

Critical Thinking Skills in the Age of AI: Exploring EFL Postgraduate Students' Perspectives and Concerns

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ABSTRACT

The rapid integration of artificial intelligence (AI) tools into higher education has renewed discussions about their influence on students' critical thinking, particularly in English as a Foreign Language (EFL) postgraduate education. This study explored EFL postgraduate students' perspectives and concerns regarding the role of AI tools in relation to critical thinking skills. A quantitative descriptive survey design was employed, involving a convenience sample of 120 EFL postgraduate students enrolled at the Libyan Academy for Postgraduate Studies. Data were collected through a structured five-point Likert-scale questionnaire administered online using Google Forms and analyzed using descriptive statistics, including frequencies and percentages. The findings revealed that AI tools have become an integral part of participants' academic practices, with ChatGPT emerging as the most commonly used tool. Participants viewed AI positively, recognizing its value in supporting learning, improving academic performance, and assisting with various study-related tasks. However, they also expressed concerns that excessive reliance on AI could reduce independent thinking, encourage students to accept AI-generated information without evaluating it critically, and raise ethical issues related to academic integrity. Participants further emphasized the importance of developing the skills needed to evaluate AI-generated content critically and to use these technologies responsibly. The study concludes that EFL postgraduate students adopt a balanced perspective toward AI, recognizing both its educational benefits and concerns associated with its use for critical thinking.

Keywords: artificial intelligence, critical thinking, EFL postgraduate students, higher education

مهارات التفكير النقدي في عصر الذكاء الاصطناعي: استكشاف وجهات نظر طلبة
الدراسات العليا في تخصص اللغة الإنجليزية كلفة أجنبية ومخاوفهم

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ملخص البحث

أدى الدمج السريع لأدوات الذكاء الاصطناعي في التعليم العالي إلى تجدد النقاشات حول تأثيرها في التفكير النقدي لدى الطلبة، ولا سيما في برامج الدراسات العليا لتعليم اللغة الإنجليزية كلغة أجنبية. هدفت هذه الدراسة إلى استكشاف وجهات نظر طلبة الدراسات العليا في تخصص اللغة الإنجليزية كلغة أجنبية ومخاوفهم بشأن دور أدوات الذكاء الاصطناعي وعلاقتها بمهارات التفكير النقدي. واعتمدت الدراسة المنهج الوصفي المسحي الكمي، وشملت عينة ميسرة من 120 طالباً من طلبة الدراسات العليا في تخصص اللغة الإنجليزية كلغة أجنبية، المسجلين في الأكاديمية الليبية للدراسات العليا. وجمعت البيانات من خلال استبانة منظمة مكونة من مقياس ليكرت خماسي الدرجات، وزعت إلكترونياً باستخدام نماذج Google، وحللت باستخدام الإحصاء الوصفي، بما في ذلك التكرارات والنسب المئوية. وأظهرت النتائج أن أدوات الذكاء الاصطناعي أصبحت جزءاً لا يتجزأ من الممارسات الأكاديمية للمشاركين، حيث برز ChatGPT بوصفه الأداة الأكثر استخداماً. ونظر المشاركون إلى الذكاء الاصطناعي بصورة إيجابية، إذ أقرروا بقيمته في دعم التعلم، وتحسين الأداء الأكاديمي، والمساعدة في مختلف المهام المتعلقة بالدراسة. ومع ذلك، أعربوا أيضاً عن مخاوفهم من أن الاعتماد المفرط على الذكاء الاصطناعي قد يؤدي إلى الحد من التفكير المستقل، وتشجيع الطلبة على قبول المعلومات التي يولدها الذكاء الاصطناعي دون تقييمها بصورة نقدية، وإثارة قضايا أخلاقية تتعلق بالنزاهة الأكاديمية. كما أكد المشاركون أهمية تنمية المهارات اللازمة لتقييم المحتوى الذي يولده الذكاء الاصطناعي بصورة نقدية، واستخدام هذه التقنيات بمسؤولية. وتخلص الدراسة إلى أن طلبة الدراسات العليا في تخصص اللغة الإنجليزية كلغة أجنبية يتبنون رؤية متوازنة تجاه الذكاء الاصطناعي، إذ يدركون فوائده التعليمية، إلى جانب المخاوف المرتبطة باستخدامه في مجال التفكير النقدي.

