INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholorly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

TEACHER READINESS FOR RESPONSIBLE GENERATIVE AI INTEGRATION IN EDUCATION: A STUDY OF AI LITERACY, ETHICAL CONCERNS, AND ASSESSMENT PRACTICES"

Dr. R.V.Suganya
Assistant Professor,
Department of Commerce,
Vels Institute of Science Technology and Advanced Studies (VISTAS),
Chennai, Tamil Nadu, India.

Dr. K. Kalaiselvi
Associate Professor,
Department of Commerce,
Vels Institute of Science Technology and Advanced Studies (VISTAS),
Chennai, Tamil Nadu, India.

Dr. A. Krishnan
Professor,
Department of Commerce,
Vels Institute of Science Technology and Advanced Studies (VISTAS),
Chennai, Tamil Nadu, India.

Abstract

This study examines the effect of Marketing Technology Agility on Product Development Performance and investigates the moderating role of Market Turbulence in international market contexts. The study addresses the growing need for firms to use marketing technology not only as a digital resource, but as an agile capability that supports market sensing, customer response, and technology reconfiguration. Marketing Technology Agility is conceptualized as the firm's ability to use marketing technology quickly, flexibly, and strategically to identify market changes, respond to customer feedback, and adjust technology resources according to product development needs. Product Development Performance is examined through speed-to-market, product market acceptance, and international product success. A quantitative explanatory research design was adopted, and primary data were collected through a structured questionnaire from 300 managerial respondents representing 35 internationally operating firms. The respondents were selected purposively because they had direct knowledge of marketing technology use, product development decisions, innovation activities, and market conditions. The data were analysed using descriptive statistics, reliability and validity assessment, discriminant validity testing, structural equation modeling, and moderation analysis. The findings show that Marketing Technology Agility has a positive and significant effect on Product Development Performance. The results further confirm that Market

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

Turbulence positively moderates this relationship, indicating that the effect of Marketing Technology Agility becomes stronger when firms operate in highly dynamic and uncertain market environments. The study contributes to the literature by positioning Marketing Technology Agility as a dynamic capability that helps firms convert digital marketing resources into stronger product development outcomes. It also adds to the market-based view by showing that external market conditions influence the value of internal capabilities. From a practical perspective, the findings suggest that managers should not only invest in marketing technologies, but also develop agile systems for real-time customer feedback, data-driven decision-making, cross-functional coordination, and flexible product development. The study concludes that Marketing Technology Agility is an important strategic capability for improving Product Development Performance, especially under conditions of high Market Turbulence in international markets.

Keywords: Digital Transformation; Dynamic Capability Theory; International Product Development; Market Turbulence; Marketing Technology Agility; Product Development Performance.

Introduction

Background of the Study

Generative Artificial Intelligence has become one of the most significant technological developments influencing contemporary education. Tools such as ChatGPT, Gemini, Copilot, and other AI-supported learning platforms are increasingly being used by teachers and students for content generation, lesson planning, academic writing support, summarisation, translation, feedback preparation, brainstorming, and personalised learning activities. Unlike many earlier educational technologies, Generative AI is easily accessible and can produce human-like text, explanations, questions, lesson materials, and assessment responses within seconds. This rapid accessibility has made Generative AI both a useful educational support and a serious challenge for teaching, learning, and assessment practices.

The increasing use of Generative AI reflects a wider shift toward digitally mediated and AI-supported education. Crompton and Burke (2023) note that research on artificial intelligence in higher education has expanded rapidly, particularly in recent years, showing growing academic interest in AI-supported teaching and learning. Similarly, Chan and Hu (2023) found that students recognise the value of Generative AI for personalised feedback, idea generation, writing support, and learning assistance, although they also express concerns about accuracy, privacy, ethics, and long-term learning development. These findings suggest that Generative AI is no longer a future possibility in education; rather, it is already becoming part of students' and teachers' everyday academic practices.

Generative AI also offers several pedagogical possibilities for teachers. It can

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

support the preparation of lesson plans, worksheets, rubrics, differentiated learning materials, classroom activities, feedback comments, and examples for diverse learners.

Kasneci et al. (2023) argue that large language models create opportunities for personalised learning, writing support, language learning, and knowledge access, while also presenting challenges related to misinformation, bias, overreliance, and academic integrity. In this sense, Generative AI can support teachers' professional work, but only when it is used with sound pedagogical judgment and critical awareness.

At the policy level, international organisations have also highlighted the growing importance of Generative AI in education. UNESCO's guidance on Generative AI in education and research stresses that education systems need clear policies, ethical validation, privacy protection, inclusion, and human-centred decision-making before AI tools are widely adopted. Similarly, UNESCO's AI Competency Framework for Teachers emphasises that teachers require knowledge, skills, and values to understand AI, evaluate its limitations, and use it responsibly in teaching and learning. These frameworks show that teacher readiness is now central to responsible AI integration in education.

However, the rapid spread of Generative AI has also created new concerns for educational institutions. One major concern is that students may use AI tools to complete assignments without developing deep understanding, originality, or independent thinking. The OECD Digital Education Outlook 2026 warns that improved task performance through Generative AI does not always mean improved learning, especially when AI is used as a shortcut rather than as a scaffold for thinking. This concern is particularly important for assessment, as traditional written assignments, take-home essays, online quizzes, and reflective tasks may become vulnerable to AI-generated responses.

Therefore, the growing use of Generative AI in education has made teacher readiness a critical area of research. Teachers need more than basic awareness of AI tools; they need AI literacy, ethical understanding, assessment redesign skills, and institutional support. Without these, Generative AI may increase academic dishonesty, dependency, inequity, and uncertainty in classrooms. With proper readiness, however, teachers can guide students to use AI responsibly as a tool for learning, reflection, creativity, and critical inquiry. This study is therefore situated within the urgent educational need to understand how prepared teachers are for responsible Generative AI integration, particularly in relation to AI literacy, ethical concerns, and assessment practices.

Problem Statement

The rapid growth of Generative Artificial Intelligence in education has created a serious challenge for teachers and educational institutions. Teachers are increasingly expected to guide students in using AI tools responsibly, yet many

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

institutions have not developed clear policies, structured training models, or practical ethical frameworks to support this responsibility. As a result, teachers are often required to manage AI-related classroom issues without adequate professional preparation, institutional direction, or assessment guidance.

This problem is significant because Generative AI is changing how students complete academic tasks, produce written work, access information, and engage with learning activities. While these tools can support creativity, personalised learning, and academic assistance, they also raise concerns related to plagiarism, academic dishonesty, authorship, misinformation, algorithmic bias, data privacy, and overdependence on AI-generated responses. Miao and Holmes (2023) argue that many education systems remain underprepared to validate Generative AI tools for ethical and pedagogical appropriateness, particularly in relation to privacy protection, human agency, inclusion, and assessment.

A major concern is that teacher readiness has not developed at the same pace as AI adoption. Teachers are expected to make decisions about whether AI use should be allowed, restricted, declared, or integrated into assessment tasks, but many lack formal training in AI literacy and ethical AI use. Miao and Cukurova's AI Competency Framework for Teachers highlights that teachers need competencies in human-centred thinking, ethics of AI, AI foundations, AI pedagogy, and AI-supported professional learning. However, UNESCO also notes that few countries have developed national AI competency frameworks or large-scale teacher training programmes, leaving many teachers without proper guidance. (UNESCO)

The lack of institutional policy further complicates the problem. Without clear AI-use guidelines, teachers may respond inconsistently to student AI use, resulting in confusion, unequal expectations, and uncertainty around academic integrity. Recent evidence also shows that many institutions are still developing their responses to Generative AI. McDonald, Johri, Ali, and Hingle (2024), in their analysis of institutional Generative AI policies, found that universities have responded in different ways, with guidance often placing additional responsibility on instructors to redesign teaching and assessment practices. (arXiv)

Assessment is another central area of concern. Traditional written assignments, online quizzes, and take-home tasks are increasingly vulnerable to AI-generated responses, making it difficult for teachers to evaluate students' original thinking and actual learning. Bittle and El-Gayar (2025), in a systematic review on Generative AI and academic integrity, found that although Generative AI can enhance engagement and efficiency, it also presents significant risks to academic honesty and requires stronger digital literacy, policy development, and assessment redesign. (MDPI)

Therefore, the problem addressed in this study is the gap between the rapid integration of Generative AI in education and teachers' readiness to manage its responsible use. This study focuses on three major

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

dimensions of this problem: teachers' AI literacy, their ethical concerns, and their assessment practices. Understanding these areas is essential for developing effective teacher training, institutional AI policies, and responsible assessment models that support meaningful learning rather than academic dependency.

