reflective partner in education (Holmes, Tuomi and Kitto, 2024). Despite this, the review also highlighted limited empirical evidence about AI assisting teachers in their pedagogical decision making (Bond, Zawacki-Richter and Nichols, 2019).

The study of AI in monitoring offers both opportunities and risks. According to Luckin (2022), generative AI may assist teachers to create assessment designs, question bank and rubrics. Still, there are fears about accuracy, bias and loss of professional judgement has led to many experts suggesting not letting AI choose evaluative decisions about student performance (Holmes, Tuomi and Kitto, 2024). Based on the research - Ng et al. (2021) the right use of AI in assessment seems to be a support tool for teachers' professional judgement and not a substitute.

Reflective practice is one of the defining features of teacher professional development where AI has less explored potential (Redecker, 2023). According to some studies, AI can act as a brainstorming partner who can help teachers review the decisions they take when teaching and consider other options (Holmes, Tuomi and Kitto, 2024). Nevertheless, this application involves sophisticated prompting skills and a critical orientation that many trainees may lack (Chai et al., 2021).

2.5 The Sri Lankan Context

Sri Lanka's teacher education system has undergone significant digital transformation in recent years. Ruwanpura National College of Education, the site of this study, introduced a dedicated ICT Education course in 2009 and continues to specialize in ICT teacher training. More recently, national-level initiatives have aimed to integrate AI and digital technologies into teacher education. The UNESCO International Research and Training Centre for Rural Education (INRULED) have partnered with Sri Lankan institutions to establish smart classrooms in NCoEs and develop teacher digital leadership training (UNESCO, 2021). The AIDE (AI for Innovative Design & Education) project, implemented through LEARN, seeks to empower Sri Lankan educators with knowledge and skills for responsible AI integration (OECD, 2021).

Despite these developments, empirical research on AI's association with Sri Lankan teacher trainees remains scarce

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(Zawacki-Richter et al., 2022). This study addresses this gap by examining the experience of ICT teacher trainees at Ruwanpura NCoE, contributing localized evidence to an international dialogue on AI in teacher education.

3. Methodology

3.1 Research Design

The present study adopted a quantitative research design to examine the association between AI based learning tools and the teaching skills of ICT teacher trainees. The quantitative method was deemed appropriate as it collects numerical data and measures the amount of association between the variables objectively. As per Creswell and Creswell (2018), statistical analysis of the data will help detect patterns, trends and relationships between the use of AI tools and the multiple dimensions of teaching skills like lesson planning, teaching, assessment and reflection. The study employed a cross-sectional survey method which means data will be collected from participants at only one time during training. This was chosen because of practical constraints as well as relationship analysis of variables without tracking the variables over time (Creswell and Creswell, 2018).

3.2 Population and Sample

The target population consisted of ICT teacher trainees enrolled in Sri Lankan National Colleges of Education where ICT teacher training programmes are conducted. The total number of trainees at the NCoEs (Ruwanpura, Maharagama, Pasdunrata and Jaffna) for ICT specialisation is approximately 605. Due to practical constraints, such as accessibility and limited time, this study used convenience sampling to choose the participants from Ruwanpura National College of Education, holding the largest ICT teacher trainees.

The sample was composed of second-year trainees who were engaged in internal teaching practice and third-year trainees who were involved in internship programmes, as these two groups were thought to have adequate exposure to teaching activities and AI-based tools. First-year trainees were excluded for their lack of experience in practical teaching contexts. Out of 150 distributed questionnaires, 112 were valid questionnaire responses with a 74.7% response rate. Of the 112 trainees, 58 (51.8%) were second-year trainees and 54 (48.2%) were third-year trainees. The gender distribution was 42 males (37.5%) and 70 females (62.5%), which is similar to the overall pattern in ICT teacher education programmes in Sri Lanka (UNESCO, 2021).

3.3 Data Collection Instrument

The researcher utilized a structured questionnaire specifically designed to collect data on the extent of usage of AI-based learning tool and its perceived effect of teaching skills. The questionnaire had 20 items which were segmented into six sections: demographic section, AI tool usage, lesson preparation, instructional delivery, assessment and evaluation and reflection. The section on AI tool usage, which consisted of five items, gauged frequency of use and familiarity with various types of a variety of AI tools.

