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Teachers' Perceptions of Artificial Intelligence in Higher Education: Opportunities, Challenges and Readiness for Future-Ready Classrooms

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ABSTRACT

Artificial Intelligence (AI) is having a significant impact on every modern field by transforming teaching, learning, and assessment methods. The contribution of teachers as one of the key stakeholders in education is undeniable. Therefore, in this era of information technology, when the use of artificial intelligence (AI) is noticeable everywhere, what is the status of teachers? The purpose of this study was to find out the status of teachers. The present study was conducted to examine the AI literacy, AI-related challenges, AI readiness and professional development needs of higher education teachers. This study was a quantitative research design where descriptive survey method was adopted and data were collected from 250 higher education teachers as a sample using a self-constructed questionnaire. The collected raw data were analysed using descriptive statistical techniques (frequency, percentage, mean and standard deviation) on Microsoft Excel.

The findings of the study showed that higher education teachers had high levels of AI literacy (Mean = 3.84) and AI readiness (Mean = 3.72). However, teachers reported significant difficulties in assessing AI-assisted assignments, AI-generated content, and content identification (Mean = 4.18). The study also highlighted the need for professional development, training programs and institutional support for the effective and efficient use of AI in education (Mean = 4. 21). It is clear from the results of this study that while teachers acknowledged the educational potential of AI, need of fruitful guidance and practical hand-to-hand training to use AI and generated AI effectively and responsibly.

The results of the study highlighted that AI has become an integral part of higher education and that continuous training and institutional support for teachers is essential for its ethical and effective implementation. The results of this study can help educational institutions, education policymakers and teacher trainers to formulate appropriate training programs and support systems for the use of AI in higher education.

Keywords: Artificial Intelligence, Higher Education Teachers' Perceptions of AI, AI Literacy, AI Readiness, Professional Development, Educational Technology

INTRODUCTION

We live in an era of unprecedented advancements in information and communication technology, which have brought revolutionary changes in almost every aspect of life. From communication and education to banking, transportation and healthcare, the digital environment is everywhere. Digital technology has become an integral part of our daily lives. Today, people depend heavily on technology and its innovations to carry out their daily activities from morning till night. Artificial

Intelligence (AI) stands out as one of the most significant inventions of Digital technology. Its applications are so mass that it has become one of the most powerful technological inventions of the digital age. Artificial Intelligence (AI) refers to the ability of machines or computer systems to perform tasks that typically require human intelligence, such as learning, reasoning, problem-solving, decision-making and comprehension. Although the concept of "Artificial Intelligence (AI)" gained widespread recognition during the 1956 Dartmouth Conference – where John McCarthy (McCarthy et al., 2006) first formally introduced the term – the idea of creating AI had surfaced in discussions among scientists and philosophers long before that.

The rapid growth of smartphones and the internet has further accelerated the availability of AI-powered applications in the education sector. Students can now use AI-based tools to gather information, create content, translate languages, solve problems, and access educational resources within seconds. Tasks that previously required extensive research across numerous books, libraries, and websites can now be accomplished in a few seconds with the help of smart digital systems. Education has witnessed unprecedented changes with developments in Generative AI tools such as ChatGPT, Google Gemini, Microsoft Copilot, and other AI tools (Tzirides et al., 2023). As a result of the use of artificial intelligence in education, we are constantly seeing an increase in the use of creativity in areas such as lesson planning, content creation, assessment, individualised learning, educational writing, and research. These tools have facilitated the development of new methodologies to make teaching-learning efficient and impactful.

The 2023 Global Education Monitoring (GEM) report highlighted use of the digital tools and artificial intelligence (AI) could play a significant role in providing individualised support to each students—especially students with disabilities or those living in remote and marginalised areas. The guidelines titled 'Guidance for Generative AI in Education and Research' (September 2023) outline how AI systems can assist in institutional management. It further notes that while AI can significantly enhance capabilities and create opportunities for flexible learning, its implementation must strictly adhere to a 'human-centric' and 'equity-based' approach to ensure it helps reduce existing inequalities rather than exacerbating the digital divide. According to UNESCO frameworks and publications released in 2023, artificial intelligence holds the potential to enhance personalised learning, improve education management, and promote broader access to inclusive lifelong learning.

