Ethical Use of Generative AI by Master's Students at the Lebanese University Faculty of Education

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Abstract

The use of generative artificial intelligence (GAI) technologies in academic environments is a widely discussed topic in the field of education. This raise concerns on the ethical considerations when using these technologies by higher education students. In the light of the absence of a formal policy by the Lebanese University (LU) regarding the use of AI in the academic contexts, this study aims to explore the extent to which Master's degree students at LU, Faculty of Education use GAI tools ethically in their academic work. Utilizing an online survey conducted with 120 students of the faculty, the study examined the frequency of use of GAI tools by students, purposes, factors, and their practices related to using them, such as critical evaluation, citation, and paraphrasing the AI-generated content to avoid plagiarism. This study also examined some students' opinions and attitudes towards using GAI. The findings suggested that there is a notable level of ethical awareness among respondents, alongside a clear demand for official guidelines by the university on ethical use of GAI. Consequently, this paper concludes that most respondents use GAI tools ethically and highlights a clear need to create comprehensive guidelines by the faculty administration to foster ethical and responsible use within academic endeavors.

Keywords

Generative AI, Academic Integrity, Ethics, Lebanese University

مستخلص

يعد استخدام تقنيات الذكاء الاصطناعي التوليدي في الأوساط الأكاديمية موضوعًا يتم مناقشته على نطاق واسع في مجال التعليم. وهذا يثير مخاوف بشأن الاعتبارات الأخلاقية عند استخدام هذه التقنيات من قبل طلاب التعليم العالي. في ضوء غياب سياسة رسمية من قبل الجامعة اللبنانية فيما يتعلق باستخدام الذكاء الاصطناعي في السياقات الأكاديمية، تهدف هذه الدراسة إلى استكشاف مدى استخدام طلاب الماجستير في كلية التربية في الجامعة اللبنانية لأدوات الذكاء الاصطناعي التوليدي بشكل أخلاقي في عملهم الأكاديمي. باستخدام استطلاع عبر الإنترنت تم إجراؤه مع 120 طالبًا من الكلية، تناولت الدراسة مدى تكرار استخدام الطلاب لأدوات الذكاء الاصطناعي التوليدي، والأغراض، والعوامل، وممارساتهم المتعلقة باستخدامها، مثل التقييم النقدي، والاستشهاد، وإعادة صياغة المحتوى الناتج عن الذكاء الاصطناعي لتجنب الانتحال. تتناول هذه الدراسة أيضًا بعض آراء الطلاب ومواقفهم تجاه استخدام الذكاء الاصطناعي التوليدي. وتشير النتائج إلى وجود مستوى ملحوظ من المشاركة والوعي الأخلاقي بين الطلاب المشاركين في الاستبيان، إلى جانب الطلب الواضح على المبادئ التوجيهية الرسمية من قبل الجامعة بشأن الاستخدام الأخلاقي للذكاء الاصطناعي. وبالتالي، خلصت هذه الورقة إلى أن معظم الطلاب المشاركين يستخدمون أدوات الذكاء الاصطناعي التوليدية بشكل أخلاقي، وتسلط الضوء على الحاجة الواضحة لإنشاء مبادئ توجيهية شاملة من قبل إدارة الكلية لتعزيز الاستخدام الأخلاقي والمسؤول في المساعي الأكاديمية.

الكلمات المفتاحية:

الذكاء الاصطناعي التوليدي، النزاهة الأكاديمية، الأخلاق، الجامعة اللبنانية

Résumé

L'utilisation des technologies de l'intelligence artificielle générative dans les milieux académiques est actuellement un sujet largement débattu dans le domaine de l'éducation. Cela soulève des préoccupations concernant les considérations éthiques lors de l'utilisation de ces technologies par les étudiants de l'enseignement supérieur. En l'absence de politique formelle de l'Université Libanaise concernant l'utilisation de l'IA dans les contextes académiques, cette étude vise à explorer dans quelle mesure les étudiants en master à la Faculté d'Éducation de l'Université Libanaise utilisent éthiquement les outils d'IA générative dans leur travail académique. Utilisant une enquête en ligne menée auprès de 120 étudiants de la faculté, l'étude a examiné la fréquence d'utilisation des outils d'IA générative par les étudiants, les objectifs, les facteurs et leurs pratiques liés à leur utilisation, tels que l'évaluation critique, la citation et la paraphrase du contenu généré par l'IA pour éviter le plagiat. Cette étude examine également les opinions et les attitudes de certains étudiants à l'égard de l'utilisation de l'IA générative. Les résultats ont suggéré qu'il existe un niveau notable d'engagement et de sensibilisation éthique parmi les répondants, accompagné d'une demande claire pour des directives officielles de l'université sur l'utilisation éthique de l'IA. En conséquence, ce document conclut que la plupart des répondants utilisent éthiquement les outils d'IA générative et souligne la nécessité claire de créer des directives complètes par l'administration de la faculté pour favoriser une utilisation éthique et responsable dans les entreprises académiques.