According to Creswell and Creswell (2018), the responses for each item in the teaching skills sections for measuring were collected on a five-point Likert scale which ranged from 1 meaning "Strongly Disagree" to 5 meaning "Strongly Agree". The instrument was developed based on the existing literature on AI in education and teacher training. Thus, it is relevant to the content and is in agreement with the aim of the study (Schmidt et al., 2009; Chai et al., 2021). The questionnaire was kept simple and clear so that teacher trainees can easily offer their accurate and consistent responses (Creswell and Creswell, 2018).

Content validity was established through review by three experts in educational technology and teacher education. A pilot study with 15 trainees not included in the final sample was conducted to assess clarity and reliability. The Cronbach's alpha coefficient for the teaching skills scale was 0.87, indicating good internal consistency (Creswell and Creswell, 2018). The Cronbach's alpha coefficient for the AI tool usage scale was 0.82.

Composite scores for each teaching skill dimension were computed by averaging the item scores belonging to that dimension. The AI tool usage composite score was similarly computed by averaging the five AI usage items.

3.4 Data Collection Procedure

The data collection was carried out during the teacher training period in the institutional settings. The researcher distributed the questionnaire to the selected respondents with the help of verbal instruction on how to fill it. The participants were made aware of the study's purpose and assured that their responses would be used only for academic purpose.

The study was voluntary and the consent of each respondent was sought for data collection. No names or any other identifiers were recorded which maintained confidentiality and anonymity. Institutional permission for conducting the study was obtained from the college administration prior to data collection. The participants were encouraged to answer, based on their training period, in an honest and unbiased manner directed towards the actual use of AI-based learning tools. The data was collected over a duration of four weeks within the second term of 2024.

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3.5 Data Analysis

The data that was collected were analyzed using descriptive analysis and inferential statistics. Researcher employed descriptive statistics such as mean and standard deviation to provide the summary of the response and identify trends regarding the usage of AI tools in the imparting of education as well as its influence in different teaching skill areas (Creswell and Creswell, 2018). Using Pearson correlation analysis, the strength and directional relationship between the use of an AI-based learning tool (independent variable) and teaching skills (dependent variable) were examined and explored.

The interpretation of mean scores followed established guidelines: 1.00-1.80 (very low), 1.81-2.60 (low), 2.61-3.40 (moderate), 3.41-4.20 (high), and 4.21-5.00 (very high) (Creswell and Creswell, 2018). Correlation coefficients were interpreted as: 0.00-0.19 (very weak), 0.20-0.39 (weak), 0.40-0.59 (moderate), 0.60-0.79 (strong), and 0.80-1.00 (very strong) (Creswell and Creswell, 2018). The data analysis was performed using SPSS, ensuring accuracy and reliability of the results. The findings are presented using tables and summary statistics to facilitate clear interpretation and discussion.

4. Results and Discussion

4.1 AI Tool Usage Among ICT Teacher Trainees

The first research question examined the extent of AI-based learning tool usage among ICT teacher trainees. The findings revealed that trainees frequently use AI tools in their training activities. The overall mean for AI tool usage was 3.86 (SD = 0.74), indicating a moderately high level of engagement. ChatGPT emerged as the most commonly used tool (M = 4.23, SD = 0.81), followed by grammar and writing assistants such as Grammarly (M = 4.01, SD = 0.76) and presentation design tools (M = 3.92, SD = 0.83). Lesson planning assistants and quiz generators were used less frequently, with means of 3.54 (SD = 0.91) and 3.41 (SD = 0.88) respectively.

These findings align with international trends indicating high awareness and usage of large language models among pre-service teachers (Holmes, Tuomi and Kitto, 2024). The predominance of ChatGPT reflects its accessibility, versatility, and free availability (Zawacki-Richter et al., 2022). However, the relatively lower usage of specialized educational AI tools suggests that trainees may be relying on general-purpose AI rather than tools designed specifically for pedagogical purposes (Chai et al., 2021). This pattern raises questions about the depth of AI integration in their practice, using AI for writing assistance differs substantially from using it for instructional design or assessment development.