Similarly, Holmes et al. (2022) have argued that Artificial Intelligence (AI) can assist teachers in lesson planning, providing feedback, and supporting students. In another study, Holmes and Tuomi (2022) shed light on the evolving landscape of AI usage in education. On the other hand, researchers have expressed concerns regarding issues such as ethics, data privacy, integrity, algorithmic bias, and over-reliance on technology. According to Luckin (2018), given the crucial role teachers play in facilitating the learning process, AI should be viewed not as a replacement for teachers, but rather as a complement to or an extension of human intelligence. In fact, as widely highlighted in recent discussions regarding the future of the workplace and education, artificial intelligence (AI) will not replace teachers; however, teachers who learn to effectively leverage the benefits of AI will likely displace those who do not (Kasneci et al., 2023; Mollick, 2023).

While educators are aware of the benefits of Artificial Intelligence (AI) in education, they face various challenges regarding its proper implementation. Perhaps the greatest challenge lies in evaluating work produced with AI assistance; it has become difficult for teachers to verify the extent to which students have completed assignments through their own independent efforts.

Furthermore, the growing influence of AI means that mere knowledge of the technology is no longer sufficient for teachers. They need to understand how AI tools function, integrate them into the teaching-learning process, critically evaluate AI-generated outputs, and effectively address ethical issues related to AI. Consequently, "AI literacy" has emerged as an essential skill for educators in the digital age (Lodzikowski et al., 2024). Variations in the extent of AI application in the classroom may arise due to individual differences in knowledge, training, and professional experience among teachers. Therefore, it is crucial to examine teachers' perspectives, the challenges they face, and their professional development needs to enhance the utility and responsible use of AI in higher education. This research paper aims to explore the concept of AI literacy among higher education teachers. The study seeks to contribute to the growing discourse on AI in education and provide insights that can assist in formulating effective training programs, institutional policies, and teaching methodologies for the ethical integration of artificial intelligence in higher education.

Significance of the Research

The rapid evolution of digital technology and the internet has made accessing information far easier than before. Today's students can leverage artificial intelligence (AI) to instantly find necessary information and solutions to their academic challenges. Consequently, the roles of both teachers and students have undergone significant changes. In the modern education system, if teachers fail to keep pace with technological advancements, a gap may emerge between them and their students. Therefore, it is crucial for teachers to stay technologically up-to-date and acquire the necessary skills to effectively guide students in an AI-driven world.

The significance of this research lies in its aim to assess the level of AI literacy among higher education teachers and to identify the challenges they face in integrating AI into teaching, learning, and assessment processes. The current study is relevant because knowing about AI is not sufficient; teachers must develop the necessary skills to engage, critique, and encourage responsible use of AI by students. Luckin (2018) argues that AI should be seen as an extension of human capability and not replace the teacher. In addition, the current research focuses on a contemporary issue that has attracted the attention of researchers in relation to assessing assignments produced by students using AI. The current research provides information that can help educational institutions develop policies and assessment strategies to embrace the use of technology in education.

Education is a dynamic entity that keeps changing as society evolves. As such, institutions of learning mirror societal trends and play a critical role in preparing students for the future. If students are guided appropriately on the ethical use of technology, there is a likelihood of developing a responsible, inclusive, and future-oriented education system. In this regard, the findings of the current research can be used to develop education policies, curricula, and teacher training programs fit for the future.

In addition, the research findings have significant implications for teacher education and professional development because the current study sought to establish the relevance of professional preparation. This way, it will be possible to generate knowledge related to artificial intelligence in education while developing a technologically competent and ethically accountable teaching profession fit for the future.

Review of Related Literature

1. Cheng et al. (2026) conducted a mixed-methods approach to examine the determinants of the intention to use generative AI among construction engineering professionals. The study identified key behavioral, technological, and organizational drivers that influence

decisions regarding AI adoption, and outlined the strategic frameworks necessary for the successful integration of generative AI technology into project management workflows.