Mots-clés

IA Générative, Intégrité Académique, Ethique, Université Libanaise

1. Introduction

In the past years, artificial intelligence technology (AI) has advanced, and today it's gaining attention across various fields, such as healthcare, finance, manufacturing, media, telecommunication, and education.

1.1. AI & Generative AI (GAI)

AI, as simply defined by Baker & Smith (2019), is computers that perform cognitive tasks. When prompted the GAI tool ChatGPT-4 with "what is GAI?", the generated text was "it's a branch of AI focused on creating new, original content. It uses patterns learned from extensive data sets to generate outputs such as text, images, or sounds that resemble human-made examples" (OpenAI, 2024). Recently, GAI tools have been improving quickly and they can create content and output (ISTE, 2023). According to industry reports by Goldman Sachs (2023), they can increase the global gross domestic product (GDP) by 7% and could replace 300 jobs in sectors relying on knowledge. ChatGPT, Google Bard, and Microsoft Copilot are examples of GAI tools, which are known among students in various educational institutions, and their use is expected to raise in different platforms (Maeng et al., 2023).

1.2. AI & higher education

AI is a fast-growing technology that is being widely used in education (Chiu et al., 2023). In EdTech magazine, Neelakantan (2020) said that AI plays a significant role in education and higher education. And as cited by O'Dea (2023), AI indeed has been highlighted as a crucial technology for postsecondary education in the latest Horizon Reports of 2022 and 2023, and it can be used in higher education for learning and teaching. Moreover, Contact North, which is a major Canadian non-profit online learning society, stated that there's no doubt that AI is linked to the future of higher education (Contact North, 2018).

Today, students can easily access AI technology on their portable devices, like laptops or smart tablets to help them or to do their whole academic tasks quickly. This easy access raises important issues related to ethical use of AI, including worries about academic integrity and academic dishonesty.

1.3. Academic integrity & dishonesty

The international baccalaureate organization IB (2023), defines academic integrity as behaving ethically and responsibly in all academic activities to ensure trustworthiness. Furthermore, according to International Center for Academic Integrity ICAI, which is a non-profit organization established in 1992 to promote academic integrity globally, it involves adhering to six fundamental principles: honesty, trustworthiness, fairness, respect, responsibility, and courage (ICAI, 2021). And as defined by QAA for higher education (2020), academic integrity includes guidelines, values, ethics, and behaviors related to fairness and honesty with academic settings, where it is often mentioned in relation to helping students avoid academic dishonesty. To explain academic dishonesty, Kibler (1988) defined it as student use of someone else's work or giving or receiving academic assistance without permission. It is a serious problem all over the world that persists across all educational levels, including higher education (Hadjar, 2017). Studies showed that although many students admit that academic dishonesty is an unethical behavior, they engage in it at some point (Stephens, 2017). In the context of academic integrity for students, several behaviors are considered unethical, including cheating, buying essays, using smartwatches during exams, and plagiarism (Finchilescu & Cooper, 2017).

1.4. Plagiarism

Plagiarism is simply, as stated in the Cambridge Dictionary website, "the process of practice of using another person's idea or work and pretending that it is your own". Today, the easy access to information through internet led to an increase in plagiarism among students in educational institutions (Ahmad & Fauzi, 2024). Plagiarism lowers the quality of education and research by spreading wrong and incomplete information. It also lowers the trust in educational system since it demonstrates a lack of integrity and intellectual property rights (Siler & Larivière, 2022; Jacsó, 2009).

1.5. Impact of GAI on academic integrity

Research by Slimi (2023) on the effects of AI in higher education found that AI improves higher education by making teaching more efficient and giving graduates new skills, and it also emphasized the need for considering ethical issues in its implementation.

