

Promoting Responsible AI Use in Academic Writing: The Role of Supervisors in Fostering Ethical Practices

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Abstract: The use of artificial intelligence (AI) tools in academic writing has become increasingly common among students, offering both advantages and drawbacks. While these tools can enhance writing efficiency, their misuse raises concerns about originality and academic integrity. Supervisors, therefore, play a key role in guiding students toward ethical practices. This study explores how supervisors at Ahmed Zabana University promote responsible AI use in academic writing among master’s students. A mixed-methods design was employed, combining an online questionnaire with semi-structured interviews to collect data. Findings reveal that existing training programs and workshops are only moderately effective. Supervisors largely depend on institutional policies and guidelines but face challenges such as vague policies, limited resources, and heavy workloads. To address these issues, they recommend clearer regulations, stronger detection tools, enhanced digital literacy, reduced workloads, and expanded training opportunities for both faculty and students.

Keywords: artificial intelligence; academic writing; supervisors; academic integrity; higher education.

1. Introduction

In the last decade, the growing adoption of digital innovations in tertiary education sectors across the world has begun to change the way research and teaching are done. AI tools, such as text generators, grammar checkers, paraphrasers, and research assistance tools, have particularly revolutionized the interface students and scholars have with academic texts. AI systems are helpful to most students as they are productive in editing, language correction, and assisting with academic writing, especially in situations where the language of discourse is not their mother tongue. In Algeria, as tertiary institutions embrace digital tools in teaching and learning activities, AI is popular with students tasked with writing dissertations and research reports. AI tools offer students suggestions on grammar, structure, and even content organization, which many find empowering. On the other hand, the presence of these tools also comes with concerns about academic dishonesty, originality, and critical thinking. The conflicting nature of AI systems emerging as both a helper and a danger has resulted in a nuanced discussion around their adoption in international education.

Supervisors play a key role in this context. They not only guide students through their research but also help them build academic integrity and ethical awareness. By encouraging students to use AI responsibly and thoughtfully, supervisors ensure that technology supports learning without limiting their creativity and critical thinking skills. In Algeria, however, little is known about how supervisors handle this responsibility, whether through training programs, mentorship, or institutional rules. Exploring their role is important as the country works to modernize higher education while maintaining academic standards.

Globally, growing attention has been given to how AI tools are shaping higher education. Studies show clear benefits: these tools can make writing more fluent, reduce language errors, and help new researchers organize their ideas (e.g., Guo, 2024). At the same time, concerns are emerging. Some scholars argue that students risk valuing convenience over originality, which weakens their critical engagement with research (e.g., Deep & Chen, 2025). Others point out that relying too heavily on AI may also limit creativity and slow the development of independent research skills that remain at the heart of higher education.

While international research has examined students' perceptions and usage patterns, less attention has been paid to the role of supervisors in this evolving landscape. A few studies suggest that faculty members struggle to balance encouragement of digital innovation with the enforcement of academic integrity (E.g., Ferguson, 2023). Others reveal inconsistencies in institutional policies, where guidelines exist on paper but are rarely implemented in practice (E.g., Johnson, Davies, & Reddy, 2022). In the Algerian context, the literature remains even more limited. Most local studies on digitalization in higher education focus on e-learning challenges, access to technology, or students' digital skills (E.g., Belkaci & Ouchene, 2022; Sarnou, 2024). Very

few have directly addressed the ethical implications of AI use in academic writing, particularly from the perspective of supervisors. This gap is remarkable because supervision is a key part of higher education. Supervisors help set academic standards and guide students in research ethics. But little is known about how they support students in using AI responsibly, what they think of training programs, or the challenges they face in applying ethical rules. Looking at these issues is crucial to see how higher education is adjusting to AI in research.

The situation is made harder by unclear policies and uneven communication within Algerian universities. Some institutions have guidelines on AI use, but these are applied inconsistently, leaving students and supervisors unsure about what is acceptable. As a result, supervisors often depend on personal judgment rather than clear institutional rules, which creates varied practices and outcomes. This uncertainty makes it difficult to ensure ethical student work and to align Algerian higher education with international standards of research integrity. Studying supervisors' experiences is therefore essential to make sure the use of technology supports, rather than weakens, academic growth and ethical standards.

The present research work seeks to address this gap by examining the role of supervisors in promoting ethical AI use in academic writing at Ahmed Zabana University. Specifically, it evaluates the effectiveness of training programs, explores the strategies supervisors employ, and documents the challenges they encounter. The research is guided by the following questions:

1. How effective are training programs in raising ethical awareness and responsible conduct with AI among Master 2 students at Ahmed Zabana University?
2. What strategies do supervisors at the University of Ahmed Zabana implement to promote responsible use of AI tools among Master 2 students?
3. What challenges do supervisors at the University of Ahmed Zabana encounter in providing ethical AI training?
4. What solutions do they propose to meet these challenges?

By situating these questions within the identified literature gap, the study contributes both empirically and conceptually to the discussion of AI ethics in higher education.