2. Hossain et al. (2026) employed a conceptual framework synthesis approach to address existing gaps in teacher training. They identified the essential components of Generative AI (GenAI) literacy and emphasized the importance of ethical considerations, as well as the necessity for collaboration between humans and artificial intelligence (AI). Furthermore, they recommended the inclusion of developmental and ethics-oriented training models, which facilitate human-AI collaboration and enhance teachers' own decision-making capacity (teacher agency).
3. Buele and Llerena-Aguirre (2025) employed a qualitative or narrative review methodology in their research. The study explored the perspectives of university faculty members regarding artificial intelligence (AI), their ethical concerns, the reasons behind their reluctance or resistance toward using AI technologies, and their needs for training. The findings highlight challenges such as a lack of AI literacy and various ethical concerns.
4. Chen et al. (2025) conducted a study on generative AI literacy among 25 higher education instructors. The findings indicate significant improvements in the instructors' confidence in AI and their functional proficiency. However, the researchers noted that the small sample size limits the generalizability of the results and recommended further, large-scale studies across various disciplines.
5. Gu and Ericsson (2025). This study presented findings based on an integrated review and identified several frameworks for AI literacy. However, empirical research on higher education teachers' actual perspectives and preparedness remains limited.
6. Lademann et al. (2025) evaluated the impact of a structured, four-week online professional development course on the AI literacy and teaching-related mindsets of practicing teachers in Germany. The findings indicate that hands-on online training significantly enhances teachers' overall AI literacy and fosters a highly positive, ethics-oriented perspective regarding the use of AI in education.
7. Xu et al. (2025) conducted a study of 178 faculty members in higher education to examine their adoption of and perspectives on artificial intelligence (AI). The research reveals that, despite a high level of general awareness regarding AI, its application in the classroom remains extremely limited. The study emphasises bridging the gap between technological awareness and the active integration of AI into the teaching process through targeted professional development.
8. Adzkia & Refdinal (2024) in their Research findings indicated that teachers lack technical skills to engage with AI, influenced by factors such as critical thinking, problem-solving, communication, collaboration, and creativity. The authors conclude that there is a positive relationship between critical thinking, problem-solving, communication, collaboration, and creativity and the preparedness of vocational high school teachers to face the challenges of 21st-century artificial intelligence.
9. Zhai (2024). This study analyzes teachers' acceptance, knowledge, and classroom application of AI. While it highlights the importance of continuous professional development, empirical validation or evidence regarding this framework remains limited.
10. Miao and Holmes (2023) examined the potential and risks of generative AI in education. The authors emphasise the need to enhance teacher capabilities while identifying the dangers posed by AI in education. However, the authors do

not provide information on the extent to which teachers are AI literate

Research Gap

Most of the previous studies have explored specific aspects of AI in education, including the issue of AI literacy, teachers' perceptions, readiness to embrace this technology, or professional preparation. However, there is a need to explore the concerns of higher education teachers in relation to AI using survey methods to examine five key issues, including AI awareness, effective AI literacy, challenges related to AI-based assessment, readiness to adopt AI, and the need for professional development to meet the demands of this emerging technology. In addition, there is a need for comparative analysis of the preparedness of teachers who embrace AI versus those who do not use this technology.

Research objectives:

The present study will be conducted to explore the following objectives:

1. To find out the level of Artificial Intelligence (AI) awareness among the higher education teachers.
2. To find out the challenges higher education teachers face while using AI.
3. To examine the level of AI readiness among higher education teachers.
4. To identify the professional development needs of higher education teachers for the effective integration of Artificial Intelligence in higher education.

Research Questions:

RQ1: What is the level of AI literacy among higher education teachers?

RQ2: What challenges do higher education teachers face in the use of AI?

RQ3: What is the level of AI readiness among higher education teachers?

RQ4: What are the professional development needs of higher education teachers regarding AI integration?

