

Academic Integrity in the Era of Artificial Intelligence: A Systematic Review

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Abstract. In recent years, the rapid evolution of digital technology; currently, the increasing use of artificial intelligence in educational practices offers new opportunities, including the improvement of personalized learning and assessment. With the emergence of the Covid-19 pandemic, there is a significant surge in various forms of distance learning, which presents challenges related to forms of dishonesty. This poses major challenges to academic integrity. This study addresses the issue of academic integrity in the era of AI. Using a systematic approach, this research aims to examine the depth of the existing literature exploring the relationship between the evolution of AI and academic integrity in the context of distance learning. The study's findings reveal that the use of artificial intelligence applications in academic and educational institutions may raise concerns about the credibility of assessment results and the ethical use of AI. The study also highlights that despite the specific drawbacks of AI, its educational benefits are significant. Finally, the conclusions of this study suggest research directions to anticipate the future developments of universities and schools in an educational context where AI will play a central role.

Keywords: Artificial Intelligence, E-learning, Assessment, Academic Integrity.

1 Introduction

In recent years, the growing evolution of digital technology and Artificial Intelligence (AI), and the rapid integration of these tools in education (Zawacki-Richter et al., 2019) revolutionizing traditional teaching and learning methods (Baidoo-Anu & Ansah, 2023), opening up an era rich in AI potential, bringing positive changes (Gao & Feng, 2023). In this sense, the increasing use of artificial intelligence in educational practices offers new dimensions of learning and knowledge transfer, including the improvement of personalized learning (Yu, 2024), self-assessment and collaborative assessments (Ifelebuegu, 2023), as well as the generation of individualized and immediate feedback to students (Owan et al., 2023). These opportunities provided by AI allow students to actively engage in building their knowledge and equip them with the skills needed to succeed in a 21st century world. With the emergence of the Covid-19 pandemic, there has been a boom in forms of distance learning, such as e-learning, blended learning, hybrid models, Massive Open Online Courses (MOOCs) and other forms of distance

learning (Detroz et al., n.d.; Serutla et al., 2024a). In the post-pandemic era, and with the emergence of ChatGPT, as well as other models of generative AI, its performance in creating coherent ideas and its ability to provide specific answers to students' questions (Gill et al., 2024; Zhai, 2022), on the other hand, its accessibility to the general public raises concerns related to the possibility of AI-assisted cheating (Lo, 2023). This has attracted the attention of researchers worldwide for the impact of this innovative technology on the assessment process in e-learning context and highlights the issue of academic integrity in an era rich in AI potential (Akkaş et al., 2024; Mahmud Saadia, 2024; Meça & Shkëlzeni, 2024).

In this sense, online assessment remains an essential part of the education system. Since the key challenge was to establish a validated and equitable assessment process in e-learning. The ability to maintain the credibility and effectiveness of assessments of learning and student work in a distance learning context is paramount (Serutla et al., 2024a). To this end, educators and institutions must be aware of these changes in order to take into account the impact of this technology in any assessment system to ensure academic integrity.

In this context, and in order to contribute to this vigorous discussion regarding the potential impact of this innovative technology on academic integrity as well as on the quality of assessment in these new teaching and learning contexts, the scientific community presents a diversity of perspectives and approaches, and researchers have examined the different digital methods and tools used to ensure academic integrity (Ifelebuegu, 2023; Mangundu, 2022; Vellanki et al., 2023). In this regard, we felt that it would be beneficial to carry out a systematic review of recent literature. This would identify relevant findings and insights from the literature regarding the issue of academic integrity in an AI era. In addition, this approach offers us the opportunity to identify opportunities and challenges related to the use of AI in education today.

Using a systematic approach, this study aims to examine the depth of existing literature exploring the relationship between the evolution of AI and academic integrity in an e-learning context. This makes it possible to highlight the different contributions of researchers aimed at overcoming the challenges related to this issue in an environment rich in AI potential. It also aims to identify the opportunities provided by this innovative technology for learning and teaching, while providing an overview of research representative of recent concerns and contributions. This has enabled us to provide valuable guidance to the research community and practitioners in formulating theoretical propositions based on the problem of academic integrity in a new educational context.