This study makes several important contributions. First, it brings empirical evidence from the Algerian context, where limited research has addressed the ethical implications of AI in academic writing. By focusing on supervisors, the research highlights an underexplored yet crucial actor in shaping students' practices. Second, it evaluates the effectiveness of institutional training programs, providing insights that may inform policymakers and administrators in designing more robust guidelines. Third, the study sheds light on the practical challenges supervisors face and the solutions they propose, thereby offering actionable recommendations for promoting ethical AI use.

More broadly, the study addresses the global concern of overdependence on AI, putting originality, creativity, and autonomous thinking at risk. By

examining the supervisory role, it highlights that ethical use of AI is not just a matter of individual choice but a relational and institutional process that requires mentorship, guidance, and structural support. In this way, the study contributes to both local and international discussions about how higher education **can use AI effectively while protecting academic integrity**.

2. Review of Literature

The advent of artificial intelligence (AI) in higher education has changed academic writing. It provides tools that can boost productivity and creativity. However, along with these advantages come some challenges, such as plagiarism, loss of originality, and risks to academic honesty. This brings up important concerns about the ethical and responsible use of AI. Supervisors play a crucial role in guiding students to use AI ethically by promoting awareness, transparency, and ethical standards. While there has been research on the risks of AI and institutional policies, the supervisor's influence on ethical practices has not been fully explored. Recognizing supervisors as educators and guardians highlights their significance in encouraging responsible AI use. This review aims to gather existing research on ethical AI use in academic writing, emphasizing the supervisor's pivotal position in navigating the intersection between technology and ethics. It aims to outline the challenges, suggest supervisory approaches, and point out areas in the literature that require further investigation.

2.1 Definition of AI in academia

According to Haber et al. (2025), artificial Intelligence (AI) in academia refers to the integration and use of AI technologies, such as machine learning algorithms, natural language processing, and intelligent tutoring systems, in higher education and research environments. Similarly, Crompton and Burke (2023) describe AI in higher education as computer systems capable of performing human-like tasks, such as learning, adapting, and processing information in sophisticated ways. This perspective views AI as adaptable and autonomous rather than static. Schönberger (2024) also highlights how generative AI (like ChatGPT) can transform learning, from personalized tutoring and immersive experiences to testing and predicting outcomes. These Applications align with the educational goals of fostering critical thinking, creativity, collaboration, and communication. Nelson (2024) also highlights how AI is becoming integrated into all aspects of academic work, from teaching and learning to research and administration, to improve efficiency and provide new insights through data analysis. Overall, AI in academia is seen as a dynamic ecosystem that can support and enhance academic activities, but it also requires a thoughtful approach that includes critical thinking, ethical considerations, and strategic decision-making. To increase productivity, customize learning, and enhance academic work, it encompasses tools and systems that support teaching, learning, academic writing, research, assessment, and administrative tasks.

2.2 Artificial Intelligence (AI) in Academic Writing

In recent years, AI has had a major impact on academic writing, changing how scholarly work is produced, revised, and refined. Xu (2025) reports that 77% of academic writers use tools like ChatGPT to improve readability (51%) and grammar (22%) (p. 5). This shows how AI can boost writing efficiency and clarity, especially in diverse and collaborative writing contexts. Rodafinos (2025) also highlights the role of generative AI in student research writing. A qualitative study finds that AI can help with tasks like literature reviews, developing arguments, and organizing content, enhancing overall writing quality while still requiring human guidance (p. 7).

A comprehensive study by Deep and Chen (2025) discusses the advantages and challenges of AI tools like Grammarly, ChatGPT, and QuillBot. While these tools provide immediate feedback on grammar, coherence, and style, they also pose a risk of hindering critical thinking and academic integrity if relied upon too heavily (p. 3). The research suggests that when AI is carefully integrated, it can promote independent learning and enhance writing skills while preserving originality (p. 4).

Guo (2024) mentions another perspective, focusing on how generative AI tools, particularly ChatGPT, are being utilized for the creation of text, plagiarism detection, and language support, particularly beneficial for non-native speakers. Although they recommend not depending too much on AI, and propose the ethical implementation of AI in writing instruction by teachers. Lastly, Chanpradit (2025) presents a study, viewing AI as a tool to increase writing productivity and accuracy by subjecting regular tasks such as grammar checks, plagiarism verification, and citation styles to automation. The study highlights the ethical importance of open AI usage and maintaining scholarly responsibility.

2.3 Responsible Use of Ai in academic Writing

The incorporation of AI in academic writing offers a myriad of advantages, such as improving efficiency, refining language, and supporting research organization. However, using it raises some ethical concerns, particularly regarding plagiarism, originality, and dependency on these tools. Accordingly, it is of paramount importance to use these technologies ethically. According to Carrigan (2024), responsible AI use involves verifying the correctness of AI-generated content, avoiding overreliance, and ensuring transparency by properly disclosing AI contributions. By carefully evaluating AI outputs and keeping control over their own ideas, academics and students can use AI effectively for brainstorming, improving writing clarity, and supporting literature searches. Similarly, Haber et al. (2025) suggest that AI should be seen as a tool to assist, not replace, critical thinking and scholarly judgment.

