



Institutional Readiness for Integrating Generative Artificial Intelligence into Teacher Education: A Qualitative Study of Marymount Teachers College, Zimbabwe

Mashamba Tarashika

Lecturer: Psychology, Marymount Teachers College.

ABSTRACT

Generative Artificial Intelligence (GenAI) is rapidly reshaping teacher education by enhancing instructional design, personalized learning, and professional development while simultaneously raising ethical and pedagogical concerns (Holmes et al., 2022; Luckin, 2021). Despite its transformative potential, there is limited empirical evidence on how teacher training institutions in Zimbabwe are integrating GenAI into their programmes. This qualitative study explored the integration of Generative Artificial Intelligence in teacher education at Marymount Teachers College, Mutare, Zimbabwe. Guided by the interpretivist paradigm, the study employed a qualitative research approach to examine participants' experiences and perceptions. Purposive sampling was used to select 8 lecturers, 15 final-year student teachers, and 2 college administrators. Data were collected through semi-structured interviews, focus group discussions, and document analysis and were analysed thematically following Braun and Clarke's (2006) six-step framework. The findings revealed that GenAI tools are currently used informally, primarily to support lesson planning, content generation, and assignment preparation. Participants acknowledged the potential of GenAI to enhance pedagogical innovation, classroom simulations, and personalised feedback. However, concerns relating to academic integrity, data privacy, algorithmic bias, and inadequate institutional policies were identified as major barriers to effective adoption. The study concludes that while Marymount Teachers College demonstrates readiness to embrace AI-enhanced teacher education, successful integration requires institutional policies, curriculum reform, lecturer capacity building, ethical guidelines, and investment in digital infrastructure. The study contributes context-specific evidence to the growing discourse on AI in teacher education within developing countries and provides practical recommendations for the ethical and sustainable integration of GenAI into teacher preparation programmes.

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*Corresponding Author

Mashamba Tarashika

E-mail: taramashamba@gmail.com

Csell: 00263774496279

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SIGNIFICANCE STATEMENT

Generative Artificial Intelligence is transforming education worldwide, yet little is known about how teacher education institutions in Zimbabwe can adopt these technologies effectively and responsibly. This study provides evidence on the opportunities, challenges, and institutional requirements for integrating Generative AI into teacher education at Marymount Teachers College. Its findings offer practical guidance for teacher educators, institutional leaders, curriculum developers, and policymakers on developing AI-ready teacher education programmes while maintaining ethical standards and pedagogical quality. By contributing evidence from a developing-country context, the study advances understanding of how AI can strengthen teacher preparation and supports the development of a digitally competent teaching workforce for twenty-first-century education.

INTRODUCTION

The emergence of Generative Artificial Intelligence (GenAI) has introduced a transformative paradigm in education, particularly in teacher education and professional development. Unlike earlier forms of educational technology, GenAI systems such as ChatGPT, Gemini, Claude, DeepSeek, and Grok can generate human-like text, design lesson plans, create assessment tasks, simulate classroom interactions, and provide instant pedagogical feedback (Holmes et al., 2022; Luckin, 2021). These capabilities position GenAI as a powerful educational innovation capable of enhancing instructional quality, promoting personalised learning, and supporting reflective teaching practice. As education systems increasingly seek to prepare learners with twenty-first-century competencies, teacher education institutions are under growing pressure to equip future teachers with the digital literacy and AI competencies necessary for technology-enhanced teaching and learning (Zawacki-Richter et al., 2019).

Traditionally, teacher education has relied on face-to-face instruction, teaching practice, peer collaboration, and classroom observations to develop pedagogical competence (Darling-Hammond et al., 2017). While these approaches remain essential, they often provide limited opportunities for personalised feedback, repeated practice, and authentic simulation of complex classroom situations. Generative AI has the potential to complement these conventional approaches by providing intelligent tutoring, automated lesson planning, adaptive learning support, and realistic classroom simulations that allow student teachers to develop pedagogical skills in safe and flexible learning environments (Holmes et al., 2022; Luckin, 2021). Consequently, AI is increasingly viewed not merely as a technological tool but as a collaborative partner capable of supporting teaching, learning, and professional growth.