METHODOLOGY

The present study adopted a quantitative research approach. By nature, this is a Quantitative research. This design was considered appropriate because it facilitates the collection of numerical data and enables systematic analysis of teachers' challenges, readiness, and professional development needs related to Artificial Intelligence in education.

This research design was considered appropriate because it facilitates the collection of quantitative data and a systematic analysis of teachers' challenges, readiness, and professional development needs related to the use of Artificial Intelligence in education.

Research Design

The study employed a descriptive survey research design. This survey research design was adopted because it allows the researcher to fulfil this research criteria. It was mainly focused on understanding the existing state of teachers' AI literacy, challenges and readiness through a self-made questionnaire for conduction survey type research.

Population of the Study

The population of the study included of higher education teachers working in different undergraduate colleges in west Bengal. These sample teachers were come from different academic disciplines and possessed verity levels of teaching experience and familiarity with Artificial Intelligence tools.

Sample and Sampling Technique

A total sample of 250 higher education teachers participated in this study. The sample were selected using a random sampling technique, as only those teachers who were currently teaching at the higher education level were considered. The researcher try to focus on verity of sample teachers from different subject backgrounds, age groups and teaching experiences.

Research Tool

In this study, data were collected using a self-made questionnaire developed by the researcher after reviewing relevant literature on artificial intelligence in education. The suitability of these instruments was established through both pilot testing and expert review processes. The questionnaire consisted of two sections:

- **Section A: Demographic Information**

This section collected information regarding: Gender, Age, Academic Discipline, Teaching Experience, Type of Institution, Familiarity with AI Tools.

- **Section B: AI Literacy Questionnaire**

The questionnaire measured the following dimensions:

Table: 1

Dimension	Number of Items
AI Literacy	8
AI-related Challenges	6
AI Readiness	5
Professional Development Needs	5

Total Items- 24

All items were measured using a five-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree,5 = Strongly Agree,

Validity of the Tool

The questionnaire was reviewed by experts in the field of education and educational technology to ensure its validity and reliability according to the main objectives of the research. Necessary minor changes were made based on the experts' suggestions.

Data Collection Procedure

The data were collected through both online (Google Form) and offline modes. The teachers were first informed about the purpose of the present study by talking to them in the higher education institutions, after which the questionnaire was distributed to them voluntarily, and teachers were asked to help with this among the known teacher groups. The data were collated by sending Google links to the teachers from far and wide via email and through the internet. The entire study was voluntary and confidential.

Techniques of Data Analysis

The collected data were analysed using descriptive statistical techniques (Frequency, Percentage, Mean, and Standard Deviation) in Microsoft Excel. The main focus of the study was to accurately capture the data on the level of AI literacy, challenges, readiness, and professional development needs among higher education teachers, using appropriate statistical techniques of research methodology.

Results and Discussion

➢ **Objective 1**

1. To find out the level of Artificial Intelligence (AI) awareness among the higher education teachers.

RQ1: What is the level of AI literacy among higher education teachers?

Table 2 Level of AI Literacy among Higher Education Teachers (N = 250)

Dimension	Category	Mean	SD	Interpretation
AI Literacy	Low=1–2.33 Moderate= 2.34 –3.66 High=3.67–5.00	3.84	0.71	High

Result: The analysis revealed that higher education teachers possessed a relatively high level of Artificial Intelligence literacy (M = 3.84, SD = 0.71). Most respondents indicated that they were familiar with basic concepts of AI and AI tools such as ChatGPT and Google Gemini. Teachers were aware of the use of artificial intelligence in education

and its potential to revolutionise the teaching and learning process. However, the findings also revealed that teachers were aware of basic and popular AI tools, whereas their knowledge of advanced or research-oriented applications of this technology was limited. The respondents revealed that they lacked adequate knowledge of the pedagogical implications of using AI in higher education.

Interpretation:
It can be argued that the mean score was high which implies that respondents had good AI literacy.

Discussion:
The popularity and use of AI tools can help increase awareness of AI. However, awareness does not necessarily equate to AI literacy since the findings of the current study indicate that people may possess general knowledge of the existence of this technology but may not have in-depth knowledge of its pedagogical implications. The findings of this study therefore indicate that higher education teachers are becoming increasingly aware of AI because of the popularity of this technology. This can explain why most respondents demonstrated a high level of AI awareness.