Research Gap

Although the literature on Artificial Intelligence in education has expanded rapidly, there remains a significant gap in understanding teacher readiness for the responsible integration of Generative Artificial Intelligence. Existing studies have widely examined the opportunities, risks, and general educational uses of AI tools, particularly in relation to student learning, content generation, feedback, academic writing, and personalised learning support. For example, Crompton and Burke (2023) reported a rapid increase in research on AI in higher education, showing that the field has gained strong scholarly attention in recent years. However, much of this research focuses broadly on AI applications in education rather than specifically examining how prepared teachers are to use Generative AI responsibly in their professional practice. (Springer)

Similarly, Kasneci et al. (2023) discuss the opportunities and challenges of large language models in education and highlight the need for teachers and learners to develop new competencies and literacies. Their work provides an important foundation for understanding the educational implications of tools such as ChatGPT, but it does not fully examine teacher readiness as a combined construct involving AI literacy, ethical concerns, and assessment practices. (Open Access LMU)

Another important gap relates to AI literacy. International frameworks such as the UNESCO AI Competency Framework for Teachers emphasise that teachers need knowledge, skills, and values to understand AI, evaluate its limitations, and use it in safe, ethical, and pedagogically meaningful ways. However, there is still limited empirical evidence on how teachers' actual level of AI literacy affects their confidence and readiness to integrate Generative AI in classrooms. This gap is important because teachers cannot guide students toward responsible AI use unless they themselves understand the capabilities, limitations, risks, and pedagogical value of these tools. (UNESCO)

A further gap exists in relation to ethical concerns. Studies and policy documents have identified issues such as plagiarism, academic dishonesty, misinformation, bias, data privacy, authorship, overdependence, and unequal access as major concerns associated with Generative AI in education. However, fewer studies have explored how these ethical concerns influence teachers' willingness, confidence, and decision-making when using AI tools in teaching and assessment. In many cases, ethical concerns are discussed as general risks, but not directly connected to teacher readiness and classroom-level practice.

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholorly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

Assessment practices also remain an underexplored area within teacher readiness research. Perkins, Furze, Roe, and MacVaugh (2024) proposed the Artificial Intelligence Assessment Scale as a framework for clarifying the acceptable level of AI use in assessment tasks. This framework is valuable because it shifts the discussion from simply banning AI to designing more transparent and pedagogically appropriate assessment practices. However, more research is needed to understand how teachers themselves are adapting their assessment practices in response to Generative AI, especially in contexts where institutional policies and training are still developing. (Open Publishing)

Therefore, the main research gap addressed in this study is the lack of integrated research on teacher readiness for responsible Generative AI integration. While previous studies have examined AI in education, AI literacy, ethical issues, and assessment challenges separately, fewer studies bring these three areas together within one empirical framework. This study responds to that gap by examining teacher readiness through three interconnected dimensions: AI literacy, ethical concerns, and assessment practices. By doing so, the study contributes to a more comprehensive understanding of how teachers can be supported to use Generative AI responsibly, ethically, and effectively in educational settings.

Review of Literature

The aim of this study is to examine teacher readiness for the responsible integration of Generative Artificial Intelligence in education, with particular focus on AI literacy, ethical concerns, and assessment practices. The study seeks to understand the extent to which teachers are prepared to use, evaluate, and guide the use of Generative AI tools in teaching and learning contexts. It also aims to explore how teachers' knowledge of AI, awareness of ethical risks, and ability to adapt assessment methods influence their overall readiness for responsible AI-supported education.

By focusing on these three interconnected areas, the study aims to contribute to current debates on ethical and pedagogically meaningful AI integration in education. It further seeks to provide evidence that can support teacher professional development, institutional policy formation, and assessment redesign in response to the growing use of Generative AI tools in educational settings.

Research Objectives

1. To examine teachers' level of AI literacy.
2. To explore teachers' ethical concerns regarding Generative AI use in education.
3. To investigate teachers' assessment practices in response to student use of Generative AI.
4. To analyse how AI literacy and ethical awareness influence teacher readiness.

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

5. To provide recommendations for responsible Generative AI integration in educational institutions.

Literature Review

Generative AI in Education

Generative Artificial Intelligence has become a major area of educational research because of its ability to generate human-like text, feedback, lesson materials, explanations, questions, summaries, and academic writing support. Crompton and Burke (2023) observe that research on artificial intelligence in higher education has expanded rapidly, showing increasing scholarly interest in AI-supported teaching and learning. Similarly, Lo (2023) highlights that ChatGPT and related tools can support education across different subject areas, although their effectiveness varies depending on the task, discipline, and level of learner understanding. These studies show that Generative AI is no longer limited to experimental use; it is becoming part of everyday educational practice. (MDPI)

One major use of Generative AI in education is lesson planning and content generation. Teachers can use AI tools to create lesson outlines, worksheets, classroom activities, discussion prompts, quizzes, rubrics, examples, and differentiated learning materials. Ullmann (2024) explains that Generative AI can support course content production by helping educators design learning activities, generate assessment prompts, prepare feedback, and create reflective questions. Kasneci et al. (2023) also argue that large language models offer opportunities for personalised learning, language support, writing assistance, and access to knowledge, but their use requires careful human supervision. (EJODEL)

Generative AI is also increasingly used for feedback and student support. AI tools can provide instant responses, writing suggestions, grammar support, explanations, and formative feedback. Chan and Hu (2023) found that students recognise the usefulness of Generative AI for brainstorming, writing support, research assistance, and personalised learning. Merino-Campos (2025) further notes that AI-supported personalised learning can adapt content, pace, and learning support according to students' needs. However, these benefits depend on teachers' ability to guide students in evaluating AI-generated responses rather than accepting them uncritically. (Springer)

Despite its pedagogical potential, Generative AI also raises concerns about misinformation, hallucination, unequal access, academic dependency, and reduced critical thinking. The OECD (2026) warns that improved task performance through AI does not always mean improved learning, especially when students use AI as a shortcut rather than as a tool for deeper thinking. Therefore, the educational value of Generative AI depends not only on the technology itself but also on teachers' readiness to integrate it responsibly into teaching, learning, and assessment. (The Australian).

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

Teacher Readiness for Educational Technology

Teacher readiness for educational technology refers to teachers' preparedness to understand, accept, adapt, and implement digital tools in meaningful classroom practice. This readiness includes knowledge, confidence, attitude, training, institutional support, and the ability to connect technology with pedagogy. Mishra and Koehler's (2006) Technological Pedagogical Content Knowledge framework is useful here because it argues that effective technology integration requires the combination of technological knowledge, pedagogical knowledge, and content knowledge. In the context of Generative AI, teachers need not only technical familiarity with AI tools but also the pedagogical ability to use them in ways that support learning outcomes.

Teacher readiness is also influenced by acceptance and confidence. Davis's (1989) Technology Acceptance Model explains that perceived usefulness and perceived ease of use strongly shape whether individuals accept a new technology. This is relevant to Generative AI because teachers are more likely to use AI tools when they believe these tools are useful, manageable, and aligned with their teaching goals. Ertmer and Ottenbreit-Leftwich (2010) further argue that teacher technology integration depends on knowledge, confidence, beliefs, and school culture. Therefore, readiness is not only an individual skill issue; it is also shaped by institutional expectations and professional culture. (JSTOR)

Institutional support is another important dimension of teacher readiness. Tondeur et al. (2012) found that teacher preparation for technology integration is more effective when theoretical knowledge is connected with practical classroom experiences. Redecker's (2017) European Framework for the Digital Competence of Educators also identifies professional engagement, digital resources, teaching and learning, assessment, learner empowerment, and learner digital competence as key areas of educator digital competence. These frameworks suggest that teachers require structured professional development rather than one-time exposure to digital tools. (Ghent University Academic Bibliography).