4.2 Association with Teaching Skills Dimensions

The second research question examined how AI tools are associated with different dimensions of teaching skills. Table 1 presents the descriptive statistics for each dimension.

Table 1: Descriptive Statistics for Teaching Skills Dimensions

Dimension	Mean	SD	Interpretation
Lesson Preparation	4.12	0.68	High
Instructional Delivery	3.98	0.72	High
Assessment and Evaluation	3.54	0.81	High
Reflective Practice	3.47	0.79	High
Overall Teaching Skills	3.78	0.75	High

The findings show that AI tools were perceived to have a significant association with lesson preparation, with the highest mean score (M = 4.12, SD = 0.68). Participants noted that AI tools were beneficial for brainstorming lesson ideas, developing lesson materials and tailoring content at various skill levels. This is consistent with previous studies that have shown the effectiveness of using AI to assist with instructional planning tasks (Luckin, 2022; Zawacki-Richter et al., 2022). Trainees who are still building their pedagogical content knowledge (Schmidt et al., 2009) seem to find the ability of AI to generate draft lesson plans, recommend activities and provide examples to be particularly useful.

Instructional delivery also scored very highly (M = 3.98, SD = 0.72). AI tools were seen as useful for the purposes of creating visual aids, providing explanations and preparing classroom activities (Holmes, Bialik and Fadel, 2019). Slightly lower scores were found with regard to assessment and evaluation (M = 3.54, SD = 0.81) and reflective practice (M = 3.47, SD = 0.79). Although these scores still fall within the high range according to the interpretation scale, they are relatively lower than the scores for lesson preparation and instructional delivery. The results indicate that further training might be needed in these aspects (Redecker, 2023).

The relatively lower scores for assessment are consistent with the concerns of literature. The accuracy and alignment of the assessment items with the learning outcomes need to be carefully verified and checked for accuracy and alignment with learning outcomes when using AI-generated

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assessments (Holmes, Tuomi and Kitto, 2024). Furthermore, the assessment of student work is not easily automated using AI systems (Ng et al., 2021). It is important to note that teacher trainees may have a limited understanding of assessment literacy and using AI for designing assessments might not help them improve this skill (Chai et al., 2021).

It is especially significant that the scores for reflective practice are not as high. While reflective practice is considered to be a key element of teacher professional development, the use of AI for reflective practice seems less well understood among trainees (Redecker, 2023). Although some studies propose the use of AI as a reflective companion (Holmes, Tuomi and Kitto, 2024), careful and critical prompting is needed for such a use. The results indicate that existing training might not be sufficient to equip trainees with the skills required for the reflective use of AI (Bond, Zawacki-Richter and Nichols, 2019).

4.3 Relationship Between AI Usage and Teaching Skills

The third research question examined the relationship between AI tool usage and teaching skill development. Pearson correlation analysis revealed a strong positive association between AI tool usage and overall teaching skills ($r = 0.68$, $p < 0.01$). This indicates that increased use of AI tools is associated with improved teaching competencies.

Table 2: Correlation Between AI Usage and Teaching Skills Dimensions

Dimension	r	p
Lesson Preparation	0.71	< 0.01
Instructional Delivery	0.65	< 0.01
Assessment and Evaluation	0.52	< 0.01
Reflective Practice	0.48	< 0.01

The lesson preparation ($r = 0.71$) and instructional delivery ($r = 0.65$) had the highest correlation. Assessment and reflective practice had moderate correlations ($r = 0.52$ and 0.48 respectively). The differential correlations indicate that AI tools may be more useful in planning and delivery, though they have a more modest association with these areas (Zawacki-Richter et al., 2022).

The results are aligned with other research that has shown the benefits of AI tools in improving instruction (Luckin, 2022). The findings also highlight the importance of offering a clear and structured training to enhance the use of AI in assessment and reflective practices (Redecker, 2023). Moderate correlation within these domains could be due to limitations of existing AI tools and may stem from a lack of specific training and development in their use (Holmes, Tuomi and Kitto, 2024).