In November 2022, the US company OpenAI released the GAI tool ChatGPT, which quickly raised concerns about academic integrity since its advanced outputs might be misused in university assessments (Sullivan et al., 2023). Within two months, some researchers found that up to one-fifth of students were using AI (Cassidy, 2023). In January 2023, a survey of more than 1000 university students reported that over one-third were using ChatGPT in their assignment's writings, among which 75% of them acknowledged that they considered this to be cheating, but they did it anyway (Intelligent, 2024). Because of this, some universities decided to ban it, and some academics described such tools as "threat" (Sawahel, 2023) and "plague on education" (Weissman, 2023).

Research by Sullivan et al. (2023), focused on the possible dangers by ChatGPT, that might threaten ethics and academic integrity. This study reviewed 1000 articles to examine the impact of ChatGPT on higher education in USA, Australia, UK, and New Zealand. The finding revealed diverse public opinions and university responses, mainly addressing academic integrity and the opportunities to develop new assessment methods. This study also emphasized continuous research and discussion on the implications of the use of AI tools in higher education and their ethical use.

Another study by Hammond et al. (2023) highlighted the threat of automated paraphrasing AI tools to academic integrity by promoting misuse under the pretense of academic assistance.

1.6. Ethical use of AI

As defined in Britannica Encyclopedia, ethics is the discipline concerned with what is right and wrong in behaviors and morals. And according to Lawton and Wigmore (2023), AI ethics refers to guidelines and methods intended to shape the proper use of AI. It's a field that has emerged due to increasing worries about the effects of AI (Kazim & Koshiyama, 2021).

In November 2021, a document called "Recommendations on the Ethics of Artificial Intelligence" created by UNESCO and adopted by 193 member states, outlines global guidelines for ethical and

responsible use of AI. This document set standards to make sure AI technologies respect human rights, support fairness, and protect the environment. It discussed different aspects of AI ethics, such as transparency, accountability, and inclusivity. Moreover, it discussed the effects of AI on all levels of education, including higher education, calling for development of curricula that focus AI ethics and supporting research in AI and AI ethics. On March 2023, UNESCO Director-General Audrey Azoulay stressed the need for stronger ethical guidelines for AI, describing it as "the challenge of our time".

In higher education, an academic integrity policy is the university's ethical standards, values, forms of suitable academic behavior, consequences of academic malpractice, and protocols to deal with violations (Anohina-Naumeca et al., 2020). And according to Tauginienė et al. (2019), having a clear and transparent policy helps to set clear rules and limits, which promote the desired integrity that higher education institutions aim for in both education and research.

1.7. Research Focus

Like many countries around the world, Lebanon is passing through the changes that AI bringing to education. As AI rapidly advances, there is still no formal policy or guidelines at the Lebanese University (LU), Faculty of Education, which guide students on the correct ways to use it in academics which clarify their responsibilities and rights. This gap can make a challenge ensuring that students use GAI tools in the correct way aligning with academic integrity principles. Although AI may improve learning and research capabilities, it may also facilitate academic dishonesty, such as plagiarism, which brings up ethical issues. The absence of institutional guidelines or policy may worsen these issues, as students lack clear rules for the ethical use of AI. This research attempts to examine the realm of academic integrity among the master's degree students at LU, Faculty of Education, particularly in the absence of formal policy or guidelines. In fact, this study will not focus to investigate every facet of the academic integrity, but it aims to explore the extent to which master's degree students at LU, Faculty of Education, have ethical considerations when utilizing GAI tools in their academic tasks, focusing on practices such as acknowledging AI assistance, citing AI sources, evaluating the accuracy, and paraphrasing AI-generated information. Furthermore, this study also explores the frequency of using GAI tools by students, what for and why do they use them, and their opinions. By investigating these aspects, this research seeks to contribute to the development and creation of comprehensive guidelines to

ethical use of AI, and consequently fostering an environment of academic integrity as new technology challenges arise in the future.

This research can be guided by the following question: To what extent do master students at LU Faculty of Education use GAI tools ethically in their academic work?

2. Method

2.1. Research design

The study adopted a quantitative exploratory approach by using an online survey which can collect data of practices, opinions, and attitudes of faculty students related to ethical use of GAI tools.

2.2. Data collection instrument:

A structured 5–8-minute duration questionnaire was developed in Arabic language and administered via Google Forms. As shown in Table 1, this questionnaire is divided into 4 parts, and consists of 20 closed-ended items of multiple-choice questions and Likert scale.