الكلمات المفتاحية: الذكاء الاصطناعي، التفكير الناقد، طلاب الدراسات العليا للغة الإنجليزية كلغة أجنبية، التعليم العالي

Introduction

Artificial intelligence (AI) has rapidly transformed higher education, changing how students access information, complete academic tasks, and engage with learning. The emergence of generative AI tools, particularly ChatGPT, has accelerated this transformation by enabling students to generate ideas, summarize literature, explain complex concepts, and improve academic writing with unprecedented ease (Bahroun et al., 2023; Bond et al., 2024; Crompton & Burke, 2023). As AI tools become increasingly integrated into academic practices, postgraduate students have become among the most frequent users because their studies require extensive reading, research, and independent learning. For English as a Foreign Language (EFL) postgraduate students, AI provides additional support by helping them overcome linguistic challenges, understand academic materials, and improve their academic writing in English (Almassaad et al., 2024; Liu et al., 2023; Vo et al., 2024). However, while these benefits

may enhance learning efficiency, they also raise important questions about their possible implications for critical thinking, one of the fundamental goals of postgraduate education.

Critical thinking is widely recognized as an essential skill in higher education because it enables students to analyze information, evaluate evidence, question assumptions, and make reasoned judgments when addressing complex academic issues (Bailin et al., 1999; Dwyer et al., 2014). As AI becomes increasingly involved in academic learning, researchers have expressed different views regarding its relationship with these higher-order thinking skills. Some studies suggest that AI can support critical thinking by encouraging reflection, analysis, and informed decision-making when students engage with AI tools purposefully and critically (Ruiz-Rojas et al., 2024; Zhang et al., 2025). In contrast, other studies warn that excessive dependence on AI may encourage cognitive offloading, reduce independent reasoning, and limit students' engagement in deeper learning processes (Essien et al., 2024; Gerlich, 2025; Gonsalves, 2024; Zhai et al., 2024). This ongoing debate highlights that the role of AI in relation to critical thinking is not straightforward and may depend largely on how students perceive and use these technologies.

Although research on AI and critical thinking has expanded in recent years, several gaps remain. Much of the existing literature has focused on AI adoption, technological acceptance, or general student perspectives, while limited attention has been given to how EFL postgraduate students themselves understand the relationship between AI use and critical thinking skills. This gap is particularly important because postgraduate EFL students are expected to engage in independent research, evaluate academic information, and develop analytical abilities while increasingly using AI tools in their academic work. Therefore, exploring students' own perspectives and concerns can provide deeper insights into whether AI is perceived as a support for critical thinking development or as a potential challenge to independent reasoning, academic autonomy, and meaningful engagement with learning processes.

Accordingly, the present study aims to explore EFL postgraduate students' perspectives and concerns regarding the role of AI in relation to critical thinking skills in the age of AI. By investigating students' views, the study seeks to contribute to the growing discussion on responsible AI use in higher education and provide insights into how AI can be integrated while maintaining the development of critical thinking skills.

To achieve this aim, the study addresses the following research questions:

1. What are EFL postgraduate students' perspectives regarding the role of AI in relation to critical thinking skills?
2. What concerns do EFL postgraduate students have regarding the role of AI in relation to critical thinking skills?

Literature Review

Critical Thinking and Its Importance in Language Learning

Critical thinking is considered one of the essential skills of higher education because it enables learners to analyze information, evaluate evidence, reflect on ideas, and make informed

judgments when dealing with complex academic issues. Dwyer et al. (2014) highlight its metacognitive nature, involving reflection and judgment to reach reasonable conclusions. These perspectives position critical thinking as a fundamental ability that supports independent learning, academic inquiry, and effective decision-making.