Recent studies point to the increasing integration of AI-driven tools in the preparation of literature reviews. These technologies are often described as enabling researchers to find pertinent scholarly sources more rapidly and to arrange a lot of information more systematically. By simplifying the

traditionally time-consuming task of reviewing previous research, they can improve overall writing efficiency. Supporters also note that AI tools can assist with summarizing texts, generating passages, and organizing themes across different studies (Bolanos et al., 2024; Tingelhoff et al., 2024).

Despite these potential benefits, the incorporation of generative AI into literature review writing continues to provoke debate within the scholarly community. Critics point out several ethical and methodological risks. Key concerns include accidental plagiarism, unclear source attribution by AI tools, and the risk that AI outputs may reflect only a superficial understanding of research or contain errors. These issues raise questions about the reliability and rigor of AI-assisted literature reviews. Some researchers even warn against using these tools too much, arguing that overreliance could harm academic integrity and weaken the critical thinking and interpretive skills needed to engage deeply with research (Cheng et al., 2025). This indicates that though these tools are a double-edged sword.

2.4 The Role of Supervisors in Promoting a Responsible Use of AI in Academic Writing

Effective supervision is cardinal for successful postgraduate education. Igumbor et al. (2022) explain the role of supervisors in guiding students through the research process, including helping them identify research topics, develop protocols, and integrate into academic communities. The human element of mentorship is *sine qua non* in fostering a supportive environment that encourages student engagement and development. In using AI tools in writing, supervisors play a pivotal role in fostering ethical use of AI tools in students' writing. Haber et al. (2025) emphasize that supervisors are essential in defining guidelines and illustrating best practices. Their insightful guidance can minimize dependency on AI tools, deter plagiarism, and urge students to assess AI-generated content critically rather than accept it blindly. Supervisors, therefore, can incorporate.

in guiding their students, supervisors should see AI not as something to master before their students but as an opportunity to learn with them, creating a supportive and reflective learning environment.. To maintain academic integrity, they need to establish clear guidelines for AI use, encouraging students to disclose both the AI tools and prompts they use, and to discuss these openly within their academic community. Moreover, they ought to cultivate critical thinking and data literacy, enabling students to thoughtfully assess AI's role in research rather than passively accept its outputs. As AI becomes indispensable in academic work, giving all students fair access and support will promote inclusivity. Involving students in shaping AI policies, teaching AI ethics, and including them in research discussions about its benefits, risks, and biases can help them develop responsibly and confidently (Friesen & Polziehn, 2024).

2.5 The Challenges in the Supervisory Role Regarding the Use of AI Tools in Academic Writing

Supervisors across the globe face a plethora of challenges in doing their supervisory tasks. Vassil and Solvak (2012) state that supervisors are usually overburdened with a variety of tasks, such as research projects and administrative work, which can result in an overly hectic schedule and lower the standard of their supervision. This tension may cause issues like delays in completing work, which can discourage students. In academic writing, supervisors should guide students to use AI tools like ChatGPT, Perplexity, and Grammarly ethically. However, this task is difficult because of factors such as limited time, heavy teaching loads, and research responsibilities. These challenges can increase student disengagement and even lead to dropout (Dai et al., 2023).

The rise of AI in academic writing has created new challenges for supervisors, especially in protecting academic integrity. One of the main difficulties lies in detection. Traditional plagiarism checkers can trace copied text from published work, but they are not designed to spot AI-generated writing, which is usually original rather than reproduced. What makes this issue even more complicated is the flexibility of AI: it can adjust to different prompts and even imitate a student's writing style. As a result, it often becomes difficult for supervisors to tell whether a piece of work truly reflects the student's effort or has been produced with AI, particularly when the text is fluent and almost error-free (Felix, 2025).

3. Methodology

3.1 Research Design

This study adopted a mixed-methods approach, combining an online questionnaire and semi-structured interviews to capture both breadth and depth in supervisors' perspectives. The research was conducted in the Department of English at Ahmed Zabana University. By integrating both quantitative and qualitative methods, the study ensured a balanced exploration of trends and detailed insights into supervisors' experiences.

3.2 Participants

The participants consisted of seven master's supervisors responsible for guiding master's 2 students in the Department of English at Ahmed Zabana University. They were selected based on their direct involvement in supervising research projects, which made them well-positioned to provide relevant perspectives.

3.3 Instruments

Two instruments were employed to collect data. The first was a structured questionnaire divided into three sections: (1) background information, (2) strategies for promoting ethical AI, and (3) institutional support requirements. The second instrument was a semi-structured interview designed to complement the questionnaire by encouraging participants to elaborate on their practices, challenges, and insights.

3.4 Data Collection Procedures

The questionnaire was distributed online to the seven supervisors and collected upon completion. Semi-structured interviews were then conducted individually, providing an opportunity for participants to expand on the issues raised in the survey. Ethical considerations, including informed consent and confidentiality, were carefully observed throughout the data collection process.