Summary of Objective 1:
The findings indicate that:

- Most of the teachers are aware of AI and its educational applications.
- ChatGPT and Google Gemini are the most familiar AI tools among respondents.
- Teachers possess moderate to high AI literacy.
- Knowledge regarding specialised educational and research tools remains limited.
- There exists a need for systematic AI literacy development programmes to enhance practical competence.

Further Observations under Objective 1
Furthermore, it was found that AI literacy among respondents varied according to demographic and institutional factors.

Table 3

Category	Mean AI Literacy	SD
Urban Colleges	4.02	0.64
Rural Colleges	3.55	0.77

It was found that teachers who were teaching in urban colleges had higher AI literacy and knowledge about AI tools compared to teachers teaching in rural colleges.
The reason for this can be said to be that colleges in urban areas have access to better technological infrastructure compared to rural areas.

Table 4

Category	Mean AI Literacy	SD
Male Teachers	3.95	0.68
Female Teachers	3.68	0.73

Another observation was that gender differences also influenced the level of AI literacy among teachers. It was evident that male teachers were more knowledgeable about AI tools than female teachers. However, it is hypothesized that the difference in the level of technological awareness between male and female teachers is explained by the differences in access to technology and training.

Discussion: The findings indicate that the level of AI literacy is not uniform among higher education teachers. The influence of such factors as the location of the institution and access to technology and training contributes immensely to the differences in AI literacy levels among teachers. This observation implies that there is a need to increase teachers' capacity in AI since most of them are not aware of the pedagogical applications of this technology.

Objective 2:
2. To find out the challenges higher education teachers face while using AI.

Research Question 2

What challenges do higher education teachers face in the use of AI and assessment of AI-assisted student work?

Table 5 Major Challenges Faced by Higher Education Teachers Regarding AI (N = 250)

Challenges	Percentage (%)
Difficulty in assessing AI-generated assignments	88%
Unable to identify whether work is done by students or AI	85%
Lack of training on AI tools	82%
Limited knowledge of AI detection tools	80%
Lack of institutional guidelines on AI use	78%
Heavy academic workload and examination duties	76%
Lack of time for self-learning and technological updating	74%
Fear regarding privacy and data security	70%
Limited access to workshops and training programmes	68%
Lack of interest or motivation to learn AI tools	62%
Technological barriers among senior teachers	60%
Poor digital infrastructure in some rural institutions	58%

Results: The study found that higher education teachers face several barriers to the effective use of artificial intelligence (AI). The first challenge experienced by 88 percent of the respondents was marking assignments generated by students using AI while the second challenge was the lack of information on whether students submitted self-plagiarized assignments or plagiarized using AI tools. A large percentage of the respondents highlighted the lack of training (82 percent), lack of information on AI detectors (80 percent), and lack of policies (78 percent) as the major challenges. In addition, the workload and examination responsibilities hindered teachers from acquiring the necessary technical skills to detect assignments generated by AI tools.

Data security and privacy in the use of AI platforms were also a concern to many respondents. Senior teachers and teachers in rural institutions expressed a lack of confidence in using AI technology and requested more professional support and training.

Discussion:

The findings of the current study indicate that the biggest challenge in the use of AI in education is the issue of marking assignments generated by AI tools. In addition, the study reveals that the lack of training, heavy workload, and lack of institutional policies prevent teachers from embracing this technology. The findings therefore support the position that there is a need to organise training sessions for teachers on the use of this technology.

Objective 3

To examine the level of AI readiness among higher education teachers.

Research Question 3

What is the level of AI readiness among higher education teachers?