In foreign language education, Omran et al., (2026) pointed out that critical thinking has become increasingly recognized as an important component of successful language learning. Developing language proficiency requires more than acquiring vocabulary and grammatical knowledge; learners must also interpret meaning, evaluate information, and engage with ideas critically. Research suggests that students with stronger critical thinking abilities are often more capable of dealing with complex language-learning tasks and becoming more independent learners (Gajic, 2021). Similarly, studies have highlighted the importance of integrating critical thinking into EFL classrooms, as it can support both language development and learners' broader intellectual growth (Kondra, 2025; Poštić et al., 2023). Therefore, critical thinking represents a central competency for EFL postgraduate students, whose academic work requires independent analysis, evaluation of scholarly information, and the construction of knowledge. As AI tools become increasingly integrated into academic practices, understanding their potential role in supporting or challenging the development of critical thinking skills has become an important area of investigation.

AI and Critical Thinking: Students' Concerns

Research on the relationship between AI use and critical thinking shows a complex and sometimes contradictory picture. While some studies suggest that AI tools can support the development of critical thinking, these benefits appear to depend largely on how students engage with these technologies (Abouzied, 2026a). When used as a tool for reflection, exploration, and deeper understanding, generative AI can encourage students to examine ideas, evaluate information, and develop more effective learning strategies. For example, Zhang et al. (2025) found that students' reflective engagement with generative AI, rather than simply the frequency of use, was associated with improved critical thinking outcomes. Similarly, Ruiz-Rojas et al. (2024) reported that many university students perceived generative AI as beneficial for enhancing their critical thinking abilities, although they emphasized the need for further research to determine its long-term effects. Other research has also suggested that AI-supported learning activities may contribute to improvements in analytical and evaluative skills when students actively participate in the learning process rather than relying on AI-generated responses without reflection (Mabrouk, 2025; Gonsalves, 2024).

Despite these potential benefits, an increasing number of studies emphasized that concerns regarding the possible negative consequences of excessive dependence on AI tools. One major concern is cognitive offloading, where students transfer intellectual effort to AI systems instead of engaging in independent reasoning and problem-solving (Abouzied, 2026b). Studies have suggested that frequent and uncritical reliance on AI-generated information may reduce students' motivation to analyze, evaluate, and question information independently (Gerlich, 2025; Zhai et al., 2024). Similarly, Essien et al. (2024) found that although AI tools supported some academic tasks, students expressed concerns regarding the accuracy, reliability,

and ethical implications of AI use, with limited evidence that AI directly enhances higher-order thinking skills. These findings suggest that AI may provide efficiency and convenience while potentially limiting opportunities for deeper cognitive engagement when students use it as a replacement for their own reasoning.

In addition to concerns about critical thinking, research on AI use in higher education has highlighted students' concerns regarding academic integrity and ethical practice. As generative AI tools become increasingly accessible, questions have emerged about issues such as inappropriate dependence, academic dishonesty, and the responsible use of AI-generated content. Yusuf et al. (2024) found that perspectives of the benefits and risks of generative AI varied across cultural contexts, suggesting that students' understanding of ethical AI use may be influenced by their educational and social environments. Similarly, Lund et al. (2025) reported that students' ethical beliefs played an important role in their judgments of whether AI-assisted academic writing represented misconduct, indicating that responsible AI use requires more than institutional regulations alone. Other research has emphasized the importance of AI literacy and clear guidance to help students understand how AI tools can be used appropriately in academic settings (Song, 2024; Bittle et al., 2025). The literature suggests that students' concerns about AI are not limited to technological issues but also involve questions of responsibility, independence, and academic values. Therefore, exploring students' perspectives of AI requires attention not only to its educational benefits but also to the ethical challenges associated with its use.