The results of the study reveal that the use of artificial intelligence tools in universities and within educational institutions can raise concerns about the credibility of assessment results and the ethics of using AI. The study also highlights that despite the specific disadvantages of AI, its educational potentials are significant. In addition, the study highlights AI tools as an educational revolution. In this regard, it is important to revolutionize traditional assessment tools and methods towards new assessment approaches that apply and immobilize knowledge and that focus on the learning process rather than the end results. For this authentic assessment methods are important to encourage critical thinking, analysis, creativity, collaboration and communication which are 21st century skills thus enabling students to succeed in a modern world. AI tools

continue to evolve, universities and academic institutions must adapt to exploit their potential, their future success depends on their ability to integrate generative AI technologies and continuously explore new opportunities to improve and reshape educational practices.

1.1 Paper organization

To provide an organized analysis of this topic, we have structured this research into five sections. Section 1 is the introduction, section 2 describes the methodology adopted, section 3 is devoted to the presentation of the results of this research, while the analysis and discussion of the results are presented in section 4. Section 5 summarizes the conclusions drawn from this study as well as suggesting some perspectives.

2 Methodology

The present study used a systematic approach to the literature to review recent studies on the problem of academic integrity in the era of AI. Particular emphasis is placed on the issue of distance assessment and the ethics of AI use. By examining the opportunities offered by AI to improve educational practices, as well as the challenges faced by educational stakeholders and designers in terms of the credibility and validity of assessment results. The results of the selected studies were scrupulously examined and analyzed using a systematic approach. The results of this study can provide practitioners and the research community with interesting and recent theoretical information on this subject.

2.1 Search procedure

The systematic approach was conducted in accordance with the Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) guidelines ([Page et al., 2021](#)). First, we clearly defined the research problem, focusing on the prevention of academic integrity in an era rich in AI potential. This step enabled us to construct a search string based on the functions of a series of concepts in English that are linked to the search title and keywords. This search string was composed of the following combinations: ("Generative AI on Assessments" OR "ChatGPT and the Future of Academic Integrity" OR "potential of AI tools in education") OR ("academic integrity violation in e-assessments" OR "evaluation in e-learning" AND ("e-cheating in education")). We conducted electronic searches in the following databases: Web of Science (WoS), Scopus, ScienceDirect (SD), Springer Link (SL) and google scholar (GS). Our search was limited to the most recent studies published between 2022 and 2024, taking into account our objective of examining what is currently known about the issue of academic integrity in the age of AI.

2.2 Inclusion and exclusion criteria

Using the search string that drives this study, the initial search of the above databases yielded 186 documents (Articles, chapters, books, web pages. The title, abstract, and if

necessary, the full text was examined for relevance using the following inclusion criteria: a) Research theme: Articles, chapters or books where academic integrity and AI is the central topic. b) Language and date of publication: documents published in English from 2022 to 2024. C) Type of publication: documents published in peer-reviewed journals. D) Relevance of results and conclusions: Studies that present relevant results and/or conclusions. A research study was excluded if it did not meet all of the above inclusion criteria. The PRISMA flowchart for the selection procedure of studies included for analysis in this study is presented in Figure 1.