Despite these opportunities, the integration of Generative AI into teacher education presents significant pedagogical, ethical, and institutional challenges. Scholars have raised concerns regarding algorithmic bias, misinformation, data privacy, academic integrity, and the potential over-reliance on AI-generated content, which may undermine critical thinking, creativity, and professional judgment (Selwyn, 2023; Williamson & Eynon, 2020). Furthermore, many teacher education institutions, particularly in developing countries, continue to face inadequate digital infrastructure, limited AI literacy among educators, and the absence of comprehensive institutional policies governing responsible AI use. These challenges underscore the need to balance technological innovation with ethical responsibility and sound pedagogical practice.

Given the rapid evolution of Generative AI and its growing influence on educational practice, there is an urgent need to investigate how these technologies can be effectively, ethically, and sustainably integrated into teacher education. Although international literature highlights the transformative potential of AI, there remains limited empirical evidence from Zimbabwean teacher education institutions regarding current practices, institutional readiness, and future directions for AI adoption. This study, therefore, seeks to explore the integration of Generative Artificial Intelligence in teacher education at Marymount Teachers College, Mutare, Zimbabwe, with particular attention to its pedagogical implications, institutional challenges, and prospects for strengthening teacher preparation in the digital era.

The rapid emergence of generative artificial intelligence (AI) technologies, such as large language models (LLMs), AI-powered teaching assistants, and content generators, is reshaping the landscape of education. While these tools offer promising opportunities to enhance the quality, personalization, and accessibility of teacher training, there remains a significant gap in understanding how generative AI can be effectively, ethically, and sustainably integrated into teacher education programs. Most existing teacher training models were not designed with AI in mind and lack the structure to incorporate intelligent technologies that simulate teaching scenarios, provide real-time feedback, and assist in lesson design.

Furthermore, many educators and institutions are uncertain about the implications of AI-driven systems for pedagogical autonomy, professional identity, and ethical responsibility. There are growing concerns over the reliability of AI-generated content, potential biases in training data, and the risk of over-reliance on automated tools at the expense of critical human judgment. Without clear frameworks or standards for AI integration, teacher trainees may either underutilize these tools or adopt them in ways that undermine the depth and authenticity of pedagogical development.

The problem, therefore, is twofold: first, there is a lack of strategic integration of generative AI in teacher training programs; second, there is insufficient research on how such integration affects teaching competencies, ethical decision-making, and long-term teacher effectiveness. Addressing this problem is essential for developing a future-ready teaching workforce that is both AI-literate and pedagogically grounded.

Objectives of the study

The primary objective of this study is to explore the transformative role of generative artificial intelligence in teacher training and professional development. Specifically, the study seeks to:

1. Examine how generative AI technologies are currently being used in teacher education programs.
2. Identify the pedagogical and institutional implications of integrating generative AI into teacher training.
3. Explore the challenges and ethical concerns associated with the use of generative AI in teacher preparation.
4. Forecast future trends and potential trajectories for the integration of generative AI in teacher training over the next decade.
5. Recommend best practices for effectively and ethically incorporating generative AI into teacher education frameworks.

MATERIALS AND METHODS

Research Design

This study adopted a qualitative research design grounded in the interpretivist research paradigm. The qualitative design was considered appropriate because the study sought to understand participants' experiences, perceptions, and interpretations regarding the integration of Generative Artificial Intelligence (GenAI) into teacher education rather than to quantify predetermined variables. The interpretivist paradigm assumes that reality is socially constructed and that knowledge is generated through participants' subjective experiences within their natural settings (Creswell & Poth, 2018; Merriam & Tisdell, 2016). This approach enabled the researcher to obtain rich, contextualised accounts of how lecturers, student teachers, and college administrators perceive the opportunities, challenges, and prospects of GenAI in teacher education.