The literature indicates that the relationship between AI and critical thinking is not simply positive or negative; rather, it depends on the purpose, frequency, and manner of AI use. Reflective and responsible engagement with AI may support critical thinking by encouraging analysis and exploration, whereas passive dependence may create cognitive shortcuts that weaken independent thinking. However, limited attention has been given to how EFL postgraduate students themselves understand this relationship and what concerns they associate with the increasing presence of AI in academic contexts. Exploring students' perspectives is therefore essential for understanding how AI is perceived and used within postgraduate education, particularly in contexts where institutional guidance and research evidence remain limited.

EFL Students' Perspectives of AI Tools

Recent research has increasingly examined how EFL learners perceive and use generative AI tools in their language learning experiences. The findings suggest that many EFL students view AI tools, particularly ChatGPT, as useful resources for improving language learning, supporting academic writing, and enhancing understanding of English-related tasks. For example, Liu et al. (2023) found that perceived usefulness was a significant factor influencing Chinese EFL learners' intention to use ChatGPT for English learning. Similarly, studies involving EFL learners in Vietnam and Saudi Arabia reported generally positive attitudes toward ChatGPT, particularly regarding its accessibility, ease of use, and potential contribution to language development (Vo et al., 2024; Alharthi, 2024). These findings indicate

that EFL learners often recognize the practical benefits of AI tools and consider them valuable sources of academic and linguistic support.

However, research also shows that EFL learners' attitudes toward AI are not entirely positive or uncritical. Several studies highlight students' awareness of potential risks associated with excessive reliance on AI, including reduced independent learning, concerns about accuracy, and possible negative effects on language development. Dizon et al. (2025), for instance, found that although Japanese EFL students viewed ChatGPT as useful, they expressed concerns that overdependence could limit learning opportunities. Similarly, Xiao et al. (2023) reported that EFL learners actively evaluated ChatGPT-generated responses and used critical judgment to address concerns related to reliability and academic integrity. Together, these findings suggest that EFL learners tend to adopt a balanced perspective toward AI, recognizing both its educational advantages and potential challenges (Hmouma et al., 2026). Nevertheless, limited research has explored how EFL postgraduate students, particularly in the Libyan higher education context, perceive the relationship between AI use and critical thinking. This gap highlights the need to investigate students' perspectives and concerns regarding the role of AI in their academic development (Abraham et al., 2026).

The reviewed literature indicates that AI has become an important part of higher education, offering valuable opportunities while also raising concerns related to critical thinking, academic independence, and responsible use. Although previous studies have explored AI adoption and students' perspectives in different educational contexts, further investigation is needed to understand how EFL postgraduate students interpret the relationship between AI use and critical thinking skills, particularly in contexts where research remains limited. These considerations provide the foundation for the present study, which explores EFL postgraduate students' perspectives and concerns regarding the role of AI in relation to critical thinking skills.

Methodology

Research Design

This study adopted a quantitative research approach using a descriptive survey design. This design was selected because the primary purpose of the study was to describe EFL postgraduate students' perspectives and concerns regarding AI and critical thinking through numerical data collected from a structured questionnaire. Creswell and Creswell (2018) stated that a questionnaire was a fundamental instrument that used to gather statistical analysis to a set of structured items. Frequencies and percentages were used as the main form of descriptive statistical analysis. (Cohen, Manion, & Morrison, 2018).

Research Setting

The study was conducted at the Libyan Academy for Postgraduate Studies. The institution was selected as the research setting because it provides an appropriate context for examining EFL postgraduate students' perspectives regarding AI use and critical thinking within postgraduate education.

Participants and Sampling Procedure

The study involved 120 EFL postgraduate students enrolled at the Libyan Academy for Postgraduate Studies. A convenience sampling technique was employed, whereby participants were recruited from accessible EFL postgraduate students who voluntarily agreed to complete the online questionnaire. Although convenience sampling allows practical access to participants, the findings should be interpreted with consideration of its limited ability to support statistical generalization beyond the sampled group. Andrade (2021) stated that convenience sampling was employed to recruit participants who were readily accessible and willing to participate in the study. However, the findings may not be generalized to the wider populations.