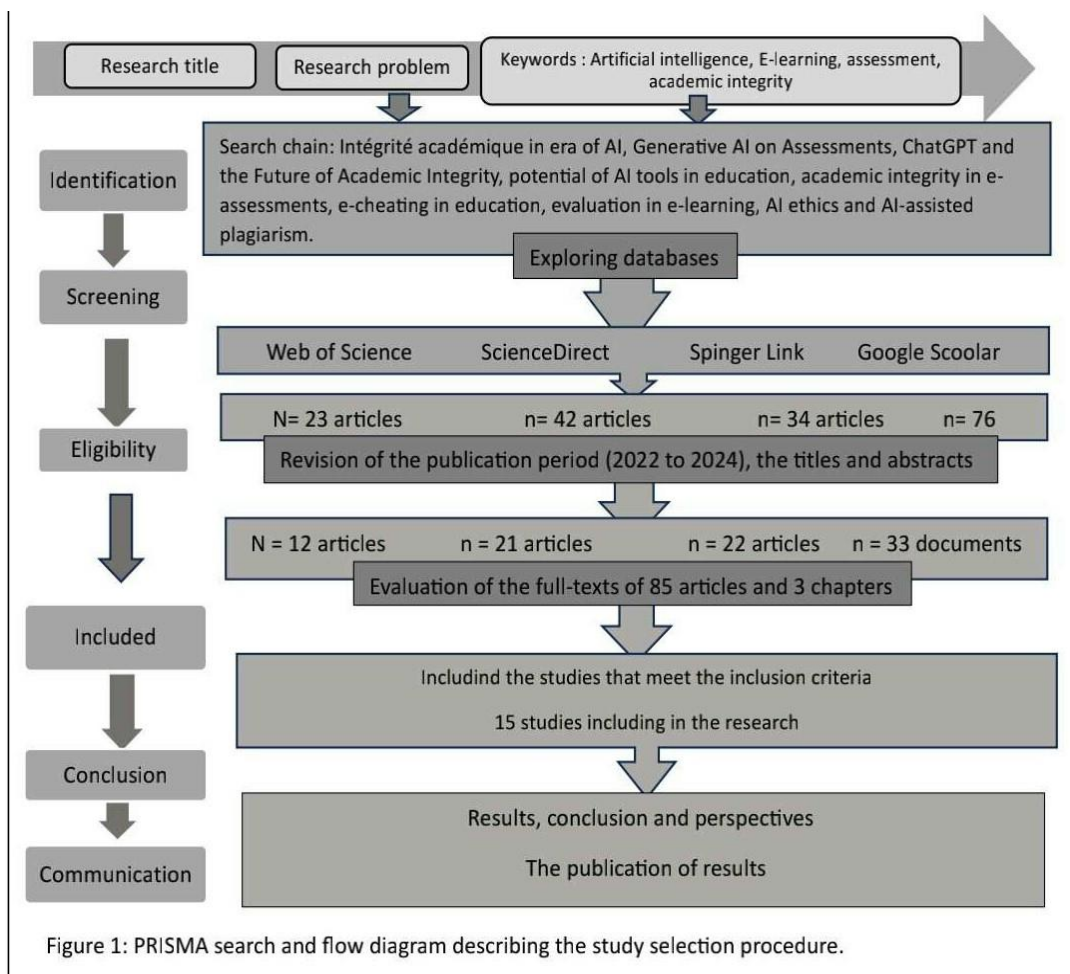


Fig. 1. A figure is PRISMA research and the flow chart describing the study selection procedure.

In order to ensure the rigor and coherence of this systematic study, so as to explore our research problem in depth and obtain relevant results. We followed the following steps:

- **Definition of the research problem and construction of keywords:** This stage consists of defining the research problem and drawing up a list of keywords, which is then used to construct a search chain.

- **Identification:** In order to identify relevant studies, searches were carried out using the search string constructed. These electronic searches were carried out in the above-mentioned databases. The search results were as follows: 23 in Web of Science, 42 in ScienceDirect, 34 in Springer Link and 76 in Google Scholar.
- **Screening:** The publication period, abstracts, results and conclusions were examined to determine which articles met the inclusion criteria. This stage resulted in the selection of 85 studies distributed as follows: 12 articles in WoS, 21 articles in SD, 22 articles in SL and 33 documents in GS, while 91 studies did not meet the inclusion criteria and were therefore excluded.
- **Eligibility:** An in-depth review of 85 selected studies, together with their bibliographic references, was carried out to determine whether these studies fully met our criteria and to enrich the list of retained papers.
- **Inclusion:** At this stage, 15 studies were included for analysis, thus meeting the inclusion criteria. Sixty studies were excluded: 42 did not fully meet all the inclusion criteria, while 18 presented similar results and conclusions.
- **Conclusion and perspectives:** synthesis of the conclusions drawn from this study as well as the orientations envisaged for the future.
- **Communication:** presentation of these results at a scientific conference to stimulate discussion and enrich the debate.