Study Area

The study was conducted at Marymount Teachers College, located in Mutare, Manicaland Province, Zimbabwe. The college is one of Zimbabwe's teacher education institutions responsible for preparing pre-service teachers through diploma programmes. The institution was purposively selected because it has

begun experiencing increasing interest in the use of Generative AI tools such as ChatGPT among lecturers and student teachers, making it an appropriate setting for investigating AI integration within teacher education.

Study Population

The target population comprised all lecturers involved in teacher education, final-year student teachers, and college administrators responsible for academic affairs, curriculum implementation, or information and communication technology (ICT). These groups were selected because they interact directly with teaching and learning processes and are therefore well-positioned to provide informed perspectives on the adoption of Generative AI within the institution.

Sample Size and Sampling Procedure

Purposive sampling was employed to select participants who possessed relevant knowledge and practical experience regarding teaching, learning, and the use of digital technologies. Purposive sampling is widely recommended in qualitative research because it enables the selection of information-rich participants capable of providing detailed insights into the phenomenon under investigation (Patton, 2015).

The study sample consisted of:

- 8 teacher educators (lecturers);
- 15 final-year student teachers; and
- 2 college administrators with responsibilities related to academic management and ICT.

The sample size was considered adequate because qualitative research prioritises depth of understanding rather than statistical representativeness. Data collection continued until sufficient information had been obtained to address the research objectives and no substantially new themes were emerging, indicating data saturation (Creswell & Poth, 2018).

Data Collection Methods

Three complementary data collection methods were employed to enhance the credibility and trustworthiness of the findings through methodological triangulation (Creswell & Poth, 2018).

Semi-Structured Interviews

Semi-structured interviews were conducted with the eight lecturers and two college administrators. An interview guide containing open-ended questions was developed based on the research objectives and existing literature on AI in teacher education. Questions explored participants' experiences with GenAI, perceived educational benefits, institutional preparedness, ethical concerns, and recommendations for effective implementation. Interviews were conducted face-to-face in participants' offices at mutually agreed times, with each interview

lasting approximately 40–60 minutes. With participants' consent, all interviews were audio-recorded and supplemented by field notes documenting contextual observations.

Focus Group Discussions

Two focus group discussions were conducted with the fifteen final-year student teachers to encourage interaction and collective reflection on their experiences using Generative AI. Each discussion consisted of seven to eight participants and lasted between 60 and 90 minutes. A discussion guide containing broad, open-ended prompts facilitated dialogue on AI-supported learning, academic integrity, perceived usefulness, challenges, and expectations regarding future AI integration. Focus group discussions were audio-recorded with participants' permission and complemented by observational notes.

Document Analysis

Document analysis was undertaken to examine institutional documents relevant to teacher education and technology integration. These included curriculum documents, teaching practice guidelines, ICT policies, strategic plans, and selected course outlines. Document analysis enabled the researcher to establish the extent to which Generative AI was formally recognised within institutional policies and teacher education programmes, while corroborating evidence obtained from interviews and focus group discussions (Merriam & Tisdell, 2016).

Research Instruments

Three research instruments were used to collect data:

The semi-structured interview guide consisted of open-ended questions addressing participants' experiences with GenAI, perceived pedagogical benefits, institutional readiness, and ethical considerations.

The focus group discussion guide contained prompts designed to stimulate discussion among student teachers regarding AI use in learning, teaching practice, assessment, and professional development.

A document analysis checklist was developed to systematically review institutional documents for evidence of AI-related policies, curriculum content, digital learning initiatives, and ethical guidelines.

Before data collection, the interview and focus group guides were reviewed by experienced educational researchers to establish content validity and improve clarity, relevance, and logical sequencing of the questions.

Data Collection Procedure

Permission to conduct the study was obtained from the relevant institutional authorities before data collection commenced. Potential participants were identified

through departmental records and invited to participate voluntarily. The researcher explained the purpose of the study, ethical considerations, and participants' rights before obtaining written informed consent.