3.5 Data Analysis

3.5.1 The Analysis of the Questionnaire

The questionnaire was designed to collect supervisors' perspectives on promoting ethical AI use in academic writing. It included three main sections: background information about the participants, the strategies supervisors adopt to guide students, and the challenges they face in ensuring responsible AI practices. The aim was to provide both descriptive and analytical insights into supervisors' experiences, their confidence levels, perceptions of institutional support, and their views on the effectiveness of training programs. The following subsections present the findings in detail.

Section one: Sample Population Background Information

The sample consisted of seven master's supervisors in the Department of English. Among them, four were male (57.1%) and three were female (42.9%). Most participants were between 35 and 54 years old (85.8%), with one under 35 and none above 55. In terms of supervisory experience, the majority had less than five years (71.4%), while two reported five to ten years. Regarding the field of expertise, over half specialized in Didactics (57.1%), followed by ESP (28.6%) and TESOL & Applied Linguistics (14.3%). Concerning AI tool usage, nearly all supervisors (85.7%) reported frequent personal use, while one (14.3%) was familiar but did not use them.

Section Two: Supervisors' Strategies in Promoting Ethical AI Use

The second section of the questionnaire examined the strategies supervisors adopt to promote responsible and ethical AI use among master's students. It explored their approaches to supervision, their confidence in guiding students, and their views on the effectiveness of institutional training. Additionally, this section investigated the extent to which supervisors emphasize key ethical aspects, such as plagiarism, citation, critical evaluation, originality, and awareness of AI-related biases.

1. This part of the questionnaire examined the strategies supervisors adopt to encourage responsible use of AI during postgraduate supervision.

Table1. The Strategies Used by Supervisors in Promoting Ethical Use of AI

Strategy	Percentage
Providing training sessions/workshops	71.4%
Sharing institutional policies and guidelines	71.4%
Offering one-on-one mentoring	57.1%
Demonstrating responsible AI use in my own supervision	42.9%
Integrating ethical use of AI into course assignments	14.3%
Demonstrating responsible AI use in my own teaching/research	14.3%

Source: Khelfat & Benadda, 2025

The results indicate that the most common strategies used by supervisors to promote responsible AI use are *providing training sessions/workshops* and *sharing institutional policies and guidelines* (71.4% each). More than half of the supervisors also rely on *one-on-one mentoring* (57.1%). In contrast, fewer supervisors reported *demonstrating responsible AI use in their own supervision* (42.9%), while only a small proportion integrate ethical use of AI into course assignments or demonstrate it in their teaching/research (14.3% each). This suggests that while supervisors prioritize structured training and policy dissemination, the integration of ethical AI practices into teaching and assignments remains limited. When supervisors were asked what other strategies they used. Some indicated that they use **images to highlight ineffective ways of using AI**, while others selected “**all of the above**”, suggesting a holistic approach. A few supervisors admitted they use **no additional strategies**. One of the most common responses was the **use of plagiarism detectors, particularly Turnitin, to monitor students’ work**.

2. The second question of the second section asked supervisors to assess their level of confidence in guiding students on the responsible use of AI. The findings show that 42.9% of supervisors reported being *moderately confident* in guiding students on the responsible use of AI, while 28.6% indicated being *very confident*. A smaller proportion (14.3%) described themselves as *slightly confident*, and none of the supervisors reported being *not confident at all*. Overall, these results suggest that supervisors generally feel capable of addressing the ethical use of AI, though there remains room to strengthen their confidence through additional training, institutional support, and clearer guidelines.

3. The third question of the second section explored supervisors’ views on the effectiveness of existing training programs and workshops aimed at promoting responsible AI use.

Fig. 1. Supervisors’ perceptions of the effectiveness of training programs/workshops

In your opinion, how effective are the training programs/workshops at your university in promoting responsible AI use among master’s students?
7 responses



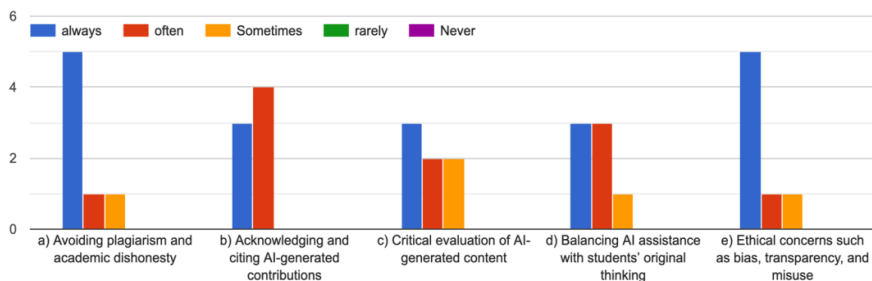
Source: Khelfat & Benadda, 2025

The results show that 42.9% of supervisors found the training programs *slightly effective*, while 28.6% said they were *very effective*. Only 13.4% rated them as *moderately effective*, and 14.3% stated that *no training programs were available*. This means that although some supervisors see the programs as useful, many feel they are only partly effective, and in some cases, not offered at all.