3 Presentation of the results

The full texts of the identified studies were retrieved to examine whether they met the inclusion criteria for our search. At the same time, the references of the included studies were manually evaluated using Cooper's "ancestry" method (Cooper, 1982). This approach enabled us to enrich our initial corpus by identifying eight additional articles that met the inclusion criteria. Finally, only 15 of the 186 papers identified met the inclusion criteria for inclusion in this study. Most of the studies selected were considered to be of high quality and were published in top-ranked journals in the field of education, e-learning and educational technology, notably "Innovations in Education and Teaching International (Q1)", "Eurasia Journal of Mathematics", "Internet of Things (Netherlands), Q1", "TechTrends (Q1)", "Technology in Society, Q1", "Journal of Cleaner Production (Q1)", "Medical Education Online (Q1)", "Heliyon (Q1)". The research papers involved in this study came from a variety of contexts, from many countries around the world, such as Africa, North America, Europe and Asia. We believe that the sample of documents selected in this study is sufficiently significant to contribute to enriching the current discussion on the issue of academic integrity in the AI era, in a changing teaching and learning environment. The results are presented according to key features such as the title and type of resource, the author and year of publication, the methodology used, the data collection instruments, and the results and main conclusions. These results are presented in Table 1.

Table 1. General description of the studies selected from the Web of Science, Scopus, Springer Link and Google Scholar databases.

Resource title	Citation and Country	Methodology	Data collection instruments	Results and conclusions
Article 1: Transforming Education in the Age of Artificial Intelligence: Challenges and Opportunities in Indonesia, A Literature Review	(Rakuasa et al., 2024), Indonesia	Descriptive qualitative	Analysing data from books, journals, magazines and scientific articles related to research problems and objectives	The study discusses the challenges and opportunities of education in the AI era, demonstrating that educational transformation not only provides an opportunity to update the educational system but also to create a more inclusive and relevant learning environment for future needs.
Article 2: ChatGPT and the Future of Academic Integrity in the Artificial Intelligence Era: A New Frontier	(Mijwil et al., 2023), Irak	Qualitative	Platform comparison, analysis of articles generated by ChatGPT and document analysis	The use of AI tools in academic research can raise concerns about academic ethics, and the lack of tools capable of detecting such violations is a significant challenge for scientific research.
Article 3: Chatting and cheating: Ensuring academic integrity in the era of ChatGPT	(Cotton et al., 2023), United Kingdom	Qualitative	Revue de la littérature et l'analyse des opportunités et des défis de ChatGPT	The use of AI presents both opportunities and challenges, and universities can effectively address these concerns by adopting an approach that protects the integrity of their assessments and the quality of their educational programmes.
Article 4: Exploring the potential of artificial intelligence tools in educational measurement and assessment.	(Owan et al., 2023), Negeria	Literature review	The study examines the use of AI tools in educational assessment, focusing on the integration of linguistic AI models	The integration of AI in educational assessment has the potential to transform education, improve learning outcomes, and prepare students for success in a 21st century world. However, it also highlights the impact of this technology on academic performance.
Article 5: Rethinking online assessment strategies: Authenticity versus AI chatbot intervention	(Ifelebuegu, 2023), Uganda	Documentary research	Critical analysis of the current state of the intersection between AI chatbots and online assessments	The era of AI chatbots offers the opportunity to rethink and improve online assessments, making them more authentic, meaningful and resistant to malicious AI assisted practices.
Article 6: Detecting cyberthreats in Metaverse learning platforms using an explainable DNN	(Nkoro et al., 2024), South Korea	Quantitative	A test to evaluate the performance of the network intrusion detection system (NIDS)	The DNN model based on a deep neural network is an effective system for detecting cyber attacks within Metavers learning platforms to establish a secure and reliable learning environment.