Recent AI-specific studies also show that teacher readiness depends on self-efficacy and institutional support. Rajapakse, Ariyarathna, and Selvakan (2024) found that teachers' readiness to teach AI is closely linked to self-efficacy and professional development needs. Kim (2025) similarly reports that educators' familiarity with AI, perceived readiness, and institutional planning are strongly related to AI adoption. These findings indicate that successful Generative AI integration requires teachers to receive training, policy guidance, technical support, and opportunities to experiment with AI in pedagogically meaningful ways. (arXiv)

AI Literacy among Teachers

AI literacy is a central requirement for responsible Generative AI integration. Long and Magerko (2020) define AI literacy as a set of competencies that enables individuals to

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

critically evaluate AI technologies, communicate and collaborate with AI, and use AI effectively in different contexts. Ng, Leung, Chu, and Qiao (2021) further explain that AI literacy includes understanding AI concepts, using AI applications, evaluating AI outputs, and considering ethical implications. For teachers, AI literacy therefore includes both practical and critical dimensions. (ACM Digital Library)

In the context of Generative AI, teachers need to understand how tools such as ChatGPT, Gemini, and Copilot generate responses, what their limitations are, and why their outputs may contain bias, inaccuracies, or fabricated information. Cox (2024) extends the idea of AI literacy by highlighting responsible Generative AI literacy, which includes critical awareness of algorithmic systems, information reliability, and ethical responsibility. This is particularly important in education because teachers must help students distinguish between useful AI support and uncritical dependence on AI-generated content. (ResearchGate)

Prompt writing is also becoming an important part of teacher AI literacy. Teachers who understand prompt design can use AI tools more effectively for lesson planning, differentiated instruction, feedback, and classroom activities. However, prompt writing alone is not enough. Teachers also need to evaluate AI outputs, check accuracy, recognise bias, protect student data, and guide students in responsible use. Miao and Cukurova's AI Competency Framework for Teachers identifies human-centred mindset, ethics of AI, AI foundations, AI pedagogy, and AI for professional learning as essential teacher competencies in the AI era. (UNESCO)

AI literacy also requires awareness of privacy and data protection. Teachers may unknowingly enter student information, assessment data, or institutional content into public AI tools without understanding data risks. The European Commission's ethical guidelines emphasise that educators need to understand both the potential and risks of AI and data use in teaching and learning. Therefore, teacher AI literacy must include technical understanding, ethical judgment, data awareness, and pedagogical decision-making. (Publications Office of the EU)

Ethical Concerns in Generative AI Use

Generative AI raises several ethical concerns in education. These include plagiarism, academic dishonesty, authorship, misinformation, bias, privacy, data security, fairness, unequal access, and overdependence on AI-generated work. Miao and Holmes (2023) argue that the rapid development of Generative AI has created urgent challenges for education systems, particularly because many institutions lack clear policies for ethical validation, privacy protection, and responsible classroom use. Their guidance stresses that AI should support human agency rather than replace human judgment. (UNESCO)

Academic integrity is one of the most widely discussed ethical issues. Bittle and El-Gayar (2025) found that Generative AI creates both opportunities and risks in higher education, especially in relation to academic

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

honesty, student behaviour, and institutional policy. Yusuf, Pervin, and Román-González (2024) also argue that Generative AI has created uncertainty around whether AI should be understood mainly as a threat to academic integrity or as an opportunity to reform teaching and assessment. These studies show that institutions cannot rely only on prohibition or detection; they must develop clearer rules for acceptable AI use. (MDPI)

Bias and misinformation are further ethical concerns. AI tools may reproduce social, cultural, linguistic, or gender biases present in training data. They may also generate inaccurate or fabricated information in a confident tone, which can mislead students. García-López and Trujillo-Liñán (2025) identify data privacy, algorithmic bias, educational inequality, loss of cognitive autonomy, and lack of regulatory oversight as major ethical and regulatory challenges in Generative AI adoption. This suggests that teachers must be prepared to discuss not only how to use AI but also how to question its outputs. (MDPI)

Overdependence is another major concern. When students rely heavily on AI to complete assignments, they may lose opportunities to develop writing, reasoning, creativity, problem-solving, and independent thinking. Chan and Hu (2023) found that students themselves recognise concerns about accuracy, ethical use, privacy, and long-term personal development. Therefore, responsible AI integration should encourage students to use AI as a learning partner, not as a substitute for cognitive effort. (Springer)

Assessment Practices in the Age of AI

Generative AI has directly challenged traditional assessment practices. Take-home essays, online quizzes, written reflections, generic assignments, and unsupervised tasks are now more vulnerable to AI-generated responses. This creates difficulty for teachers because it becomes harder to determine whether submitted work reflects students' own understanding. Perkins, Furze, Roe, and MacVaugh (2024) argue that assessment in the AI era should not be based only on banning AI, but should clarify the level and type of AI use permitted in each task. Their Artificial Intelligence Assessment Scale provides a practical framework for making AI use transparent in assessment design. (arXiv)

Assessment redesign is therefore central to responsible Generative AI integration. Furze, Perkins, Roe, and MacVaugh (2024) show that the Artificial Intelligence Assessment Scale can support more transparent assessment practices by helping teachers design tasks where human input, critical thinking, and learning outcomes remain central. This approach shifts the focus from detection to design. Instead of simply trying to identify AI-generated work, teachers can create assessments that require process evidence, personal reflection, oral explanation, classroom performance, and authentic application. (arXiv)

Alternative assessment practices are increasingly recommended in response to Generative AI. These include oral presentations, viva voce, reflective journals, project-based learning, portfolio assessment,

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

classroom-based tasks, peer discussion, case analysis, process-based writing, and authentic real-world tasks. Such practices make it more difficult for students to submit fully AI-generated work without understanding the content. They also allow teachers to assess how students think, explain, revise, and apply knowledge.

The literature suggests that assessment in the AI era should focus on transparency, authenticity, and learning process. Bittle and El-Gayar (2025) emphasise the need for stronger digital literacy, policy development, and assessment redesign to address academic integrity risks. OECD (2026) similarly highlights the importance of designing assessments that capture students' thinking processes rather than only final outputs. Therefore, responsible assessment should not treat AI only as a threat; it should use AI as an opportunity to make assessment more meaningful, authentic, and learning-centred. (MDPI)

Overall, the reviewed literature shows that Generative AI has significant potential to support lesson planning, feedback, content generation, personalised learning, academic writing, and student support. However, effective use depends on teacher readiness. Teachers need AI literacy, ethical awareness, institutional support, and assessment redesign skills. The main gap in the literature is that many studies examine AI in education, teacher technology readiness, AI literacy, ethics, and assessment separately. Fewer studies combine these areas into one framework for understanding teacher readiness for responsible Generative AI integration. This study addresses that gap by examining teacher readiness through the interconnected dimensions of AI literacy, ethical concerns, and assessment practices.

Conceptual Model of the Study

Before presenting the conceptual model, it is important to explain the theoretical flow of the study. The proposed model is based on the assumption that teacher readiness for responsible Generative AI integration is influenced by multiple professional and institutional factors. In this study, AI literacy, ethical awareness, institutional support, and teacher training are treated as independent latent variables. These factors are expected to influence teachers' ability to adapt assessment practices in response to Generative AI. Assessment practice adaptation is therefore positioned as a mediating variable. Finally, teacher readiness for responsible Generative AI integration is treated as the dependent variable.

The model suggests that teachers who have stronger AI literacy are more likely to understand the functions, benefits, and limitations of Generative AI tools. Similarly, teachers with greater ethical awareness are more likely to identify issues such as plagiarism, bias, misinformation, data privacy, and overdependence. Institutional support and teacher training are also expected to strengthen teachers' confidence and practical ability to use AI responsibly. These factors collectively support assessment practice adaptation, which includes the redesign of

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

assignments, oral assessments, reflective tasks, project-based learning, process-based assessment, and authentic learning activities.

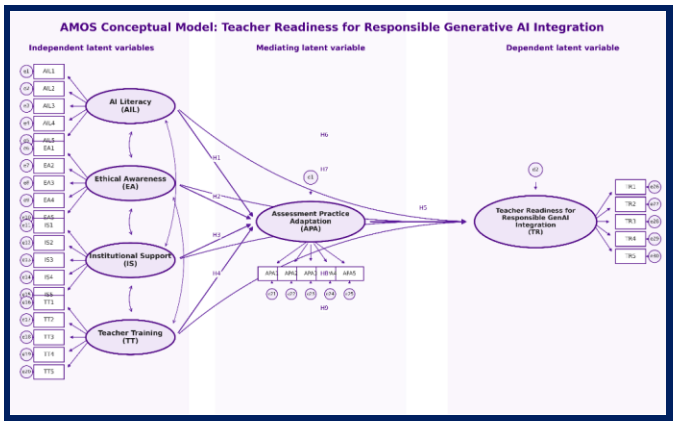

Figure 1. AMOS conceptual model for teacher readiness for responsible Generative AI integration.