4. The Fourth question of the second part of the questionnaire examined the main criteria supervisors emphasize when addressing AI use with their students.

Fig. 2. The most significant criteria that Supervisors focus on when discussing AI use with students.

To what extent do you emphasize the following when discussing AI use with your students?



Source: Khelfat & Benadda, 2025

As shown in the bar chart, supervisors emphasize avoiding plagiarism and academic dishonesty most consistently, with the majority responding always. Ethical concerns such as bias, transparency, and misuse are also highly emphasized, typically always. Acknowledging and citing AI- AI-generated contributions is frequently discussed with varied emphasis, learning towards often. Critical evaluation of AI-generated content and balancing AI assistance with students' original thinking receive moderate attention, with responses split mainly between "Always," "Often," and "Sometimes." Overall, integrity and ethical issues are prioritized more consistently than aspects related to critical engagement and balancing.

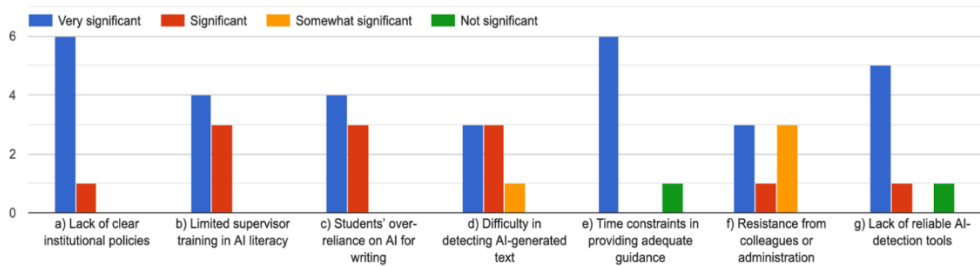
Section 03: Supervisors' Challenges in Providing a Responsible Use of AI

The third section of the questionnaire explored the challenges supervisors face in guiding students toward responsible use of AI. It investigated their satisfaction with current institutional approaches, the specific hurdles they encounter in supervision, and the kinds of support they consider necessary. Together, these insights provide a clearer picture of the structural and practical barriers that shape supervisors' ability to address ethical AI use effectively.

1. The first question of the third section aimed to explore the main hurdles supervisors encounter when promoting the responsible use of AI among students.

Fig. 3. Supervisor’s Hurdles in Promoting Responsible Use of AI

Rate the following hurdles according to how significant you believe they are in your context.



Source: Khelfat & Benadda, 2025

The chart illustrates that the most significant hurdles in promoting responsible use of AI are the lack of clear institutional policies, time constraints in providing adequate guidance, and the lack of reliable AI-detection tools, all of which are predominantly rated as very significant. Limited supervisor training in AI literacy, students' over-reliance on AI for writing, and difficulty in detecting AI-generated text are also significant concerns, with mixed responses between very significant and significant ratings. Resistance from colleagues or administration is generally seen as somewhat significant, with fewer viewing it as very significant or not significant. Overall, the findings highlight major challenges related to policy clarity, resources, and detection tools in managing AI use effectively.

2. The second question of the third section sought to identify the types of institutional support supervisors consider most important for promoting the ethical use of AI.

Table 02. Institutional Support for Ethical AI Use

Support Type	Percentage (%)
Clear institutional policies and guidelines	85.7%
Regular training workshops for supervisors and students	85.7%
Access to AI detection tools	71.4%
Reduced workload to allow more mentoring time	71.4%
Development of AI-integrated curriculum and teaching resources	57.1%
Incentives or recognition for supervisors promoting ethical AI use	57.1%

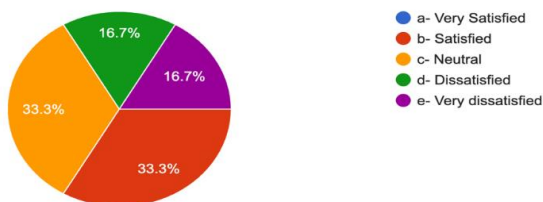
Source: Khelfat & Benadda, 2025

As shown in the table, the most important types of institutional support, according to supervisors, are *clear policies and guidelines* and *regular training workshops* (85.7% each). *Access to AI detection tools* and *reduced workload for mentoring* are also highly valued (71.4% each). Less frequently chosen are the *development of AI-integrated curriculum* and *incentives for supervisors* (57.1% each). This suggests that supervisors prioritize clear guidance and practical support to foster ethical AI use.

3. The third question of the third section aimed to assess supervisors' level of satisfaction with their institution's current approach to managing AI use in academic writing.

Fig.4. Supervisors' Satisfaction with their current approach to AI in academic Writing.

How satisfied are you with your institution's current approach to AI in academic writing
6 responses



Source: Khelfat & Benadda, 2025

As the pie chart indicates, supervisors' satisfaction with the institution's current approach to ethical AI use was mixed. About 33.3% were satisfied, 33.3% were neutral, and 16.7% were dissatisfied. These results indicate that current measures are only partially effective, highlighting the need for clearer policies, better training, and more resources.