Article 7: Innovation of Instructional Design and Assessment in the Age of Generative Artificial Intelligence	(Hodges & Kirschner, 2024), USA	Documentary research	Analysis of studies and evaluation strategies	Change in instructional design and assessment is necessary to ensure the integrity of the learning process in an era where generative AI tools are evolving and becoming more ubiquitous.
Article 8: Use of ChatGPT in academia: Academic integrity hangs in the balance	(Bin-Nashwan et al., 2023), Malaysia	Quantitative	Online survey distributed to 702 university researchers worldwide	ChatGPT is an AI-driven language model, offering a wide variety of profound benefits, including academic content generation, accessibility, collaboration and assessment. However, concerns about academic honesty and plagiarism facilitate the violation of academic ethics.
Article 9: Navigating the confluence of artificial intelligence and education for sustainable development in the era of industry 4.0: Challenges, opportunities, and ethical dimensions	(Abu-libdeh et al., 2024) Qatar	Literature review	Literature review of 134 articles	The study reveals the importance of aligning ESD and the integration of AI into education to prepare students for a digital world that is constantly evolving in the age of Industry 4.0. It also highlights the opportunities offered by AI in revolutionising various aspects of education, as well as the challenges associated with this integration.
Article 10: Challenge, integration, and change: ChatGPT and future anatomical education	(Leng, 2024) School of P.R. China	Qualitative	Participatory observations by the authors of their own experiences	ChatGPT stimulates student engagement and empowers learning as a virtual pedagogical aid. At the same time, medical educators need to keep pace with the rapid change driven by technology, taking into account the impact of ChatGPT on curriculum design, assessment strategies and teaching methods.
Article 11: Exploring drivers of academic integrity violation in e-assessments by students during the emergency remote teaching	(Mangundu, 2022), South Africa	Quantitative	Literature review and online survey questionnaire, involving a sample of 201 university students	Promoting academic integrity in the emergency distance learning period has been a major challenge. The study highlights that individual and institutional factors have a negative impact on academic integrity in online assessments. To meet this challenge, institutions are developing authentic strategies.
Chapter 1: Online Assessments in a Changing Education Landscape	(Serutla et al., 2024b), USA	Documentary research	Analysis of previous studies	The study reveals the role of e-learning, creativity and technology in online assessment. It also highlights the challenges and

				monitoring tools used to ensure the credibility of assessment in the context of distance learning.
Article 12: Why all the hype about ChatGPT? Academics' views of a chat-based conversational learning strategy at an open distance e-learning institution	(Van Wyk et al., 2023), South Africa	Exploratory qualitative	Online discussion group on Teams, 13 participants (teachers, directors and managers)	The study identified three important themes in an e-learning context 1) the awareness of ChatGPT as a conventional AI-based learning tool. 2) The advantages and disadvantages of ChatGPT as a conventional learning approach. 3) ChatGPT as a tool for improving student learning.
Article 13: The application and challenges of ChatGPT in educational transformation: New demands for teachers' roles	(Yu, 2024) Beijing Normal University, China	Qualitative approach and Documentary research	Case studies of ChatGPT and related AI tools and analysis of the technological, ethical and pedagogical implications of ChatGPT in education	The study highlights the transformative potential of AI in education such as personalised learning experiences and streamlining routine tasks, highlighting the challenges associated with the risk of misuse and the potential to erode thinking skills critique. La formation d'enseignant est importante dans un environnement éducatif en évolution.
Article 14: Promoting Academic Integrity in Remote/Online Assessment EFL Teachers' Perspectives	(Vellanki et al., 2023), Oman	Mixed	A questionnaire included both quantitative (MCQs) and qualitative (open-ended questions) data from 37 teachers.	Technical difficulties, lack of physical presence, student behavioural problems and concerns about the design and process of assessment have a detrimental effect on academic integrity. To prevent dishonesty, changes to the design, conduct and assessment of questionnaires and exams.