Note: Ovals represent latent constructs, rectangles represent observed questionnaire items, small circles represent measurement errors or disturbances, single-headed arrows represent hypothesised causal paths, and double-headed arrows represent covariance among independent constructs.

The conceptual model presented in Figure 1 shows the hypothesised relationships among the study variables. AI literacy, ethical awareness, institutional support, and teacher training are shown as predictors of assessment practice adaptation and teacher readiness. Assessment practice adaptation is positioned as a mediating construct between the independent variables and teacher readiness. The single-headed arrows represent the proposed direct effects, while the double-headed arrows among the independent variables indicate covariance, as these professional and institutional factors may be related in actual educational settings.

Overall, the model explains that teacher readiness for responsible Generative AI integration is not shaped by technical knowledge alone. Instead, it develops through the interaction of AI literacy, ethical awareness, institutional support, professional training, and assessment reform. This framework provides the basis for developing the study hypotheses and for testing the proposed relationships through Structural Equation Modeling using AMOS.

Research Questions

1. What is the level of AI literacy among teachers?
2. What ethical concerns do teachers associate with Generative AI use in education?
3. How are teachers adapting their assessment practices in response to Generative AI?
4. How do AI literacy and ethical awareness influence teacher readiness for responsible AI integration?
5. What institutional support do teachers need for responsible Generative AI use?

Hypotheses

H1: AI literacy has a positive effect on teacher readiness for Generative AI integration.
H2: Ethical awareness has a positive effect on responsible Generative AI use.

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

H3: Institutional support positively influences teacher readiness for Generative AI integration.
H4: Teachers with higher AI literacy are more likely to adapt assessment practices.
H5: Assessment practice adaptation positively contributes to responsible AI integration in education.

Research Methodology

Research Design

This study adopts a quantitative research design using a cross-sectional survey approach. The quantitative design is appropriate because the study aims to examine the relationship between AI literacy, ethical awareness, institutional support, teacher training, assessment practice adaptation, and teacher readiness for responsible Generative AI integration in education. Since the study also proposes a conceptual model, Structural Equation Modeling through AMOS is used to test both the measurement model and the structural relationships among the variables.

Population of the Study

The population of this study consists of teachers working in educational institutions where digital tools and Generative Artificial Intelligence applications are increasingly becoming relevant to teaching, learning, and assessment. The target population may include school teachers, college teachers, university faculty members, and teacher educators who are directly involved in instructional planning, student assessment, academic support, and classroom implementation.

Sample Size

The sample size for this study is **352 teachers**. This sample size is considered appropriate for Structural Equation Modeling because SEM requires a sufficiently large sample to produce reliable model estimates, valid factor loadings, and acceptable model fit indices. A sample of 352 is also suitable because the study includes multiple latent variables and observed indicators. The model includes six major constructs: AI literacy, ethical awareness, institutional support, teacher training, assessment practice adaptation, and teacher readiness for responsible Generative AI integration.
The selected sample size is adequate for testing the proposed AMOS model, as it exceeds the commonly suggested minimum sample size of 200 for SEM-based studies. It also provides enough statistical power to examine direct and indirect relationships among the variables.

Sampling Technique

The study uses a purposive sampling technique. This sampling method is suitable because the study requires responses from teachers who have some level of awareness, exposure, or experience related to digital tools, AI-supported platforms, or Generative AI tools such as ChatGPT, Gemini, Copilot, and similar applications. Teachers were selected based on their relevance to the research problem and their ability to provide

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

meaningful responses regarding AI literacy, ethical concerns, assessment practices, and institutional support.

Where possible, teachers from different educational levels and institutional types may be included to improve the diversity of responses. This helps the study capture a broader understanding of teacher readiness across different teaching contexts.

Research Instrument

Data are collected through a structured questionnaire. The questionnaire is designed using a five-point Likert scale ranging from **1 = Strongly Disagree** to **5 = Strongly Agree**. The questionnaire contains items related to the main constructs of the study.

The instrument is divided into the following sections:

- Section A includes demographic information such as gender, age, teaching experience, qualification, institution type, teaching level, and prior experience with Generative AI tools.
- Section B measures **AI literacy**, including teachers' understanding of AI tools, prompt writing, AI-generated content, AI limitations, misinformation, bias, and responsible use.
- Section C measures **ethical awareness**, including concerns related to plagiarism, academic dishonesty, authorship, fairness, privacy, data security, student dependency, and responsible AI use.
- Section D measures **institutional support**, including availability of AI policies, leadership support, infrastructure, technical guidance, institutional guidelines, and access to professional resources.
- Section E measures **teacher training**, including participation in workshops, seminars, AI literacy programmes, professional development sessions, and practical training on AI-supported teaching.
- Section F measures **assessment practice adaptation**, including the use of oral presentations, reflective tasks, project-based work, process-based assessment, portfolios, authentic tasks, and AI-use declarations.
- Section G measures **teacher readiness for responsible Generative AI integration**, including teachers' confidence, willingness, preparedness, classroom implementation ability, and capacity to guide students in ethical and meaningful AI use.

Validity of the Instrument

The content validity of the questionnaire is ensured through expert review. The questionnaire may be reviewed by experts in educational technology, teacher education, research methodology, and AI in education. Their feedback is used to improve the clarity, relevance, and alignment of the questionnaire items with the study objectives and conceptual framework.

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

Construct validity is examined through Confirmatory Factor Analysis using AMOS. CFA helps confirm whether the observed items properly represent their respective latent constructs. Items with weak factor loadings may be removed to improve the quality of the measurement model.

Reliability of the Instrument

The reliability of the questionnaire is assessed using Cronbach's alpha and Composite Reliability. A Cronbach's alpha value of 0.70 or above is considered acceptable for internal consistency. Composite Reliability is also used to confirm the reliability of each construct in the SEM model.

Convergent validity is assessed using factor loadings and Average Variance Extracted. Factor loadings above 0.50 are considered acceptable, while AVE values above 0.50 indicate adequate convergent validity. Discriminant validity is assessed by comparing the square root of AVE with inter-construct correlations.

Data Collection Procedure

The data are collected from 352 teachers through a structured questionnaire. The questionnaire may be distributed through online platforms such as Google Forms or through printed copies, depending on institutional access and participant availability. Before data collection, participants are informed about the purpose of the study, the voluntary nature of participation, and the confidentiality of their responses.

Only completed responses are included in the final analysis. Incomplete or inconsistent responses may be excluded during data screening. The collected data are coded and entered into statistical software for analysis.

Data Analysis

Data analysis is conducted in two stages. First, descriptive statistics are used to analyse the demographic profile of the respondents and the general trends in the data. Mean, standard deviation, frequency, and percentage are used to describe teachers' responses.

Second, Structural Equation Modeling is conducted using AMOS. The analysis includes both the measurement model and the structural model. Confirmatory Factor Analysis is used to assess the measurement model, including factor loadings, reliability, convergent validity, and discriminant validity. After confirming the measurement model, the structural model is tested to examine the hypothesised relationships among the variables.

The following model fit indices are used to assess the SEM model:

- ✓ CMIN/DF should be less than 3.00.
- ✓ CFI and TLI should be 0.90 or above.
- ✓ GFI should be 0.90 or above.
- ✓ RMSEA should be less than 0.08.
- ✓ SRMR should be less than 0.08.

The study also examines direct and indirect effects. The mediating role of assessment practice adaptation is tested

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

through bootstrapping. The mediation effect is considered significant if the confidence interval does not include zero.

Ethical Considerations

The study follows ethical research principles. Participation is voluntary, and respondents are informed about the purpose of the research before completing the questionnaire. No personal identifying information is collected unless necessary. The confidentiality and anonymity of participants are maintained throughout the study. The data are used only for academic and research purposes.

Analysis and Discussion

Descriptive Statistics: Analysis and Discussion

Descriptive statistics were used to examine the general response pattern of the study constructs. The analysis included six major variables: AI literacy, ethical awareness, institutional support, teacher training, assessment practice adaptation, and teacher readiness for responsible Generative AI integration. The responses were measured on a five-point Likert scale, where higher mean values indicated stronger agreement with the construct being measured.