Interviews and focus group discussions were scheduled at times convenient to participants and conducted in quiet environments within the college to minimise interruptions. Audio recordings were transcribed verbatim immediately after each session to preserve the accuracy of participants' responses. Throughout the data collection process, reflective field notes were maintained to capture non-verbal communication, contextual information, and emerging analytical insights.

Data Analysis

Data were analysed using thematic analysis following the six-step framework proposed by Braun and Clarke (2006). First, the researcher familiarised himself with the data through repeated reading of interview transcripts, focus group transcripts, and documentary evidence. Second, meaningful units of text were systematically coded. Third, related codes were grouped into preliminary themes representing recurring patterns within the data. Fourth, themes were reviewed against the coded extracts and the complete dataset to ensure coherence and consistency. Fifth, themes were refined, clearly defined, and appropriately named. Finally, the themes were interpreted and presented narratively using representative quotations from participants to illustrate key findings. The use of thematic analysis enabled systematic interpretation while preserving participants' original meanings.

Trustworthiness of the Study

To ensure the trustworthiness of the findings, the study adopted Lincoln and Guba's criteria of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). Credibility was enhanced through methodological triangulation involving interviews, focus group discussions, and document analysis, as well as member checking, whereby participants verified the accuracy of the interview transcripts and interpretations. Transferability was supported through detailed descriptions of the research context, participants, and procedures. Dependability was strengthened by maintaining an audit trail documenting methodological decisions throughout the research process. Confirmability was promoted through reflective journaling and careful documentation of analytical decisions to minimise researcher bias.

Ethical Considerations

Ethical approval and institutional permission were obtained before commencement of the study. Participation was entirely voluntary, and informed consent was obtained from every participant after explaining the objectives of the study, procedures, potential benefits, and participants' rights. Participants

were informed that they could withdraw from the study at any stage without penalty. Confidentiality and anonymity were maintained through the use of pseudonyms and the removal of personally identifiable information from transcripts and reports. Digital recordings, transcripts, and related research materials were stored securely and were accessible only to the researcher. Throughout the study, the ethical principles of respect for persons, beneficence, and justice were observed in accordance with established educational research guidelines (British Educational Research Association [BERA], 2018).

RESULTS

Theme 1: Current Utilization of Generative AI in Teacher Training

The use of generative AI at Marymount Teachers College is minimal and informal. Some lecturers and student teachers have started experimenting with tools like ChatGPT, mostly on their own initiative.

"I only started using ChatGPT this year when one of my students introduced me to it. I now use it to draft lesson outlines, but it's still a personal tool—not part of the official program."
— Lecturer 3

"Sometimes when I'm stuck on an assignment or need examples for teaching methods, I ask ChatGPT. It's faster than looking through textbooks."
— Student Teacher 5

The above comments show that while generative AI tools are not formally integrated into teacher education at Marymount, there is a growing grassroots interest. This signals a need for institutional guidance and training to support and scale up effective use.

Theme 2: Pedagogical and Institutional Implications

Participants expressed that generative AI could enhance lesson planning, assessment feedback, and teaching simulations. However, most had not received formal training on how to use these tools pedagogically.

"If we could train student teachers to use AI to differentiate instruction that would be a game-changer in Zimbabwean classrooms where we have mixed abilities."
— Administrator 1

"I can see how AI could help student teachers plan more effectively, but we need to make sure it aligns with our curriculum goals."
— Lecturer 1

The above comments show that there is a consensus that AI has transformative potential if aligned with curriculum objectives and embedded into training

modules. The lack of structured policies and resources, however, remains a barrier to widespread adoption.

Theme 3: Challenges and Ethical Concerns

Most respondents raised concerns about academic dishonesty, data privacy, and over-reliance on AI-generated material. Many feared that students might misuse AI to bypass critical thinking.

"Students are using ChatGPT to write reflections they haven't thought through themselves. It defeats the purpose of learning."
— Lecturer 5

"I don't fully trust it. Sometimes the information sounds right, but it's not accurate. How do I know what to believe?"
— Student Teacher 8

"We haven't been taught how to use these tools ethically. There needs to be guidance before it's too late."
— Student Teacher 3

These results indicate that training and digital literacy modules are urgently needed. The study highlights a gap between use and understanding of responsible practice, which could compromise both the integrity of assessments and the development of critical pedagogy.