3.5.2 Analysis of the Semi-Structured Interviews

Semi-structured interviews were carried out with seven supervisors to gain a deeper understanding of their views on the responsible use of AI in academic writing. While the questionnaire offered numerical data, the interviews gave participants the chance to explain their experiences, challenges, and suggestions in their own words. The goal was to capture the strategies they use, the obstacles they face, and their ideas for promoting ethical AI practices. The next sections present an analysis of their responses to each interview question.

1. Strategies Used in Promoting Responsible AI Use in Academic Writing

The first question of the semi-structured interview asked supervisors about the strategies they used in promoting responsible use of AI in academic writing.

The analysis of responses shows that supervisors use different strategies to promote responsible AI use during supervision. Many supervisors stated that they give training sessions and workshops, while others stressed the importance of sharing institutional policies and guidelines. Some supervisors highlighted the value of offering one-on-one mentoring to give practical examples on how to use AI ethically. Some preferred to lead by example, stating that they demonstrate responsible AI use in their own supervision and research practices. Others, however, relied on detection tools, such as one who explained, *"I use plagiarism detector, mainly Turnitin, to detect my students' work."*

Overall, the findings suggest that supervisors largely rely on training sessions and sharing institutional guidelines to promote ethical AI use.

2. Challenges Supervisors Face in Ensuring Responsible AI Use in Academic Writing

The second question of the semi-structured interview asked supervisors about the challenges they face in ensuring responsible AI use in academic writing. The analysis of the responses shows that supervisors reported several challenges in ensuring the responsible use of AI in academic writing. A common concern was students' weak writing skills and their strong tendency to rely heavily on AI, with one supervisor noting that *"some students don't care about the ethical use of AI tools because they like only to facilitate their learning process, whatever the consequences."*

Another challenge was detecting AI-generated work. Though many supervisors can easily notice AI use in their students' writing, one noted that *"It is so obvious in their style of writing and the ideas they provide. AI style is often robotic and may present unconventional ideas."*

In addition, most of the supervisors stated that time constraints, heavy workloads, and administrative duties hinder them from promoting ethical AI use. One admitted that *"Supervisors have a lot of responsibilities. To that end, it is difficult to find time to give enough supervision."*

Broader institutional barriers, such as the absence of clear policies, lack of resources, and limited digital literacy among staff, were also cited as causes impeding the promotion of responsible AI use in academic writing.

3. Solutions to Overcome These Challenges

The third question of the semi-structured interview asked supervisors about the solutions they propose to overcome the challenges hindering responsible AI use in academic writing.

The analysis of the supervisors' answers suggests several solutions to overcome these difficulties. Many supervisors underscored the importance of training students on the wise and ethical use of AI, raising their awareness about the risks of misuse, and encouraging them to understand the importance of using digital tools as aids to express their thoughts in academic writing rather than copying everything from them. One supervisor reported that *"It is actually harmful to copy-paste information without scrutiny."* This highlights the ethical dimension of the issue.

Others proposed integrating AI ethics into the curriculum through assignments, seminars, or workshops designed to sensitize students to responsible practices. Supervisors also called for new methods of evaluation that value skill development rather than memorization. They suggested practical steps such as improving digital literacy, reducing workload, and using AI detection tools like Turnitin to help both supervisors and students deal with the ethical challenges of AI.

4. Supervisors' Recommendations for Promoting Ethical AI Use in Academic Writing

The fourth question of the semi-structured interview asked supervisors for recommendations to promote ethical AI use in academic writing.

According to the response analysis, supervisors suggested several measures to regulate and promote responsible AI use in academic writing. Many recommended providing advanced AI-detection software, with one noting the need to provide more AI-detection tools. Some supervisors emphasized clear institutional policies and guidelines as essential measures in this context. One supervisor stated, *“Developing clear institutional policies is essential.”*

Raising students’ awareness about the ethical use of artificial intelligence apps was also highlighted. A respondent stated, *“Institutions should help students be more aware of the importance of using AI in ways that make them smarter, not make them cheaters.”*

Additionally, many supervisors recommended hosting workshops and training programs for both students and faculty to spread the culture of responsible AI use and strengthen digital literacy across the institution.

3.6. Discussion

3.6.1 Discussion of Questionnaire Findings

The results of the questionnaire show that most supervisors at Ahmed Zabana University are specialized in didactics and fall within the age range of 35–54, suggesting that they have considerable teaching and supervisory experience. Despite this, their reliance on institutional policies and guidelines rather than practical strategies indicates that ethical AI integration in supervision remains underdeveloped. Supervisors reported moderate confidence in guiding students, and this self-assessment reflects an ongoing struggle to balance traditional supervisory practices with the demands posed by emerging technologies.

Supervisors identified major hurdles, including unclear institutional policies, a lack of reliable AI-detection tools, and time constraints. To that end, they called for clearer guidelines, regular training workshops, and reduced workload. This highlights the urgent need for systemic reforms to align policy with practice. Interestingly, while issues such as student over-reliance on AI and limited supervisor training were also noted, these were considered less pressing than the absence of institutional clarity and resources. This alignment between perceived challenges and desired solutions suggests that supervisors are aware of what is required to make AI integration more effective.