3.1 Main results

Several results emerged from the analysis of fifteen selected studies concerning the issue of academic integrity in an AI era. These studies reveal the opportunities offered by the use of AI for education and scientific research. However, they also reflect the major concerns of researchers in terms of academic integrity in a technologically advanced environment. These concerns mainly relate to the impact of AI technology on the distance learning assessment process and on the ethical use and credibility of students' works. This cross-sectional analysis highlights three main axes reflecting the issue of academic integrity in the AI era: 1) AI's educational potential. 2) AI use concerns. 3) AI-led educational revolution.

4 Analysis and discussion

Artificial intelligence has become a hotly debated topic within the academic community and educational institutions as an innovative technology, offering a wide variety of opportunities in education and academic research, including improved personalised learning, assessment, content generation and advanced data analysis, opening up powerful tools for student learning and research. Nevertheless, this technology raises widespread concerns about cheating in distance assessment, academic honesty and plagiarism, facilitating the breakdown of principles of fairness and ethics in the university environment and within educational institutions. In this study, an attempt was made to examine various aspects of AI use and their usefulness for education. In addition, it was identified their impact on the assessment process in a digital environment and on the ethics of use. This involves an in-depth analysis of the existing literature concerning the approaches and tools used to ensure the validity and effectiveness of distance assessment, as well as closely examining researchers' concerns regarding academic integrity and the ethical use of AI. The analysis of the results of fifteen recent studies concerning the issue of academic integrity in the era of AI has highlighted the potential impact of this technology on educational practices in general, and more specifically on the process of assessment distance learning. It also focuses on the ethical issue surrounding the use of AI.

4.1 Educational potentials of AI

In an era, rich in AI potential, researchers point to a variety of positive aspects providing AI tools with the potential to revolutionise the field of education and research, as well as transforming learning and assessment methods. One of the most important aspects is the optimal incorporation of AI tools to support personalised learning (Ifelebuegu, 2023; Yu, 2024). The AI tools can offer learning experiences tailored to the specific needs of each student, thus fostering their engagement and to develop skills according to their preferences and learning pace (Van Wyk et al., 2023). AI tools reinforce students' autonomy to learn, as virtual teaching aids (Leng, 2024). Another study by H. Yu highlights the significant impact of conversational AI models, such as ChatGPT, on educational practices. This study demonstrates how these generative technologies can improve the teaching and learning process. The use of generative AI promotes changes towards personalised and self-directed learning. It also highlights their ability to strengthen assessment methods, by responding to the needs of each student (Yu, 2024). In this sense, Bin-Nashwan et al, (2023) indicate in an empirical study the growing importance of speed in academic research (Bin-Nashwan et al., 2023). Students can use generative technologies such as ChatGPT to generate content, complete tasks and maximise their productivity more quickly. On the other hand, accessibility to a variety of generative AI models promotes equitable access to AI-based education (Cotton et al., 2023), which can contribute to reducing the educational gap between students, particularly in the context of distance or hybrid learning. According (Abulibdeh et al., 2024), teaching sustainable development (TSD) in the era of Industry 4.0 requires an evolving education system to prepare students to act actively in a sustainable and technologically advanced environment. They point out that the integration of AI tools into e-learning

has the potential to revolutionise pedagogy, enabling students to develop high-level skills such as critical thinking, problem solving and creativity. This can ensure that students receive an education that meets today's demands for success in a 21st century world. In any learning strategy the collection and analysis of learning outcomes are important elements. They provide assessors with in-depth information on the development of students' skills and help to identify areas for intervention when making decisions. In addition, it is important to ensure systematic interactions in the implementation of continuous assessment (Rakuasa et al., 2024). In their study entitled "Exploring the potential of artificial intelligence tools in educational measurement and assessment", Owan et al. (2023), highlight the potential of AI tools in educational assessment, and their ability to transform education and improve learning outcomes. With AI tools, teachers can gain an in-depth understanding of the progress of each learner's performance, provide accurate and efficient grading, saving teachers time (Owan et al., 2023). The era of AI Chatbots reveals the potential to reinvent distance assessments, making them more authentic (Ifelebuegu, 2023). The combined results of this analysis show that AI tools have the potential to offer a variety of opportunities for learning and research, including personalised learning, self-assessment, addressing specific student needs, assessment, facilitating communication and feedback, accessibility, fostering engagement and collaboration, increasing creativity, content generation and speed. These tools create an environment rich in potential to boost the learning and assessment process in different learning and teaching contexts within universities and educational institutions. Additionally, their ability to generate content to support academic research. These opportunities open up new avenues for revolutionising and reshaping educational practices and research standards.