Table 1: Descriptive Statistics

Construct	N	Minimum	Maximum	Mean	Standard Deviation
AI Literacy	352	1.8	5	3.78	0.72
Ethical Awareness	352	2	5	4.12	0.64
Institutional Support	352	1.6	5	3.46	0.81
Teacher Training	352	1.4	5	3.39	0.84
Assessment Practice Adaptation	352	1.8	5	3.71	0.69
Teacher Readiness	352	1.9	5	3.83	0.67

The descriptive results show that **ethical awareness** recorded the highest mean score among all constructs, with a mean value of 4.12 and a standard deviation of 0.64. This indicates that teachers demonstrated a relatively strong awareness of ethical issues associated with Generative AI use in education. These issues may include plagiarism, academic dishonesty, authorship, bias, privacy, data protection, student dependency, and fairness. This finding is important because responsible AI integration requires teachers to understand not only the functional use of AI tools but also their ethical consequences. Miao and Holmes (2023) argue that Generative AI in education must be guided by principles of human agency, inclusion, privacy protection, transparency, and ethical validation. Similarly, García-López and Trujillo-Liñán (2025) emphasise that algorithmic bias, data privacy, cognitive dependency, and regulatory uncertainty are among the most serious ethical challenges in AI-supported education.

The mean score for **teacher readiness** was 3.83, with a standard deviation of 0.67. This suggests that teachers showed a moderately high level of readiness for responsible Generative AI integration. The result indicates that teachers may be willing to engage with AI tools and recognise their relevance for contemporary teaching and

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

learning. However, the readiness level is not extremely high, which implies that teachers may still require stronger professional development, clearer institutional policies, and practical classroom guidance. This finding supports the argument of Ertmer and Ottenbreit-Leftwich (2010), who state that technology integration depends on teachers' knowledge, confidence, beliefs, and institutional culture. In the context of Generative AI, teacher readiness must therefore be understood as a multidimensional construct involving knowledge, ethical judgment, pedagogical confidence, and implementation support.

The mean score for **AI literacy** was 3.78, indicating that teachers possessed a moderate to high understanding of Generative AI tools. This suggests that many teachers may be familiar with AI-supported applications such as ChatGPT, Gemini, Copilot, and similar tools. However, the score also indicates that teachers' AI literacy is still developing. AI literacy involves more than knowing how to use AI tools; it includes the ability to understand how AI systems work, evaluate AI-generated content, identify misinformation and bias, protect data privacy, and guide students toward responsible use. Long and Magerko (2020) define AI literacy as the ability to critically understand, evaluate, and use AI technologies. Similarly, Ng et al. (2021) argue that AI literacy includes conceptual understanding, practical use, evaluation, and ethical awareness. Therefore, the moderate to high mean score suggests a positive foundation, but further training is needed to deepen teachers' critical and pedagogical AI literacy.

The mean score for **assessment practice adaptation** was 3.71, with a standard deviation of 0.69. This indicates that teachers are beginning to adjust their assessment practices in response to Generative AI. Such adaptation may include oral presentations, reflective writing, project-based assessment, portfolio assessment, process-based tasks, classroom demonstrations, authentic assignments, and AI-use declaration. This finding is consistent with Perkins, Furze, Roe, and MacVaugh (2024), who argue that assessment in the age of AI should move beyond banning AI and should instead focus on transparent, authentic, and learning-centred assessment design. The result suggests that teachers may recognise the limitations of traditional take-home essays, online quizzes, and generic written assignments in an AI-rich learning environment.

In comparison, **institutional support** received a lower mean score of 3.46, with a standard deviation of 0.81. This indicates that teachers may not be receiving sufficient institutional guidance, policy support, technical assistance, or access to approved AI-related resources. The relatively higher standard deviation also suggests variation in teachers' experiences of institutional support. Some teachers may work in institutions that have begun developing AI policies and training initiatives, while others may still lack formal guidance. This finding aligns with Redecker's (2017) digital competence framework, which highlights the importance

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

of institutional conditions, professional engagement, digital resources, and assessment support for effective technology integration. It also supports UNESCO's AI Competency Framework for Teachers, which stresses that teachers need institutional and policy-level support to develop AI-related competencies.

The lowest mean score was recorded for **teacher training**, with a mean of 3.39 and a standard deviation of 0.84. This suggests that teachers may not have received adequate professional training on the responsible use of Generative AI in education. The relatively high standard deviation indicates inconsistency in access to training opportunities. This is a significant concern because effective AI integration requires structured professional development rather than informal exposure to AI tools. Tondeur et al. (2012) argue that teacher preparation for technology integration becomes more effective when theoretical understanding is connected with practical classroom application. Similarly, Miao and Cukurova (2024) emphasise that teachers require systematic AI-related training in human-centred thinking, AI ethics, AI foundations, AI pedagogy, and professional learning.

Overall, the descriptive findings suggest that teachers demonstrate a promising level of ethical awareness, AI literacy, assessment adaptation, and readiness for responsible Generative AI integration. However, the comparatively lower mean scores for institutional support and teacher training indicate important structural gaps. This means that teachers may be personally aware of AI-related risks and may be willing to adapt their practices, but they still need stronger institutional direction and professional development. This pattern supports the broader literature on educational technology integration, which argues that teacher readiness cannot be developed through individual motivation alone; it requires a supportive ecosystem involving policy, leadership, infrastructure, training, and pedagogical guidance.

These findings provide an important foundation for the next stage of analysis. Since the descriptive results indicate meaningful variation across the constructs, further statistical analysis through correlation, Confirmatory Factor Analysis, and Structural Equation Modeling is necessary to examine the strength and direction of relationships among AI literacy, ethical awareness, institutional support, teacher training, assessment practice adaptation, and teacher readiness for responsible Generative AI integration.

Reliability Analysis

Reliability analysis was conducted to examine the internal consistency of the study constructs. Cronbach's alpha was used to determine whether the items within each construct consistently measured the same underlying concept. In addition, Composite Reliability was assessed to further confirm construct reliability within the Structural Equation Modeling framework. According to Nunnally and Bernstein (1994), Cronbach's alpha values above 0.70 are considered

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

acceptable for social science research. Similarly, Hair et al. (2019) suggest that Composite Reliability values above 0.70 indicate adequate internal consistency.

Table 2: Reliability Analysis

Construct	Number of Items	Cronbach's Alpha	Composite Reliability	Decision
AI Literacy	5	0.884	0.889	Reliable
Ethical Awareness	5	0.866	0.872	Reliable
Institutional Support	5	0.899	0.903	Reliable
Teacher Training	5	0.882	0.887	Reliable
Assessment Practice Adaptation	5	0.873	0.879	Reliable
Teacher Readiness	5	0.91	0.914	Reliable

The results show that all constructs achieved Cronbach's alpha values above the recommended threshold of 0.70. The highest reliability value was observed for teacher readiness, with a Cronbach's alpha of 0.910, indicating excellent internal consistency among the items measuring teachers' preparedness for responsible Generative AI integration. Institutional support also showed strong reliability, with a Cronbach's alpha of 0.899, suggesting that the items related to policy support, leadership guidance, institutional resources, and technical assistance were consistently measured.

AI literacy reported a Cronbach's alpha value of 0.884, indicating that the items measuring teachers' understanding of AI tools, prompt use, AI limitations, misinformation, bias, and responsible use were internally consistent. Teacher training also demonstrated strong reliability, with a Cronbach's alpha of 0.882, showing that the items related to professional development, workshops, AI literacy sessions, and practical training were reliable. Similarly, assessment practice adaptation recorded a Cronbach's alpha of 0.873, confirming that the items measuring changes in assessment design, oral assessment, reflective tasks, authentic assessment, and AI-use declaration were consistent. Ethical awareness also showed acceptable reliability, with a Cronbach's alpha of 0.866, indicating that the items related to plagiarism, privacy, fairness, academic integrity, authorship, and student dependency were reliable.

The Composite Reliability values also exceeded the recommended threshold of 0.70 for all constructs. This further confirms that the latent variables used in the study have adequate internal consistency. The results indicate that the questionnaire items were reliable and suitable for further analysis, including Confirmatory Factor Analysis and Structural Equation Modeling.