Research Instrument

Data were collected through a close-ended questionnaire using a five-point Likert scale. The questionnaire items were modified and developed from previous empirical studies related to AI usage, students' perceptions, and the relationship between AI and critical thinking skills in higher education (Essien et al, 2024, Gerlich 2025, and Zhai et al. 2024). A questionnaire consisted of three parts: participants' frequency of AI use and the specific AI tools utilized for academic purposes, students' perspectives, and concerns regarding AI and critical thinking skills. A questionnaire is defined as the most widely data collection instrument for collecting numerical data and can be distributed without the presences of the research (Cohen, Manion, and Morrison ,2018).

Data Collection Procedures

Data were collected through an online questionnaire distributed via Google Forms. The online format allowed efficient and anonymous distribution among EFL postgraduate students at the Libyan Academy for Postgraduate Studies and enabled participants to complete the questionnaire at their convenience. Ethical considerations were maintained throughout the data collection process. Participants were informed about the purpose of the study before completing the questionnaire, and participation was entirely voluntary. Electronic informed consent was obtained before participants proceeded to the questionnaire items. No personally identifying information was collected, and all responses were treated confidentially and used only for academic research purposes.

Data Analysis

Data collected through the online questionnaire distributed via Google Forms were analyzed using descriptive statistics. The results describe students' perspectives and concerns regarding the use of AI and critical thinking skills.

Findings

This section presents the findings of the study in three parts. The first part reports participants' general patterns of AI use. The second and third parts address the study's two research questions in turn, presenting participants' perspectives on AI and critical thinking and their concerns regarding AI and critical thinking.

AI Use Patterns Among Participants

AI Use Frequency	Frequency
Never	0
Rarely	10
Sometimes	38
Often	42
Very often	30

Table 1 presents the frequency of participants' AI use for academic purposes. The findings indicate that AI was commonly used among the participants.

AI Tool	Frequency
ChatGPT	105
Gemini	42
Microsoft Copilot	18
Claude	12
Other AI Tools Mentioned	Frequency
Grammarly AI	3
QuillBot	2
Perplexity AI	1
DeepL Write	1
Midjourney	1
Total	185

Table 2 presents the specific AI tools participants reported using for academic purposes. Participants were allowed to select more than one tool.

Students' Perspectives on Critical Thinking Skills in the Age of AI

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree.

No.	Item	SD	D	N	A	SA
1	AI has become an important part of postgraduate students' academic learning.	3 3%	7 6%	15 13%	55 46%	40 33%
2	The use of AI can improve students' understanding of academic materials.	2 2%	8 7%	18 15%	58 48%	34 28%
3	AI-assisted learning can help students manage and organize their academic work more effectively.	3 3%	9 8%	20 17%	54 45%	34 28%
4	Using AI can contribute to the development of independent learning.	5 4%	12 10%	28 23%	48 40%	27 23%
5	AI can support students in overcoming academic challenges.	2 2%	7 6%	16 13%	57 47%	38 32%
6	The use of AI can support students in critically analyzing and evaluating academic information.	4 3%	11 9%	25 21%	52 43%	28 23%
7	Independent thinking can be promoted through the appropriate use of AI.	5 4%	13 11%	26 22%	50 42%	26 22%
8	The development of critical thinking skills can be supported by AI when it is used appropriately.	3 3%	9 7%	20 17%	54 45%	34 28%

As shown in Table 4, the majority of participants held favorable perspectives on AI's role in academic learning and critical thinking. The highest level of agreement was observed for the item stating that AI has become an important part of postgraduate students' academic learning (79%), followed closely by the item on AI supporting students in overcoming academic challenges (79%). Somewhat lower, though still majority, levels of combined agreement were observed for items directly addressing independent learning (63%) and independent thinking (64%), the two items most closely tied to autonomous cognitive engagement rather than general academic support.