Table 6 AI Readiness among Higher Education Teachers (N = 250)

Dimension	Mean	SD	Interpretation
AI Readiness	3.72	0.75	High

Results: The results showed that higher education teachers were quite prepared for AI (mean = 3.72, standard deviation = 0.75). Most respondents expressed interest in learning and using AI tools for teaching, research, and academic purposes. Most teachers said that AI has now become an integral part of education and that it is important to adopt AI technologies

appropriately to improve their careers and to keep up with these changes.
However, there is a difference in age, with younger teachers having more experience with technology than older teachers; as a result, younger teachers are more prepared. Similarly, teachers in urban institutions are more prepared to adopt AI tools than teachers in rural colleges.

Table 6.1 Factors Influencing AI Readiness (N = 250)

Factors	Percentage (%)
Willingness to learn AI tools	86%
Belief that AI will support teaching	84%
Interest in using AI for research work	80%
Confidence in adapting to new technologies	76%
Readiness to integrate AI into classroom practices	74%
Concern about technological complexity	42%
Fear of making mistakes while using AI	38%

Discussion: The results indicate that most higher education teachers are aware of the growing importance of AI and are generally willing to adopt AI technologies in their professional activities. However, readiness varies based on technology exposure, institutional setting, and previous use of digital tools. The results indicate that even though teachers have realised the significance of AI, it is important to provide constant assistance in order for the attitudes to translate into practice.

Key Findings Related to RQ3

- 86% of teachers expressed willingness to learn AI tools.
- 84 percent believed that artificial intelligence could improve the teaching and learning process.
- 80% showed interest in using AI for research activities.
- Urban teachers reported higher readiness than rural teachers.
- Young teachers were more confident in using AI technology.
- There was still some worry regarding the complexities of technology and a lack of experience with the same.

Objective 4

To identify the professional development needs of higher education teachers for the effective integration of Artificial Intelligence in higher education.

Research Question 4

What are the professional development needs of higher education teachers for the effective integration of AI in higher education?

Table 7 Professional Development Needs of Higher Education Teachers Regarding AI (N = 250)

Professional Development Needs	Percentage (%)
Need for AI-related training programmes	92%
Need for workshops and hands-on sessions	90%
Need for institutional guidelines on AI use	88%
Need for AI integration in faculty development programmes	85%
Need for training on AI-assisted assessment methods	83%
Need for awareness regarding AI ethics and privacy	80%
Need for continuous professional support	78%
Need for access to AI learning resources	76%

Table 7.1 Professional Development Needs Score (N = 250)

Dimension	Mean	SD	Interpretation
Professional Development Needs	4.21	0.64	High

Results: The findings revealed a high level of demand for professional development related to Artificial Intelligence among higher education teachers (M = 4.21, SD = 0.64). Most respondents indicated that they wanted training programs to help them understand how to use AI tools in education. About 92 percent of the teachers requested formal training on AI while 90 percent of the respondents wanted practical workshops to learn how to apply this technology. In addition to training, most respondents wanted institutional guidelines and an understanding of ethical issues related to plagiarism in assignments generated by AI tools. As expected, teachers in rural institutions and senior teachers wanted continued professional support since they cannot learn about this technology independently.

Discussion: The results showed that although teachers acknowledged the importance of Artificial Intelligence in modern education, many of them did not feel prepared to use AI in teaching, assessment and research activities. The high demand for training, workshops and institutional support showed the current lack of readiness between awareness and effective use.

The results also showed that teachers preferred structured professional development programs over self-learning. The respondents stressed that faculty development programmes, workshops and policy guidelines would help them integrate AI responsibly and effectively into educational practices.

These findings highlight the need for institutional efforts to develop AI literacy and prepare teachers to navigate rapidly changing technologies in higher education.

Key Findings Related to RQ4

- 92% of teachers demanded formal AI training programmes.
- 90% preferred workshops and hands-on learning opportunities.
- 88% emphasised the need for institutional AI guidelines.
- 85% supported the inclusion of AI in faculty development programmes.
- 83% wanted training on AI-assisted assessment practices.
- Rural and senior teachers expressed a greater need for professional support.
- Overall professional development need was found to be high (M = 4.21).