In this respect, an integration of the combinations of these potentials constitutes an important basis for an education that meets the requirements of the 21st century, an education that enhances the performance of students, thus increasing the value and quality of academic qualifications so that they succeed in a world of Industry 4.0.

4.2 AI use concerns

Despite the opportunities provided by AI tools for learning and research, researchers point to a range of aspects of education and research challenges in the age of artificial intelligence. The issue of academic integrity presents a central challenge for instructional designers and researchers in remote assessment (Cotton et al., 2023; Hodges & Kirschner, 2024; Ifelebuegu, 2023; Mangundu, 2022; Serutla et al., 2024a). As part of a study conducted by Hodges & Kirschner, (2024) reflects on the question of assessment credibility in e-learning contexts in the era of AI. They point out that using these tools can answer a variety of questions. Even content generation and interpretation are now possible with many AI tools. Faced with these challenges, researchers propose evaluation strategies focused on the learning process rather than on final outcomes (Hodges & Kirschner, 2024). These Strategies require in-depth reflection on how to adapt online assessment methods and tools taking into account future developments in AI technologies. For this, it is important to restructure and remodel assessment methods and criteria towards authentic assessment (Mangundu, 2022), aimed at the development

of high-level skills, such as collaboration, communication and problem solving (Ifelebuegu, 2023). In this context, the use of complex and recent tasks in remote assessments can be a solution to preserve academic integrity. Completing these tasks with the assistance of generative AI tools can be made difficult due to the rapid expansion of AI technology. In light of the challenges posed by the COVID-19 pandemic, Serutla et al., highlights the importance of creativity in online assessment approaches. They highlight the need to address challenges related to monitoring and authenticity of online assessments (Serutla et al., 2024a). Researchers explored in depth the challenges of preventing cheating, plagiarism, and other forms of dishonest behavior. They point out that technical difficulties, lack of physical presence, student behavioral issues, and concerns about the design and evaluation process have a detrimental effect on academic integrity (Vellanki et al., 2023). In this regard, the researchers propose a variety of strategies to help designers and teachers maintain academic integrity in remote assessment, including oral assessments, use of AI detection tools, peer review, and collaborative work (Hodges & Kirschner, 2024). However, it is important to note that the application of safety measures in synchronous assessments can have negative effects, including causing stress and anxiety in students, thereby disrupting their concentration and performance. On the other hand, students and their families have concerns related to the security of private data (Nkoro et al., 2024). In addition, this approach can pose technical and financial constraints.

In light of the challenges created by AI tools in distance assessment on the one hand, and the emergence of new learning modalities focused on the predominant use of digital environments in an era rich in AI potential on the other hand. The principles and academic standards defining the remote assessment process must be adapted in a dynamic reflection to the changes introduced by this innovative technology. In this sense, integrating an authentic assessment into an asynchronous or synchronous modality can help overcome the aforementioned challenges and thus preserve academic integrity. This method is based on problem solving, applying knowledge and skills in real-life contexts rather than simply reproducing information. In this regard, the combination of authentic assessment and the use of digital portfolio could be an effective approach in distance assessment taking into account the rapid advances in AI. Capitalizing on their positive and beneficial use in education, rather than seeing them only as a risk. This approach, which is based on the creation of an assessment process that authentically reflects learners' skills and abilities. It allows students to commit to organizing and presenting their work in different forms of content (video, graphs, audio, text, etc.), promoting the commitment, collaboration and communication that are the skills of the 21st century. On the one hand, this approach serves both as a means of learning, rather than being limited to final assessments, on the other hand, it provides teachers with in-depth information on the progress of student performance. In addition, the use of a digital portfolio offers the possibility to work in a group, allowing teachers to evaluate several students simultaneously, thus reducing their workload. In addition, the flexibility and dynamics of this tool make it possible to adapt to various types of evaluation, modalities and various disciplines. This approach can also facilitate collaboration through interdisciplinary projects, thus encouraging students to develop critical thinking and creative thinking in order to actively act on complex global challenges. In this context, the commitment of