Supervisors also placed an emphasis on academic integrity, particularly plagiarism and bias, over fostering students’ critical engagement with AI-generated content. This shows a predominantly defensive stance, where supervisors act as guardians against misuse rather than as facilitators of responsible innovation. While such a focus reduces the risks of unethical practices, it may also limit opportunities for students to learn how to harness AI tools critically and productively. In other words, the priority remains on preventing academic misconduct rather than cultivating AI literacy.

Supervisors' views on institutional measures were mixed: about one-third were satisfied, another third were neutral, and the rest were dissatisfied. This shows that current policies are only partly effective. While some initiatives exist, they are limited in scope and depth. These results align with other studies that point to similar institutional gaps, where too much focus is placed on plagiarism detection rather than on integrating AI into teaching and learning in meaningful ways.

Taken together, the results of the questionnaire suggest that fostering responsible AI use requires a dual approach: addressing institutional shortcomings through clear policies, resources, and workload adjustments, while also reorienting supervisory practices toward building students' critical and ethical AI competencies. Without such measures, supervisors risk remaining gatekeepers rather than enablers of responsible AI integration in academic writing.

3.6.2 Discussion of Semi-Structured Interview Findings

The semi-structured interviews provided valuable qualitative insights that complemented the questionnaire results by revealing not only what supervisors do but also why they adopt particular practices and how they perceive the challenges surrounding AI use in academic writing.

In terms of strategies, supervisors reported relying on a mix of institutional mechanisms, mentorship, and personal practices. Their emphasis on training sessions, policy awareness, and one-on-one mentoring reflects a proactive attempt to guide students toward responsible AI use. However, the reliance on plagiarism detection tools, such as Turnitin, suggests that supervisory practices remain reactive and compliance-driven, with more focus on detecting misconduct than fostering students' critical AI literacy. This finding resonates with the questionnaire results, where plagiarism and integrity issues were prioritized over encouraging reflective engagement with AI-generated content.

The challenges identified during the interviews also align with survey data, particularly the lack of institutional clarity, inadequate resources, and the absence of reliable AI-detection tools. What the interviews add is a stronger emphasis on the human dimension: supervisors highlighted students' weak writing skills, over-reliance on AI for convenience, and lack of ethical awareness as critical barriers. These observations suggest that institutional shortcomings are compounded by pedagogical and learner-related issues, which increase supervisors' workload and responsibilities. Such findings echo broader debates in higher education, where AI is often seen as both an enabler and a disruptor, magnifying existing weaknesses in academic practice. When reflecting on solutions, supervisors underscored the need for awareness-raising and training, both for students and faculty. Their call for integrating AI ethics into the curriculum, designing assignments that promote skill development rather than rote learning, and adopting innovative evaluation methods points to a shift from reactive to preventive strategies. Interestingly, these solutions also mirror the types of institutional support

supervisors had prioritized in the questionnaire, such as training workshops, policy clarity, and workload management. This suggests that supervisors are not only aware of the problems but also have a clear vision of what is needed to address them, although they lack the resources and authority to fully implement these solutions.

Finally, supervisors' recommendations emphasize a shared responsibility between institutions, faculty, and students. They advocated for advanced AI-detection software, clearer policies, student awareness programs, and ongoing workshops. Their statement that students should use AI "*to be smarter, not cheaters*" highlights a forward-looking vision: moving beyond a policing approach toward cultivating ethical, critical, and creative uses of AI in academic work.

Overall, the interviews reinforce the questionnaire findings but also enrich them by highlighting the human, ethical, and pedagogical layers of the issue. They reveal that while supervisors are committed to promoting responsible AI use, their efforts are constrained by structural barriers, heavy workloads, and limited institutional support. Addressing these challenges requires a systemic approach that integrates policy clarity, digital literacy, curriculum reform, and capacity-building for both supervisors and students.

4. Conclusion

This study was carried out to investigate the role of supervisors in encouraging the responsible use of AI tools in academic writing among master's students at Ahmed Zabana University. By adopting a mixed-methods approach, combining an online questionnaire with semi-structured interviews, it was possible to obtain both a broad overview of supervisory practices and a deeper understanding of the challenges and solutions proposed by supervisors.

The questionnaire findings show that supervisors view existing training programs and workshops as only slightly effective, noting that they often lack sufficient depth and practical relevance. The results also indicate that institutional policies and guidelines are the most frequently relied upon strategy used by supervisors to promote responsible use of digital tools in academic writing. Although supervisors highlighted the value of mentorship, awareness-raising, and leading by example, they face significant challenges, including unclear policies, scarce resources, limited AI detection tools, and excessive workloads. The interviews further emphasized the pedagogical challenges, particularly students' weak writing skills and over-reliance on AI for convenience.