Summary of Overall Findings

Table 8

Objective	Mean	Interpretation
AI Literacy	3.84	High
AI-related Challenges	4.18	High
AI Readiness	3.72	High
Professional Development Needs	4.21	High

Overall Interpretation

The study revealed that higher education teachers possess a moderate to high level of AI literacy and readiness. However, teachers face challenges in assessing and ensuring the integrity of student work done with the help of AI. The findings further indicate a strong demand for professional development, training programmes and institutional support to facilitate the effective and ethical integration of Artificial Intelligence in higher education.

Discussion of the Study

The present study examined the Artificial Intelligence literacy, challenges, readiness and professional development needs of higher education teachers. The results of the study showed that most of the teachers have medium to high literacy levels of AI tools and are familiar with widely used tools such as ChatGPT and Google Gemini. However, their knowledge was largely limited to basic and popular AI applications, while awareness of advanced educational and research-oriented AI tools was limited.

The study also revealed that teachers were facing significant challenges in assessing AI-assisted student work. The inability to determine whether assignments were independently completed by students or generated using AI was one of the most

prominent concerns. Many respondents also said they had limited knowledge of AI detection tools, a lack of institutional guidelines and concerns about academic integrity.

Although the results showed a generally positive attitude toward AI adoption, readiness levels varied among teachers. Younger teachers and those with greater technological exposure had higher levels of readiness than senior faculty members. Teachers from urban institutions were more confident in using AI tools than their counterparts in rural colleges.

The study has stressed the need for professional development programs.The majority of respondents emphasised the need for structured training programmes, workshops, hands-on learning experiences and institutional support. These results suggest that while teachers acknowledge the importance of artificial intelligence in education, a significant gap exists between awareness and the effective use of its teaching methods.

Overall, the results of this research largely support previous studies, such as... Luckin (2018), UNESCO (2023), Wang et al. (2023), and Zhai (2024), which emphasized the importance of teacher preparedness, AI literacy and continuous professional development for the successful integration of Artificial Intelligence in education.

CONCLUSION

Artificial intelligence is transforming education and has become an integral part of modern teaching and learning. The current study concludes that higher education teachers are AI literate and show positive attitudes towards adopting this technology. However, teachers face various obstacles when implementing this in their institutions. The findings also indicate that teachers lack AI expertise and institutional support systems; hence the need for continued professional development. It is therefore recommended that institutions of higher education implement regular training sessions on AI to help teachers develop the necessary skills to use this technology effectively.

Educational Implications

Based on the findings of this study, the following recommendations are proposed:

1. Higher education institutions should conduct regular AI literacy training sessions for teachers.
2. Institutions should also organize workshops on AI-assisted teaching, assessments, and research.
3. Universities and Colleges should develop guidelines on ethical and responsible use of AI.
4. AI literacy should be incorporated into Faculty Development Programmes (FDPs).
5. Special programs should be taken to support teachers working in rural institutions and those with limited technical experience.
6. Assessment practices should be redesigned to address the growing use of AI-generated academic content.

Limitations of the Study

1. The study was limited to 250 higher education teachers.
2. Data were collected through a self-structured questionnaire; therefore, responses were based on self-perception.
3. The study focused only on higher education teachers and did not include students or administrators.
4. The findings may not be generalized to all educational contexts.

Recommendations

1. Higher education institutions should conduct regular AI literacy training courses for teachers.
2. Institutions should ensure that educators obtain hands-on experience in using educational AI tools and AI-assisted assessments.
3. Institutions should develop policies regarding the use of AI in education.

4. Teacher training programs should emphasize AI ethics, privacy, and responsible use of this technology.
5. There is a need to pay more attention to rural colleges since these institutions do not have the resources available in urban colleges.

Suggestions for Further Research

Future researchers may consider the following areas:

1. Future researchers may consider carrying out a comparative study on the level of AI literacy of teachers in urban and rural higher education institutions.
2. An investigation into the impact of AI training programmes on teachers' readiness and classroom practices.
3. A study on the relationship between AI literacy and teaching effectiveness.
4. A qualitative exploration of teachers' experiences and concerns regarding AI integration in education.
5. A mixed-method study examining institutional preparedness for AI adoption in higher education.

Declaration by Authors

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