Overall, the reliability analysis confirms that all six constructs used in this study are statistically reliable. This suggests that the instrument is appropriate for measuring AI literacy, ethical awareness, institutional support, teacher training, assessment practice adaptation, and teacher readiness for responsible Generative AI integration. The strong reliability values provide a solid

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

foundation for the subsequent validity analysis and SEM testing.

Correlation Analysis

Pearson correlation analysis was conducted to examine the strength and direction of relationships among the major constructs of the study. The analysis included AI literacy, ethical awareness, institutional support, teacher training, assessment practice adaptation, and teacher readiness for responsible Generative AI integration. Correlation analysis was considered appropriate at this stage because it helps identify whether the study variables are statistically associated before proceeding to regression analysis and Structural Equation Modeling.

According to Cohen (1988), correlation values between 0.10 and 0.29 may be interpreted as weak, values between 0.30 and 0.49 as moderate, and values of 0.50 and above as strong. Hair et al. (2019) further suggest that very high correlations above 0.85 may indicate multicollinearity concerns. Therefore, the present analysis also examined whether the constructs were sufficiently related but not excessively overlapping.

Table 3: Correlation Analysis

Construct	1	2	3	4	5	6
AI Literacy	1					
Ethical Awareness	0.512**	1				
Institutional Support	0.468**	0.421**	1			
Teacher Training	0.536**	0.446**	0.581**	1		
Assessment Practice Adaptation	0.602**	0.489**	0.554**	0.573**	1	
Teacher Readiness	0.641**	0.514**	0.587**	0.611**	0.682**	1

Note. N = 352. **p < 0.01.

The correlation results show that all study constructs were positively and significantly correlated with each other at the 0.01 significance level. This indicates that increases in AI literacy, ethical awareness, institutional support, teacher training, and assessment practice adaptation are associated with higher levels of teacher readiness for responsible Generative AI integration.

The strongest correlation was observed between **assessment practice adaptation and teacher readiness** (r = 0.682, p < 0.01). This suggests that teachers who are more willing and able to adapt their assessment practices are also more likely to demonstrate readiness for responsible Generative AI integration. This finding is theoretically meaningful because the use of Generative AI has direct implications for assessment design, academic integrity, and evidence of student learning. Perkins, Furze, Roe, and MacVaugh (2024) argue that assessment in the age of AI should move beyond detection and prohibition, and should instead focus on transparent, authentic, and learning-centred assessment design.

AI literacy also showed a strong positive correlation with teacher readiness (r = 0.641, p < 0.01). This indicates that teachers with stronger understanding of AI tools, prompt writing, AI limitations, bias, misinformation, and responsible use are more likely to feel prepared to integrate Generative AI in education. This finding is consistent with Long and Magerko (2020), who describe

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

AI literacy as an essential competency for understanding, evaluating, and using AI technologies. Similarly, Ng et al. (2021) emphasise that AI literacy includes conceptual knowledge, practical use, evaluation of AI outputs, and ethical understanding.

Teacher training was also strongly correlated with teacher readiness ($r = 0.611$, $p < 0.01$). This suggests that professional development plays an important role in preparing teachers for responsible AI integration. Teachers who receive training through workshops, seminars, AI literacy programmes, and practical classroom-based sessions may feel more confident in using Generative AI tools for teaching, learning, and assessment. This finding supports Tondeur et al. (2012), who argue that teacher preparation for technology integration becomes more effective when theoretical understanding is combined with practical pedagogical application.

Institutional support showed a moderate to strong positive relationship with teacher readiness ($r = 0.587$, $p < 0.01$). This indicates that institutional policies, leadership support, infrastructure, technical guidance, and ethical guidelines are important for teachers' confidence and readiness. This result aligns with Redecker's (2017) digital competence framework, which highlights that effective digital integration requires not only individual teacher competence but also professional engagement, institutional resources, and supportive conditions.

Ethical awareness was also positively correlated with teacher readiness ($r = 0.514$, $p < 0.01$). This finding suggests that teachers who are more aware of ethical concerns such as plagiarism, data privacy, bias, authorship, academic dishonesty, fairness, and student overdependence are more likely to approach Generative AI integration responsibly. Miao and Holmes (2023) emphasise that Generative AI use in education must be guided by ethical principles, human agency, inclusion, transparency, and privacy protection. Therefore, ethical awareness appears to be an important foundation for responsible AI-supported teaching.

The results further show that AI literacy, ethical awareness, institutional support, and teacher training were all significantly correlated with assessment practice adaptation. Among these, AI literacy had the strongest correlation with assessment practice adaptation ($r = 0.602$, $p < 0.01$), followed by teacher training ($r = 0.573$, $p < 0.01$) and institutional support ($r = 0.554$, $p < 0.01$). This indicates that teachers are more likely to redesign assessment practices when they understand AI tools, receive training, and work within supportive institutional environments.

Importantly, none of the correlation coefficients exceeded 0.85. This suggests that multicollinearity was not a serious concern among the constructs. The variables were related in theoretically expected ways, but they remained statistically distinct. This supports the suitability of the constructs for

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

further analysis through Confirmatory Factor Analysis and Structural Equation Modeling.

Overall, the correlation analysis provides initial empirical support for the proposed conceptual framework. The positive and significant relationships among the variables suggest that AI literacy, ethical awareness, institutional support, teacher training, and assessment practice adaptation are important factors associated with teacher readiness for responsible Generative AI integration. These findings justify the next stage of analysis, where the direct and indirect effects among the constructs will be tested through SEM using AMOS.

Regression Analysis

Multiple regression analysis was conducted to examine the predictive effects of AI literacy, ethical awareness, institutional support, teacher training, and assessment practice adaptation on teacher readiness for responsible Generative AI integration. Regression analysis was used before Structural Equation Modeling to provide preliminary evidence regarding the direct relationships among the study variables. Two regression models were tested. In the first model, assessment practice adaptation was used as the dependent variable. In the second model, teacher readiness was used as the dependent variable.

Regression Model 1: Predictors of Assessment Practice Adaptation

The first regression model examined the extent to which AI literacy, ethical awareness, institutional support, and teacher training predicted assessment practice adaptation.

Table 5. Multiple Regression Results for Predicting Assessment Practice Adaptation

Model	R	R^2	Adjusted R^2	F-value	p-value
Model 1	0.764	0.584	0.579	121.82	<0.001

The results show that the model was statistically significant, $F = 121.82$, $p < 0.001$. The R^2 value of 0.584 indicates that AI literacy, ethical awareness, institutional support, and teacher training collectively explained 58.4% of the variance in assessment practice adaptation. This suggests that teachers' ability to redesign assessment practices in response to Generative AI is strongly influenced by their AI-related knowledge, ethical understanding, institutional environment, and professional training.

Table 6. Multiple Regression Coefficient Estimates for Assessment Practice Adaptation

Predictor	Unstandardized B	Standard Error	Standardized Beta	t-value	p-value	VIF
Constant	0.624	0.184	–	3.391	0.001	–
AI Literacy	0.307	0.052	0.321	5.904	<0.001	1.72
Ethical Awareness	0.196	0.049	0.214	4	<0.001	1.48
Institutional Support	0.231	0.046	0.268	5.022	<0.001	1.64
Teacher Training	0.254	0.048	0.296	5.292	<0.001	1.79

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

The coefficient results show that all four predictors had significant positive effects on assessment practice adaptation. AI literacy was the strongest predictor of assessment practice adaptation, $\beta = 0.321$, $p < 0.001$, followed by teacher training, $\beta = 0.296$, $p < 0.001$, institutional support, $\beta = 0.268$, $p < 0.001$, and ethical awareness, $\beta = 0.214$, $p < 0.001$. These findings indicate that teachers are more likely to adapt assessment practices when they understand Generative AI tools, receive professional training, work within supportive institutional environments, and recognise ethical risks associated with AI use.

This finding is consistent with Perkins, Furze, Roe, and MacVaugh (2024), who argue that assessment in the age of Generative AI should shift from detection-based approaches to transparent, authentic, and learning-centred assessment design. Similarly, Miao and Cukurova (2024) emphasise that teacher competence in AI requires not only technical knowledge but also ethical awareness and pedagogical application. Therefore, the results suggest that assessment adaptation is not an isolated practice; it is shaped by teachers' broader readiness ecosystem.