Theme 4: Future Trajectories and Institutional Readiness

There is a clear desire among both lecturers and students for structured integration of generative AI. Respondents envision AI being used for simulated classroom practice, individualized coaching, and administrative task automation.

"Imagine an AI-powered tool that can simulate a classroom of 40 learners, giving our student teachers realistic practice before deployment—that would be revolutionary."
— Lecturer 2

"In ten years, I see AI helping us analyse learner performance faster. But only if we are trained well. We can't be left behind."
— Student Teacher 11

"As a college, we need to invest in the infrastructure and policies that support these changes—not just rely on external tools."
— Administrator 2

An issue noted in these submissions is that Marymount Teachers College has the opportunity to become a regional leader in AI-enhanced teacher training. However, this requires a deliberate capacity-building strategy, policy framework, and collaboration with national education authorities to prepare for the AI-enabled future.

Theme 5: Recommendations for Effective Integration

Participants proposed several practical strategies, which included:

- Workshops and training modules on AI use in education.
- Clear policies and ethical guidelines for AI adoption.
- Pilot projects to test generative AI tools in micro-teaching sessions.

"We don't need to wait for the ministry. The college can lead by setting up a task force to explore AI in teaching practice."

— Lecturer 6

This suggestion points to readiness at the ground level to embrace innovation. Empowering lecturers and students through professional development and participatory planning is key to building sustainable AI integration in teacher training.

The findings reflect a nascent but promising engagement with generative AI at Marymount Teachers College. While the potential benefits are widely acknowledged, strategic planning, ethical training, and curriculum alignment are necessary to ensure that AI becomes a pedagogical asset rather than a technological distraction.

DISCUSSION

This study examined the integration and implications of Generative Artificial Intelligence (GenAI) in teacher education at Marymount Teachers College in Mutare, Zimbabwe. Guided by five research objectives, the findings provide important insights into the current use of GenAI, its pedagogical potential, associated ethical challenges, institutional preparedness, and strategies for sustainable integration. The discussion relates these findings to existing literature and demonstrates how they contribute to the growing body of knowledge on AI in teacher education.

How Generative AI technologies are currently being used in teacher education programmes

The findings revealed that Generative AI tools are being used informally and experimentally by both lecturers and student teachers, primarily for drafting lesson plans, summarising learning materials, and supporting assignment preparation. However, these activities remain largely individual initiatives and have not yet been institutionalised within the teacher education curriculum.

These findings are consistent with Zawacki-Richter et al. (2019), who observed that AI adoption in higher education often begins with individual experimentation by educators before formal institutional implementation. Similarly, Luckin (2021) argues that while educators increasingly recognise the

instructional potential of AI, many institutions have yet to develop the policy frameworks and professional development programmes necessary for systematic adoption. At Marymount Teachers College, lecturers viewed ChatGPT and similar tools as personal teaching aids rather than officially sanctioned educational resources. This suggests that although awareness and interest in GenAI are increasing, institutional policy gaps and limited AI capacity continue to constrain meaningful integration into teacher education.

The pedagogical and institutional implications of integrating Generative AI into teacher education

Participants highlighted several pedagogical benefits associated with Generative AI, including improved lesson planning, personalised instruction, classroom simulations, and timely instructional feedback. These findings demonstrate that AI has considerable potential to enrich teaching practice and enhance the quality of teacher preparation.

These findings support Holmes et al. (2022), who contend that Generative AI has the capacity to transform teacher education by facilitating adaptive learning, personalised instructional design, and authentic teaching simulations. Likewise, Darling-Hammond et al. (2017) emphasise that effective teacher education requires continuous feedback, reflective practice, and opportunities for authentic learning experiences, all of which AI technologies can strengthen. However, despite recognising these opportunities, participants reported that Marymount Teachers College lacks the institutional infrastructure, curriculum integration strategies and professional development programmes needed to support AI-enhanced teaching. This observation is consistent with Luckin's (2021) description of the implementation gap, whereby technological innovations often advance more rapidly than institutional readiness and educational policy.