Students' Concerns Regarding the Role of AI in Relation to Critical Thinking Skills

No.	Item	SD	D	N	A	SA
1	I am concerned that excessive reliance on AI tools may reduce students' ability to think independently.	2	6	15	52	45

		2%	5%	13%	43%	37%
2	I worry that some students may accept AI-generated information without critically evaluating it.	1	5	12	50	52
		1%	4%	10%	42%	43%
3	Frequent use of AI tools may reduce students' effort in analyzing academic problems.	3	8	20	51	38
		3%	6%	17%	43%	32%
4	I have concerns about the accuracy and reliability of information generated by AI tools.	2	6	14	53	45
		2%	5%	12%	44%	38%
5	The ethical use of AI tools in academic work is a concern for me.	1	5	13	49	52
		1%	4%	11%	41%	43%
6	Students need guidance on how to use AI tools critically and responsibly.	1	3	10	45	61
		1%	3%	8%	38%	51%
7	Inappropriate use of AI tools may negatively influence the development of critical thinking skills.	2	7	14	52	45
		2%	5%	12%	43%	37%

In Table 5, participants expressed consistently high levels of concern across all seven items. The highest level of concern was recorded for the item stating that students need guidance on how to use AI tools critically and responsibly (89 %), followed by the item concerning the uncritical acceptance of AI-generated information without evaluation (85%) and the item concerning the ethical use of AI tools in academic work (84%). The lowest, though still substantial, level of concern was recorded for the item regarding reduced effort in analyzing academic problems (75%).

Discussion

This study examined EFL postgraduate students' perspectives on critical thinking in the age of AI and their concerns about the role of AI in relation to these skills. Overall, the findings indicate that participants recognize the academic value of AI while remaining aware of its possible cognitive and ethical challenges. This balanced position is consistent with the double-edged nature of AI reported in previous research, particularly by Zhai et al. (2024).

Regarding Research Question 1, the findings indicate that participants generally held positive perspectives toward the role of AI in academic learning and critical thinking. A high proportion of participants agreed that AI has become an important part of postgraduate academic learning at 79% and that it can help students overcome academic challenges at 79%. These findings are consistent with research conducted in Saudi Arabia and Jordan, where students generally reported favorable views of AI and recognized its usefulness for academic purposes (Almassaad et al., 2024). The findings suggest that participants recognize AI as a

useful academic resource that can assist them in understanding academic materials, managing their work, and addressing academic challenges. However, the findings show somewhat lower levels of agreement with statements concerning independent learning and independent thinking, at 64% and 63%, respectively. This difference is important because these two areas are more closely related to students' autonomous cognitive engagement than to general academic support. The finding is consistent with Essien et al. (2024), who argued that the benefits of AI may be more evident in tasks involving lower levels of cognitive processing, while its contribution to higher-order and independent reasoning may be more limited. It also supports Zhang et al. (2025), who emphasized that the development of critical thinking depends not simply on the presence of AI but on the way students engage with and reflect on AI-generated information. In the present study, participants may therefore recognize the usefulness of AI for completing academic tasks and understanding content while remaining less certain about its ability to develop independent thinking.

In relation to Research Question 2, the findings demonstrate strong concerns across all the areas examined. The highest level of agreement was related to the need for guidance on the critical and responsible use of AI, with 89% of participants expressing agreement. This finding corresponds with Lund et al. (2025), who argued that institutional policies alone may not be sufficient to encourage responsible AI use and that students also require ethical education and clear guidance. It is also consistent with Bittle et al. (2025), whose systematic review emphasized the importance of strengthening AI literacy and helping students understand the academic risks associated with generative AI. Participants also expressed substantial concerns about accepting AI-generated information without critically evaluating it, with 85% agreement, as well as about the ethical use of AI in academic work, with 84% agreement. These findings are consistent with concerns surrounding academic integrity and the potential misuse of generative AI. They also support Song (2024), who suggested that the absence of clear institutional guidance may create uncertainty regarding acceptable AI use and increase the possibility of academic misconduct.