To overcome these challenges, supervisors recommended clearer institutional policies, stronger detection tools, enhanced digital literacy, revised evaluation methods, and regular training sessions for both staff and students. More importantly, they stressed that AI should be integrated into academic work in ways that develop students' skills and critical thinking rather than fostering dependency.

Promoting Responsible AI Use in Academic Writing: The Role of Supervisors in Fostering Ethical Practices

Altogether, the study underscores the need for stronger institutional support and well-structured training programs, alongside pedagogical reforms that address the needs of both supervisors and students. By combining quantitative and qualitative insights, the research highlights that fostering the ethical use of AI in academic writing requires not only policies and tools but also cultural and educational shifts that promote integrity, awareness, and critical engagement.

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6. Appendices

Appendix A: Questionnaire for Supervisors

Title: Supervisors' Perspectives on Promoting Ethical AI Use in Academic Writing

Purpose

This questionnaire aims to collect supervisors' insights regarding their strategies, challenges, and institutional experiences related to the ethical and responsible use of Artificial Intelligence (AI) tools in academic writing.

Instructions:

Please read each question carefully and respond by selecting or writing the option that best reflects your opinion. All responses will remain confidential and will be used only for academic research purposes.

Section 1: Background Information

1. Gender:

- ☐ Male ☐ Female

2. Age:

- ☐ Under 35 ☐ 35–44 ☐ 45–54 ☐ 55 or above

3. Years of supervision experience:

- ☐ Less than 5 years ☐ 5–10 years ☐ More than 10 years

4. Field of specialization:

- ☐ Didactics ☐ ESP ☐ TESOL ☐ Applied Linguistics ☐ Other (please specify): _

5. Do you personally use AI tools (e.g., ChatGPT, Grammarly, Quillbot) in your academic or teaching work?

- ☐ Yes, frequently ☐ Occasionally ☐ Rarely ☐ No

Section 2: Supervisors' Strategies in Promoting Ethical AI Use

1. Which of the following strategies do you use to promote the responsible use of AI in academic writing? (You may select more than one)

- ☐ Providing training sessions or workshops
- ☐ Sharing institutional policies and guidelines
- ☐ Offering one-on-one mentoring
- ☐ Demonstrating responsible AI use in supervision
- ☐ Integrating ethical AI use into course assignments
- ☐ Demonstrating responsible AI use in teaching or research
- ☐ Other (please specify)

2. How confident do you feel in guiding your students on the responsible and ethical use of AI?

- ☐ Very confident ☐ Moderately confident ☐ Slightly confident ☐ Not confident at all

3. How effective do you consider the current training programs or workshops on responsible AI use?

- ☐ Very effective ☐ Moderately effective ☐ Slightly effective ☐ Not effective ☐ No training available

4. When discussing AI use with your students, how often do you emphasize the following aspects?

• Ethical Aspect	Always	Often	Sometimes	Rarely	Never
• Avoiding plagiarism and academic dishonesty	☐	☐	☐	☐	☐
• Citing AI-generated contributions appropriately	☐	☐	☐	☐	☐
• Critically evaluating AI-generated content	☐	☐	☐	☐	☐
• Promoting originality and independent thinking	☐	☐	☐	☐	☐
• Raising awareness of AI-related biases	☐	☐	☐	☐	☐

Section 3: Supervisors’ Challenges and Institutional Support

1. To what extent do the following represent challenges in promoting responsible AI use?

Challenge	Very significant	Significant	Somewhat significant	Not significant
• Lack of clear institutional policies	☐	☐	☐	☐
• Time constraints for supervision	☐	☐	☐	☐
• Limited training in AI literacy	☐	☐	☐	☐
• Lack of AI-detection tools	☐	☐	☐	☐
• Students’ over-reliance on AI	☐	☐	☐	☐
• Difficulty detecting AI-generated text	☐	☐	☐	☐

- Resistance from ☐ ☐ ☐ ☐
colleagues/administration

2. Which forms of institutional support do you consider most important to promote ethical AI use? (You may select more than one)

- ☐ Clear institutional policies and guidelines
- ☐ Regular training workshops for supervisors and students
- ☐ Access to AI-detection tools
- ☐ Reduced workload for more mentoring
- ☐ AI-integrated curriculum and teaching materials
- ☐ Incentives or recognition for supervisors promoting ethical AI use

3. How satisfied are you with your institution's current approach to managing AI use in academic writing?

- ☐ Very satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐
Very dissatisfied

Thank you for your participation.

Appendix B. Semi-Structured Interview Questions

Title: Supervisors' Perspectives on Promoting Responsible Use of AI in Academic Writing

This interview guide was designed to explore supervisors' deeper insights into their practices, challenges, and recommendations for promoting ethical and responsible use of AI in academic writing.

1. What strategies do you use to promote the responsible use of AI in academic writing among your students?
2. What challenges do you face in ensuring that students use AI responsibly in academic writing?
3. What solutions do you suggest to overcome the challenges that hinder the responsible use of AI in academic writing?
4. What recommendations would you propose to promote ethical and responsible AI use in academic writing?