The challenges and ethical concerns associated with the use of Generative AI in teacher preparation

The study identified several ethical and pedagogical concerns associated with Generative AI, including academic dishonesty, excessive dependence on AI-generated content, misinformation, algorithmic bias, and inadequate guidance on responsible AI use. Both lecturers and student teachers acknowledged that while AI offers substantial educational benefits, it may also compromise critical thinking and authentic learning if used inappropriately.

These findings are consistent with Selwyn (2023), who argues that although Generative AI can enhance educational productivity, it also poses risks of superficial learning and diminished learner autonomy when used without critical engagement. Similarly, Williamson and Eynon (2020) caution that the absence of clear institutional policies and digital ethics frameworks increases the likelihood of inappropriate AI

use within educational settings. The findings, therefore, underscore the importance of developing AI literacy programmes that enable both lecturers and student teachers to evaluate AI-generated information critically while promoting responsible practices related to academic integrity, bias awareness, data privacy, and ethical decision-making.

Future trends and potential trajectories for the integration of Generative AI in teacher education

Participants envisaged a future in which Generative AI supports classroom simulation, personalised mentoring, automated assessment, and data-informed instructional decision-making. Their views reflect optimism regarding AI's capacity to improve teacher preparation while recognising that such transformation requires deliberate institutional investment.

These findings correspond with Holmes et al. (2022), who predict that AI will increasingly support personalised teaching, intelligent tutoring, and evidence-based instructional practices within teacher education. Similarly, Luckin (2021) argues that future educational systems will increasingly depend on AI technologies to support both teachers and learners through real-time analytics and adaptive learning environments. Nevertheless, participants acknowledged that Marymount Teachers College currently lacks adequate digital infrastructure, institutional planning, and financial resources to facilitate large-scale AI implementation. These findings suggest that sustained investment in infrastructure, strategic planning, curriculum redesign, and partnerships with educational stakeholders will be necessary to realise the full potential of AI in teacher education.

Best practices for effectively and ethically incorporating Generative AI into teacher education frameworks

Participants recommended several practical strategies to facilitate responsible AI integration, including lecturer capacity-building workshops, curriculum review, pilot implementation projects, and the development of institutional policies and ethical guidelines governing AI use.

These recommendations align with Holmes et al. (2022), who emphasise that successful AI integration depends on continuous professional development, collaborative institutional planning, and ethical governance frameworks. Likewise, the British Educational Research Association (2018) highlights the importance of ethical principles, transparency, and accountability when introducing emerging technologies into educational research and practice. Furthermore, Patton (2015) advocates iterative implementation through pilot projects, enabling institutions to evaluate innovations before large-scale adoption. The recommendations generated by this study, therefore, provide a practical roadmap for Marymount Teachers College to integrate Generative AI in ways that

strengthen pedagogical practice while safeguarding educational quality and ethical responsibility.

The study demonstrates that Marymount Teachers College stands at an important stage in its digital transformation journey. Although the potential of Generative AI to strengthen teacher education is widely recognised by lecturers, student teachers, and administrators, its successful integration depends on addressing institutional, pedagogical, and ethical challenges. Consistent with contemporary literature (Holmes et al., 2022; Luckin, 2021; Selwyn, 2023), the findings suggest that effective AI adoption requires visionary leadership, institutional commitment, lecturer professional development, curriculum innovation, and comprehensive ethical governance. By addressing these areas, Marymount Teachers College can position itself as a leader in AI-enhanced teacher education while preserving the human-centred values that remain fundamental to effective teaching and learning.

CONCLUSIONS

This study has explored the emerging role of generative artificial intelligence (AI) in transforming teacher training at Marymount Teachers College in Mutare. The findings reveal a nascent yet growing engagement with AI tools among lecturers and student teachers, characterized by informal and experimental use rather than systematic integration.