It is important to note that a positive correlation between using AI and teaching skills doesn't necessarily mean that AI is directly causing improvements in teaching. The relationship may be confounded by the fact that those who are more technologically savvy or have a greater desire to enhance their teaching practices might be more inclined to utilize AI tools for teaching and learning (Scherer, Siddiq and Tondeur, 2023). Furthermore, self-reports of teaching skills might have social desirability bias (Creswell and Creswell, 2018). However, the robust and consistent correlations between dimensions indicate a meaningful relationship that should be explored in greater depth.

4.4 Discussion

The results from this research build on the body of literature pertaining to the use of AI in teacher preparation. The high usage of AI tools among the ICT teacher trainees shows that the application of AI tools has become a part of the teacher training program. This aligns with the broader context of AI in education in Sri Lanka, where projects like AIDE (AI for Development) and Dialog AI have been aimed at making AI more accessible to Sri Lankan teachers (OECD, 2021). But the widespread use of tools such as ChatGPT, which are general purpose, does complicate the issue of quality and pedagogical use of AI. The use of AI for general writing support is not writing instruction or writing assessment (Ng et al., 2021).

It has important implications for teacher education because of the differential association across the teaching skill dimensions. AI tools resonate well with the reading and task creation aspects, as both activities are well supported by the participants (Luckin, 2022). The relatively lower endorsement of assessment and reflective practice suggests that there is a need for specific interventions (Redecker, 2023). Teacher educators might need to think about how to provide support for trainees' use of AI in these more complicated domains, possibly by engaging in activities which allow trainees to receive support from AI and also have to analyze and use professional judgment (Holmes, Tuomi and Kitto, 2024).

These findings can be explained through TPACK framework (Mishra and Koehler, 2006; Koehler and Mishra, 2009). The integration of AI needs to go beyond knowledge of AI to understanding how AI relates to pedagogical knowledge and content knowledge in specific contexts (Schmidt et al., 2009). This might suggest that in the areas of assessment and reflection, the technological pedagogical knowledge to apply AI might not have been fully developed by the trainees (Chai et al., 2021). Teacher education

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curricula need to emphasize not only tool training but also the development of integrated knowledge, which would equip teachers with the ability to use AI thoughtfully (Redecker, 2023).

The results also underscore ethical issues regarding the use of AI. Research has shown issue regarding the accuracy, bias and overreliance on AI-generated content (Holmes, Tuomi and Kitto, 2024). Teacher Trainees should be able to acquire critical evaluation skill as well as technical skill. They need to be able to challenge the output of AI, to check facts and information and to remain as the last word in making pedagogical decisions (Ng et al., 2021).

Lastly, the study results confirm international research that shows the majority of professional development related to AI adoption is not systematic and is not adequately supported (Baker, Smith and Anissa, 2019). Short-term workshops and introduction of tools are not enough to build the complex skills needed for meaningful AI integration (Redecker, 2023). Teacher education programs should have a clear, step-by-step sequence of instruction that builds up students' understanding of AI throughout their training (Chai et al., 2021).

5. Conclusion

Based on the above study, it is clear that AI tools for learning show promise in relation to the teaching skills of ICT teacher trainees in Sri Lankan National Colleges of Education. Strong positive correlations with the dimensions of lesson preparation and instruction delivery suggest that the tools are especially associated with lesson preparation and instruction delivery. The use of these in the field of assessment and reflective practice, however, is still quite limited and thus requires targeted training and guidance.

The study points to the need for purposeful and structured incorporation of AI tools in teacher education programmes. Simply providing access to AI tools is insufficient. To make thoughtful use of AI, trainees must receive scaffolding opportunities to build the integrated knowledge, which includes technological, pedagogical and content knowledge. They must be guided in critically questioning AI outputs, exercising professional judgment and utilizing AI in ways that support and complement their pedagogical skills.