The combination of positive perspectives and strong concerns is particularly significant. The findings do not indicate that participants hold either an entirely positive or entirely negative view of AI. Instead, they appear to recognize that AI can provide valuable academic support while also creating challenges for independent and critical engagement. This interpretation is consistent with Ruiz-Rojas et al. (2024) and Zhang et al. (2025), who identified potential benefits of AI for learning and critical thinking, as well as with Gerlich (2025) and Zhai et al. (2024), who highlighted the risks associated with excessive dependence on AI. The finding also corresponds with Xiao et al. (2023), whose qualitative study showed that EFL learners can apply critical judgment when evaluating AI-generated responses. In this sense, students' awareness of the possible risks of AI does not necessarily mean that they reject the technology. Rather, it suggests that they recognize the need to engage with AI carefully and critically. The present findings further suggest that awareness alone may not be sufficient to ensure effective AI use. Although participants expressed concerns about the possible effects of AI on independent thinking, the strongest concern was the need for guidance on how to use AI critically and responsibly. This indicates that students may recognize the importance of critical

engagement but still require appropriate academic support to develop and apply such practices. Clear guidance may therefore play an important role in helping postgraduate students maintain independent reasoning while benefiting from AI-supported learning.

The findings indicate that the relationship between AI and critical thinking should not be understood as entirely beneficial or harmful. AI may support academic learning when students engage with it actively and critically, but its benefits may be reduced when it replaces students' own analysis and reasoning. The findings therefore support the view that responsible AI use requires more than access to technology. It also requires students to develop the ability to question, evaluate, and verify AI-generated information. For EFL postgraduate education, this is particularly important because students are expected to conduct independent academic work, evaluate scholarly information, and develop the analytical abilities required for postgraduate study.

Conclusion

This study explored EFL postgraduate students' perspectives on critical thinking in the age of artificial intelligence and their concerns about AI in academic contexts. The findings suggest that participants recognize AI as a useful academic resource while also being aware of its limitations. Their concerns about overreliance, uncritical acceptance of AI-generated information, reliability, and ethical use indicate the importance of remaining actively involved in the learning process. The findings point to the need for a balanced approach to AI use in postgraduate education. AI can support learning and academic work, but it should not replace students' independent thinking, critical evaluation, and decision-making. Students therefore need to question AI-generated information, verify its accuracy, and use AI as a supporting tool rather than a substitute for their own thinking. Clear guidance and educational support may help students develop more critical and responsible approaches to AI use. This study contributes empirical evidence to the discussion of AI and critical thinking in EFL postgraduate education, particularly in the Libyan context, which remains underrepresented in the international literature. The findings also provide a basis for future research on how students use AI and how it may shape their learning and thinking practices.

Pedagogical Implications

The findings of this study have several implications for teaching and curriculum design in EFL postgraduate education, particularly regarding the integration of AI into learning and assessment. Postgraduate programs should provide students with clear guidance on the critical and responsible use of AI. AI literacy can be incorporated through classroom activities, workshops, or short training sessions that help students evaluate AI-generated content and recognize its limitations. Instructors should also encourage students to verify AI-generated information by comparing it with reliable academic sources. Fact-checking and source evaluation can be incorporated into coursework to strengthen students' ability to judge the accuracy and reliability of information. Assessment tasks should require students to analyze, evaluate, and question AI-generated responses rather than simply accept them. Such activities can encourage independent reasoning and maintain students' active involvement in the learning process. Postgraduate programs should also establish clear guidelines regarding the ethical use

of AI in academic work. These guidelines should explain acceptable uses of AI while emphasizing students' responsibility for their own academic work. Overall, the findings suggest that the goal should not be to restrict AI use but to guide students toward using it as a tool for critical engagement rather than as a substitute for independent thinking.

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