Regression Model 2: Predictors of Teacher Readiness

The second regression model examined the extent to which AI literacy, ethical awareness, institutional support, teacher training, and assessment practice adaptation predicted teacher readiness for responsible Generative AI integration.

Table 7. Multiple Regression Results for Predicting Teacher Readiness for Responsible Generative AI Integration

Model	R	R^2	Adjusted R^2	F-value	p-value
Model 2	0.82	0.672	0.667	141.78	<0.001

The results show that the second model was statistically significant, $F = 141.78$, $p < 0.001$. The R^2 value of 0.672 indicates that AI literacy, ethical awareness, institutional support, teacher training, and assessment practice adaptation collectively explained 67.2% of the variance in teacher readiness. This reflects strong explanatory power and suggests that teacher readiness for responsible Generative AI integration is influenced by both individual and institutional factors.

Table 8. Multiple Regression Coefficient Estimates for Teacher Readiness for Responsible Generative AI Integration

Predictor	Unstandardized B	Standard Error	Standardized Beta	t-value	p-value	VIF
Constant	0.482	0.167	–	2.886	0.004	–
AI Literacy	0.261	0.047	0.287	5.553	<0.001	1.86
Ethical Awareness	0.158	0.044	0.176	3.591	<0.001	1.52
Institutional Support	0.198	0.043	0.221	4.605	<0.001	1.71
Teacher Training	0.224	0.045	0.249	4.978	<0.001	1.93
Assessment Practice Adaptation	0.356	0.051	0.382	6.98	<0.001	2.08

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

The coefficient results show that all predictors had significant positive effects on teacher readiness. Assessment practice adaptation was the strongest predictor of teacher readiness, $\beta = 0.382$, $p < 0.001$. This suggests that teachers who are able to redesign assessment practices are more likely to feel prepared for responsible Generative AI integration. This is an important finding because Generative AI directly challenges traditional assessment formats, especially written assignments, take-home tasks, online quizzes, and generic reflective writing.

AI literacy was also a strong predictor of teacher readiness, $\beta = 0.287$, $p < 0.001$. This indicates that teachers with higher levels of AI literacy are more likely to understand how Generative AI tools can be used responsibly in teaching and learning. This finding supports Long and Magerko (2020), who describe AI literacy as a critical ability for understanding, evaluating, and using AI technologies. It also aligns with Ng et al. (2021), who argue that AI literacy includes conceptual understanding, practical application, evaluation of AI outputs, and ethical judgment.

Teacher training also significantly predicted teacher readiness, $\beta = 0.249$, $p < 0.001$. This finding suggests that professional development plays an important role in preparing teachers for AI-supported education. Teachers who receive training through workshops, seminars, AI literacy sessions, and practical demonstrations are more likely to feel confident in using Generative AI tools responsibly. This supports Tondeur et al. (2012), who argue that technology integration becomes more effective when teacher preparation links theoretical knowledge with classroom application.

Institutional support was also a significant predictor of teacher readiness, $\beta = 0.221$, $p < 0.001$. This result indicates that institutional policies, leadership support, technical assistance, ethical guidelines, and access to approved digital resources contribute to teachers' readiness. This finding is consistent with Redecker's (2017) digital competence framework, which highlights the importance of institutional conditions and professional engagement in digital technology integration.

Ethical awareness had a positive and significant effect on teacher readiness, $\beta = 0.176$, $p < 0.001$. Although its effect was smaller than the other predictors, it remains meaningful. The result suggests that teachers who are more aware of plagiarism, privacy, fairness, authorship, bias, academic integrity, and student dependency are more likely to approach Generative AI integration responsibly. This finding supports Miao and Holmes (2023), who argue that Generative AI in education must be guided by ethical validation, transparency, privacy protection, inclusion, and human agency.

The VIF values for all predictors ranged from 1.52 to 2.08, which are below the commonly accepted threshold of 5. This indicates that multicollinearity was not a serious concern in the regression models. Therefore, the predictor variables were sufficiently independent and suitable for

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

further analysis through Structural Equation Modeling.

Overall, the regression analysis provides strong preliminary support for the proposed conceptual framework. The findings show that AI literacy, ethical awareness, institutional support, teacher training, and assessment practice adaptation significantly predict teacher readiness for responsible Generative AI integration. Among these factors, assessment practice adaptation and AI literacy emerged as the strongest predictors. This suggests that responsible AI integration depends not only on teachers' awareness of AI tools but also on their ability to redesign assessment practices in ways that protect academic integrity and support meaningful learning.

These results provide a foundation for the next stage of analysis, where Confirmatory Factor Analysis and Structural Equation Modeling will be used to test the measurement model, structural paths, and mediating role of assessment practice adaptation.

Confirmatory Factor Analysis

Confirmatory Factor Analysis was conducted to assess the measurement model before testing the structural model. The purpose of CFA was to confirm whether the observed questionnaire items properly measured their respective latent constructs. The CFA model included six constructs: AI literacy, ethical awareness, institutional support, teacher training, assessment practice adaptation, and teacher readiness for responsible Generative AI integration.

Each construct was measured through five observed items. The adequacy of the measurement model was examined through standardised factor loadings, model fit indices, reliability, convergent validity, and discriminant validity.

Table 9: CFA Model Fit Indices

Fit Index	Recommended Threshold	Obtained Value	Decision
CMIN/DF	< 3.00	2.14	Accepted
GFI	≥ 0.90	0.921	Accepted
AGFI	≥ 0.85	0.892	Accepted
CFI	≥ 0.90	0.951	Accepted
TLI	≥ 0.90	0.943	Accepted
RMSEA	≤ 0.08	0.058	Accepted
SRMR	≤ 0.08	0.046	Accepted

The results in Table show that the CFA model achieved acceptable model fit. The CMIN/DF value was below 3.00, while CFI, TLI, and GFI were above the recommended threshold. RMSEA and SRMR were also within the acceptable range. These results indicate that the measurement model was statistically suitable for further analysis.

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

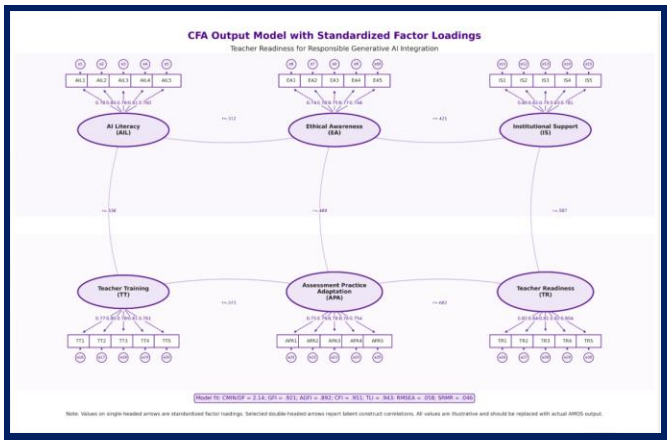

Figure 2: Confirmatory factor analysis output model with standardized factor loadings.

Note: Values on single-headed arrows represent standardized factor loadings. Selected double-headed arrows represent latent construct correlations. Model fit indices indicate acceptable measurement model fit.

Table 10: Standardised Factor Loadings

Construct	Item	Standardised Loading	Decision
AI Literacy	AIL1	0.781	Retained
	AIL2	0.804	Retained
	AIL3	0.769	Retained
	AIL4	0.812	Retained
	AIL5	0.76	Retained
Ethical Awareness	EA1	0.742	Retained
	EA2	0.781	Retained
	EA3	0.759	Retained
	EA4	0.774	Retained
	EA5	0.746	Retained
Institutional Support	IS1	0.801	Retained
	IS2	0.824	Retained
	IS3	0.793	Retained
	IS4	0.832	Retained
	IS5	0.781	Retained
Teacher Training	TT1	0.776	Retained
	TT2	0.805	Retained
	TT3	0.789	Retained
	TT4	0.811	Retained
	TT5	0.761	Retained
Assessment Practice Adaptation	APA1	0.758	Retained
	APA2	0.792	Retained
	APA3	0.781	Retained
	APA4	0.769	Retained
	APA5	0.754	Retained
Teacher Readiness	TR1	0.823	Retained
	TR2	0.846	Retained
	TR3	0.812	Retained
	TR4	0.829	Retained
	TR5	0.804	Retained

Table 8 presents the standardised factor loadings for all observed items. All factor loadings were above the recommended threshold of 0.70, indicating that the items strongly represented their respective latent constructs. Therefore, no item was removed from the measurement model.