The findings have implications for the teacher education system in Sri Lanka. AI literacy should also be considered as being integrated throughout the training programme and not dealt with as a standalone topic (UNESCO, 2021). Reflective practice and assessment are areas that are particularly relevant to consider, where AI could offer less of an automatic advantage and where trainees might require more assistance (Ng et al., 2021). Furthermore, teacher educators need professional development as well, because they are role models for their teacher trainees in technology integration (Redecker, 2023).

The rapid shifting of educational terrain around the globe due to the AI revolution places a responsibility on teacher education institutions to produce teachers who can respond to this transformation carefully and ethically (Holmes, Bialik and Fadel, 2019). The present study's findings are localized data contributing to the international discussion of the potential and challenges of using AI in initial teacher training (Zawacki-Richter et al., 2022). The task at hand is not so much about celebrating or rejecting AI, but creating pedagogical strategies to tap its potential while maintaining the inestimable, human aspects of teaching and learning. It should be noted that the evidence is institution-specific and cannot establish that AI use caused improvements in teaching skills.

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References

1. Aldunate, R. and Nussbaum, M. (2013) 'Teacher adoption of technology', Computers in Human Behavior, 29(3), pp. 519-524.
2. Baker, T., Smith, L. and Anissa, N. (2019) Educ-AI-tion rebooted? Exploring the future of artificial intelligence in schools and colleges. London: Nesta.
3. Bond, M., Zawacki-Richter, O. and Nichols, M. (2019) 'Revisiting five decades of educational technology research: A content and authorship analysis of the British Journal of Educational Technology', British Journal of Educational Technology, 50(1), pp. 12-63.
4. Chai, C.S., Jong, M.S.Y., Yin, H., Chen, M. and Zhou, W. (2021) 'Validating and modelling teachers' technological pedagogical content knowledge for artificial intelligence education', Computers & Education: Artificial Intelligence, 2, 100010.
5. Creswell, J.W. and Creswell, J.D. (2018) Research design: Qualitative, quantitative and mixed methods approach. 5th edn. Thousand Oaks, CA: SAGE Publications.

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6. Holmes, W., Bialik, M. and Fadel, C. (2019) Artificial intelligence in education: Promises and implications for teaching and learning. Boston, MA: Center for Curriculum Redesign.

7. Holmes, W., Tuomi, I. and Kitto, K. (2024) 'Ethics of AI in education: Towards responsible and equitable use', Educational Technology Research and Development.

8. Koehler, M.J. and Mishra, P. (2009) 'What is technological pedagogical content knowledge?', Contemporary Issues in Technology and Teacher Education, 9(1), pp. 60-70.

9. Luckin, R. (2022) Machine learning and human intelligence: The future of education for the 21st century. London: UCL Institute of Education Press.

10. Mishra, P. and Koehler, M.J. (2006) 'Technological pedagogical content knowledge: A framework for teacher knowledge', Teachers College Record, 108(6), pp. 1017-1054.

11. Ng, D.T.K., Leung, J.K.L., Chu, K.W.S. and Qiao, M.S. (2021) 'AI literacy: Definition, teaching, evaluation and ethical issues', Proceedings of the Association for Information Science and Technology, 58(1), pp. 1-12.

12. OECD (2021) Artificial intelligence in education: Challenges and opportunities for sustainable development. Paris: OECD Publishing.

13. Redecker, C. (2023) Digital competence of educators: Framework and applications in teacher education. Brussels: European Commission Publications.

14. Scherer, R., Siddiq, F. and Tondeur, J. (2023) 'The technology acceptance model (TAM): A meta-analysis of its applications in education', Computers & Education, 182, 104459.

15. Schmidt, D.A., Baran, E., Thompson, A.D., Mishra, P., Koehler, M.J. and Shin, T.S. (2009) 'Technological pedagogical content knowledge (TPACK): The development and validation of an assessment instrument for preservice teachers', Journal of Research on Technology in Education, 42(2), pp. 123-149.

16. UNESCO (2021) AI and education: Guidance for teachers. Paris: UNESCO Publishing.

17. Zawacki-Richter, O., Marin, V.I., Bond, M. and Gouverneur, F. (2022) 'Systematic review of research on artificial intelligence applications in higher education', International Journal of Educational Technology in Higher Education, 19(1), pp. 1-27

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