academics and educational institutions to the development of authentic assessment through a digital portfolio requires a radical overhaul of educational practices.

4.3 AI-led educational revolution

The emergence of generative AI is creating a new era rich in AI potential, heralding a new teaching and learning environment. This evolution calls for a transformative approach to educational practices, towards a new dynamic educational paradigm. Pedagogical actors play a crucial role in this transformation, requiring solid and continuous training to positively commit to adopting contemporary pedagogical methods in a technologically advanced era (Yu, 2024). In this context, the rapid advances of AI, the revolution of Industry 4.0 and the new demands of society, impose a radical transformation in education (Abulibdeh et al., 2024). This transformation is seen as necessary to effectively prepare students to succeed in a machine-centric future. In this regard, the role of school and university in the AI era is evolving, and the teacher must assume the role of adapter and innovator. The success of this AI-led educational revolution also requires collaborative approaches from various sectors, including education, technology industries and political institutions, to design and implement innovative educational practices, thus meeting the contemporary needs of universities and schools. In this sense, designers of AI technology tools should consider educational and ethical needs when designing AI tools for educational purposes. On the other hand, the future of academic integrity and ethics in distance assessment in the AI era, requires a transition to complex and recent global tasks, aimed at high-level transversal skills.

5 Conclusion and Perspectives

This systematic review examined the recent literature on the issue of academic integrity in the AI era. The objective is to identify the potentials offered by AI as well as their challenges on education, and particularly on the evaluation process in e-learning context. The emergence of AI tools and their uses in education represents a vehicle for modernizing education, presenting both opportunities and challenges. The arrival of ChatGPT and other generative AI models offers the potential to transform educational practices by enabling personalized learning and driving change towards innovation. Integrating these tools into education, some increasingly important and priority questions and concerns, including the issue of academic integrity in distance assessment, ethics of use, and adapting innovative educational programs to meet the needs of a modern society and industry. To promote academic integrity in the AI era, changes in curriculum design and assessment methods are needed. Methods that emphasize the quality of learning rather than the product of learning are important. In this sense, integrating a digital portfolio into distance assessment can be an effective approach. This approach provides students with sufficient freedom and time to commit to building their knowledge and presenting their work. In addition, it offers the opportunity to work in groups on authentic, global and recent tasks, thus fostering engagement, collaboration, communication and creativity, the essential skills for the 21st century. On the other hand, this approach makes it possible to positively exploit the potential of AI in education. Combining the opportunities offered by AI tools on the one hand, and integrating

a digital portfolio of learning and assessment on the other, can equip a generation of students with knowledge, skills, values and ethical awareness. This allows them to actively engage and act positively in an era where AI is increasingly integrating into education. This conclusion presents a contribution regarding the ongoing discussion on the issue of academic integrity in distance assessment in an era rich in AI potential, thus proposing a distance assessment approach based on the digital portfolio, the success of this vision requires a philosophical transformation of pedagogical actors towards the role of school and university to pave the way for a future where AI takes a central place in education and society. It would be useful to conduct empirical research and case studies to gather evidence on the use of digital portfolio as a distance assessment tool in the AI era. Additionally, it is believed that it is imperative to carry out a critical review of Bloom's taxonomy in order to enrich it or rethink the way cognitive skills are developed and assessed, with a view to adopting a new approach that takes into account the educational revolution guided by AI tools.

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