Generative AI holds significant promise to enhance pedagogical practices, especially through personalized lesson planning, simulated teaching environments, and real-time feedback. However, the study identifies critical gaps in institutional readiness, professional development, and policy frameworks necessary for ethical and effective AI adoption.

Moreover, ethical concerns such as academic integrity, data privacy, and over-reliance on AI-generated content pose significant challenges that require urgent attention. Without structured guidance and digital literacy training, there is a risk that AI could undermine rather than enhance the development of critical teaching competencies.

Looking forward, the college community expresses optimism about AI's potential to revolutionize teacher education but acknowledges that realizing this potential depends on deliberate investments in capacity building, infrastructure, and curriculum reform. Small-scale pilot projects and the establishment of clear ethical guidelines are essential first steps toward sustainable integration.

In conclusion, Marymount Teachers College is positioned at a pivotal moment where strategic leadership can harness generative AI to foster an innovative, future-ready teaching workforce. To do so, the college must embrace a proactive approach that balances technological advancement with pedagogical integrity and ethical responsibility.

Recommendations

Based on the findings of this study on the role of generative AI in transforming teacher training at Marymount Teachers College, the following recommendations are proposed to ensure effective, ethical, and sustainable integration of AI technologies into teacher education:

1. Develop and Implement AI Literacy Training Programs

- Introduce mandatory workshops and courses focused on generative AI tools, emphasizing both technical skills and ethical use.
- Equip lecturers and student teachers with competencies to critically evaluate AI-generated content and responsibly incorporate AI into teaching practice.

2. Establish Institutional Policies and Ethical Guidelines

- Formulate clear policies governing the use of generative AI in academic work to prevent misuse, such as plagiarism and over-reliance.
- Develop ethical guidelines addressing data privacy, intellectual property, and fairness, tailored to the local context of Marymount Teachers College.

3. Integrate AI into the Teacher Training Curriculum

- Revise existing curricula to embed AI-supported pedagogical strategies, such as AI-assisted lesson planning, assessment, and classroom simulation.
- Encourage action research projects where student teachers experiment with AI tools under guided supervision.

4. Invest in Infrastructure and Technical Support

- Upgrade the college's ICT infrastructure to support AI applications, including reliable internet access, software licenses, and access to AI platforms.
- Provide ongoing technical support to lecturers and students for seamless AI adoption.

5. Pilot AI-Enhanced Teacher Training Initiatives

- Launch pilot programs that integrate AI in micro-teaching sessions, formative assessment, and feedback processes.
- Collect feedback from participants to iteratively improve AI integration strategies before scaling up.

6. Foster Collaboration and Partnerships

- Engage with national education authorities, technology providers, and research institutions

to stay abreast of best practices and secure resources.

- Participate in regional and international forums on AI in education to exchange knowledge and innovations.

7. Promote Continuous Research and Evaluation

- Encourage faculty and student-led research on the impact of generative AI in teacher training to inform policy and practice.
- Establish a monitoring and evaluation framework to assess the effectiveness, challenges, and ethical implications of AI use over time.

By implementing these recommendations, Marymount Teachers College can position itself as a leader in AI-enhanced teacher education, ensuring that future educators are both technologically proficient and ethically grounded to meet the evolving demands of the 21st-century classroom.

Declaration of interest

The author declares that there is no conflict of interest

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List of Abbreviations

AI – Artificial Intelligence
BERA – British Educational Research Association
GenAI – Generative Artificial Intelligence
GPT – Generative Pre-trained Transformer
ICT – Information and Communication Technology
ITS – Intelligent Tutoring Systems
LLMs – Large Language Models
ChatGPT – Chat Generative Pre-trained Transformer
Gemini – Google's Gemini Generative Artificial Intelligence model
Claude – Anthropic's Claude Generative Artificial Intelligence model
DeepSeek – DeepSeek Generative Artificial Intelligence model
Grok – xAI's Grok Generative Artificial Intelligence model

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