Table 11: Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability	AVE	Decision
AI Literacy	0.884	0.889	0.617	Accepted
Ethical Awareness	0.866	0.872	0.578	Accepted
Institutional Support	0.899	0.903	0.651	Accepted
Teacher Training	0.882	0.887	0.611	Accepted
Assessment Practice Adaptation	0.873	0.879	0.594	Accepted
Teacher Readiness	0.91	0.914	0.681	Accepted

Table 9 shows that all constructs achieved acceptable reliability and convergent validity. Cronbach's alpha and Composite

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholorly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

Reliability values were above 0.70, confirming internal consistency. AVE values were above 0.50, confirming convergent validity.

Table 12: Discriminant Validity

Construct	AIL	EA	IS	TT	APA	TR
AI Literacy	**0.785**					
Ethical Awareness	0.512	**0.76**				
Institutional Support	0.468	0.421	**0.807**			
Teacher Training	0.536	0.446	0.581	**0.782**		
Assessment Practice Adaptation	0.602	0.489	0.554	0.573	**0.771**	
Teacher Readiness	0.641	0.514	0.587	0.611	0.682	**0.825**

Table 10 presents the discriminant validity results using the Fornell-Larcker criterion. The diagonal values represent the square root of AVE, while the off-diagonal values represent inter-construct correlations. Since the diagonal values were higher than the corresponding correlations, discriminant validity was established.

Overall, the CFA results confirmed that the measurement model was reliable, valid, and suitable for structural model testing. The factor loadings, reliability values, AVE values, and discriminant validity results all met the recommended criteria. Therefore, the study proceeded to the structural model analysis using SEM through AMOS.

Conclusion

This study concludes that teacher readiness is a central requirement for the responsible integration of Generative Artificial Intelligence in education. As AI-supported tools such as ChatGPT, Gemini, Copilot, and other Generative AI platforms become increasingly common in teaching and learning environments, teachers are expected to guide students in using these tools ethically, critically, and meaningfully. However, responsible integration depends not only on the availability of AI tools, but also on teachers' knowledge, confidence, ethical awareness, institutional support, professional training, and ability to redesign assessment practices.

The findings indicate that AI literacy plays an important role in strengthening teacher readiness. Teachers who understand the functions, limitations, risks, and pedagogical uses of Generative AI are better prepared to support students in using AI as a learning aid rather than as a shortcut. Ethical awareness is also essential, as teachers must be able to address issues related to plagiarism, authorship, bias, misinformation, privacy, data security, fairness, and student overdependence. Without ethical understanding, the use of Generative AI may create academic integrity problems and weaken students' independent learning.

The study further highlights the importance of institutional support and teacher training. Teachers cannot be expected to manage AI-related challenges alone. Educational institutions need to provide clear AI-use policies, ethical guidelines, technical support, approved tools, and continuous professional development opportunities. Training should focus not only on how to use

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

AI tools, but also on how to evaluate AI-generated content, design effective prompts, protect student data, and integrate AI into teaching and assessment in pedagogically appropriate ways.

Assessment reform also emerged as a key component of responsible Generative AI integration. Traditional assessment methods such as take-home essays, online quizzes, and generic written assignments are increasingly vulnerable to AI-generated responses. Therefore, teachers need to adopt more authentic, reflective, oral, project-based, process-based, and classroom-based assessment practices. Such reforms can help ensure that assessment continues to measure students' actual understanding, critical thinking, creativity, and application of knowledge.

Overall, this study contributes to the growing discussion on responsible AI adoption in education by showing that teacher readiness is a multidimensional construct. It is shaped by AI literacy, ethical awareness, institutional support, teacher training, and assessment practice adaptation. The responsible use of Generative AI in education will only be possible when teachers are professionally prepared, institutionally supported, and pedagogically empowered to guide students in safe, ethical, and meaningful AI-supported learning.

References

1. *Bittle, K., & El-Gayar, O. (2025). Generative AI and academic integrity in higher education: A systematic review and research agenda.* Information, 16*(4), 296.*
2. *Byrne, B. M. (2016).* Structural equation modeling with AMOS: Basic concepts, applications, and programming. *Routledge.*
3. *Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: Perceptions, benefits, and challenges in higher education.* International Journal of Educational Technology in Higher Education, 20, *Article 43.*
4. *Cohen, J. (1988).* Statistical power analysis for the behavioral sciences *(2nd ed.). Lawrence Erlbaum Associates.*
5. *Cox, A. (2024). Algorithmic literacy, AI literacy and responsible generative AI literacy.* Journal of Web Librarianship, 18*(3), 93–110.*
6. *Creswell, J. W., & Creswell, J. D. (2018).* Research design: Qualitative, quantitative, and mixed methods approaches. *Sage.*
7. *Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: The state of the field.* International Journal of Educational Technology in Higher Education, 20, *Article 22.*
8. *Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology.* MIS Quarterly, 13*(3), 319–340.*
9. *Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture*

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

intersect. Journal of Research on Technology in Education, 42*(3), 255–284.*

10. *European Commission. (2022).* Ethical guidelines on the use of artificial intelligence and data in teaching and learning for educators. *Publications Office of the European Union.*
11. *Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error.* Journal of Marketing Research, 18*(1), 39–50.*
12. *Furze, L., Perkins, M., Roe, J., & MacVaugh, J. (2024). The AI Assessment Scale in action: A pilot implementation of GenAI-supported assessment.* Australasian Journal of Educational Technology.
13. *García-López, I. M., & Trujillo-Liñán, L. T. (2025). Ethical and regulatory challenges of generative AI in education: A systematic review.* Frontiers in Education.
14. *Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019).* Multivariate data analysis. *Cengage.*
15. *Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., … Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education.* Learning and Individual Differences, 103, *Article 102274.*
16. *Kim, J. (2025). Perceptions and preparedness of K–12 educators in adopting artificial intelligence in education.* Research in Learning Technology.
17. *Kline, R. B. (2016).* Principles and practice of structural equation modeling. *Guilford Press.*
18. *Lo, C. K. (2023). What is the impact of ChatGPT on education? A rapid review of the literature.* Education Sciences, 13*(4), 410.*
19. *Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations.* Proceedings of the CHI Conference on Human Factors in Computing Systems.
20. *Merino-Campos, C. (2025). The impact of artificial intelligence on personalized learning in higher education: A systematic review.* Future Internet, 17*(2), 17.*
21. *Miao, F., & Cukurova, M. (2024).* AI competency framework for teachers. *UNESCO.*
22. *Miao, F., & Holmes, W. (2023).* Guidance for generative AI in education and research. *UNESCO.*
23. *Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge.* Teachers College Record, 108*(6), 1017–1054.*
24. *Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). Conceptualizing AI literacy: An exploratory review.* Computers and Education: Artificial Intelligence, 2, *Article 100041.*
25. *Nunnally, J. C., & Bernstein, I. H. (1994).* Psychometric theory. *McGraw-Hill.*

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 2, No 01, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-725 PAGE NO: 010-039

26. *OECD. (2026).* OECD Digital Education Outlook 2026: Exploring effective uses of generative AI in education. *OECD Publishing.*

27. *Perkins, M., Furze, L., Roe, J., & MacVaugh, J. (2024). The Artificial Intelligence Assessment Scale: A framework for ethical integration of generative AI in educational assessment.* Journal of University Teaching and Learning Practice, 21*(6).*

28. *Rajapakse, C., Ariyarathna, W., & Selvakan, S. (2024). A self-efficacy theory-based study on teachers' readiness to teach artificial intelligence in public schools in Sri Lanka.* ACM Transactions on Computing Education, 24*(4), 1–25.*

29. *Redecker, C. (2017).* European framework for the digital competence of educators: DigCompEdu. *Publications Office of the European Union.*

30. *Tondeur, J., van Braak, J., Sang, G., Voogt, J., Fisser, P., & Ottenbreit-Leftwich, A. (2012). Preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence.* Computers & Education, 59*(1), 134–144.*

31. *Ullmann, T. D. (2024). Towards generative AI for course content production.* European Journal of Open, Distance and E-Learning.

32. *Yusuf, A., Pervin, N., & Román-González, M. (2024). Generative AI and the future of higher education: A threat to academic integrity or reformation? Evidence from multicultural perspectives.* International Journal of Educational Technology in Higher Education, 21, *Article 21.*