Table 1
Questionnaire Items

	Question	Response Type
Part 1: Demographic Information	Gender	Multiple choice
	Age	
	Major	
	Year of study	
	Familiarity with technology and AI	3-point scale (bad, good, excellent)
Part 2: Use of GAI Tools	Familiarity with GAI tools	3-point scale (low, moderate, high)
	Training received on ethical use	Dichotomous (Yes/No)
	Frequency of use	4-point scale (rarely, sometimes, often, always)
	Purposes of use	Multiple responses
	Reasons for use	Multiple responses
Part 3: Ethical Considerations and Practices	Acknowledging AI assistance	5-point scale (always, often, sometimes, rarely, never)
	Accuracy of AI-generated information	
	Citing sources used by AI	
	Paraphrasing AI-generated content to avoid plagiarism	
Part 4: Attitudes towards Ethical Use of GAI Tools	Necessity for university guidelines	4-point Likert scale (strongly agree, agree, disagree, strongly disagree)
	Personal responsibility in ethical use	
	Assuming AI-generated content without citation is plagiarism	
	Using AI gives an unfair advantage	

Note. This table shows all the items of the questionnaire except the last item.

The last item was a 4-point scale straightforward statement starting from *"Completely ethical, if it is properly cited"* to *"I don't care about ethical considerations as long as it does its job"*.

2.2.1. Validity

A pilot study was conducted to assess the internal validity. Initially, the questionnaire was reviewed by a university instructor to ensure the relevance and clarity of the questions. Based on the feedback, several questions were revised to better suit the study's objectives. Afterwards, the revised questionnaire was implemented on a group of five students from the population for final adjustments before broader distribution.

2.2.2. Reliability

The questionnaire's overall reliability, as measured by Cronbach's alpha, was 0.677 indicating moderate internal consistency. However, reliability could be improved by removing the item related to acknowledging the use of GAI tools, which increased Cronbach's alpha to 0.721. Despite this, the decision was to retain the item due to its importance in assessing ethical considerations when using GAI tools, which is a focus of this study.

2.3. Population & sample

The target population for this study consists of all registered Master's students at the LU Faculty of Education, totaling 585 students across Master1 (M1) and Master2 (M2) levels, with 337 out of them regularly attending classes. The sample included 120 participants, which are approximately 35.6% of the students and covering nearly all specialties within the faculty.

2.4. Sampling method & data collection procedure

A mix of convenience and snowball sampling methods were employed since they're practical, allowing the survey to reach a wide range of students quickly. Data was collected through an online questionnaire on Google Forms. The survey link was sent to a WhatsApp group gathering all majors' delegates, and then forwarded by them to their peers. Some faculty instructors also helped in forwarding this link to their students. This survey was opened for responses for a period of approximately one week. Responses were automatically collected and stored in Google Forms, and then exported to Google Sheets and Microsoft Excel for coding.

2.5. Data analysis

Data analysis was done using IBM SPSS software, Version 23. Statistical significance was set at 5% (p-value < 0.05), and confidence level was 95%. Descriptive statistics were calculated to summarize the responses across all questionnaire items. This included calculating frequencies, percentages, and means to provide a comprehensive overview of the data. In this study, data normality is assessed using the Shapiro-Wilk test, and results indicated a non-normal data distribution (p-value < 0.05), but normality of data is assumed (since sample size is 120 > 31) to use One-Way ANOVA for analysis according to some demographics.

2.6. Ethical considerations

Initially, a formal written request, including a clear description of the research purpose, and an attached copy of the questionnaire, was submitted to the dean of the faculty, seeking permission to conduct the survey. Participants were informed by the research objective, the time required to complete it, and the confidentiality and anonymity of their responses.

Moreover, the study acknowledges using GAI tools, specifically ChatGPT-4, to help present findings of the analyzed collected data. This tool was used also to assist with paraphrasing and translating some textual content. Additionally, Scribbr Citation Generator tool was used to help in generating references of this paper. These tools were utilized responsibly, adhering to ethical standards to ensure everything is transparent and properly credited.

3. Results

3.1. Demographic information of participants (Table 2)

Table 2
Demographic Information of the Participants

	Frequency (n)	Percentage (%)
Gender		
Female	104	86.7
Male	16	13.3
Age (in years)		
21-25	53	44.2
26-30	17	14.2
36-40	16	13.3

	Frequency (n)	Percentage (%)
41-45	15	12.5
31-35	9	7.5
46-50	5	4.2
Over 50	5	4.2
Major		
School Counselling	25	20.8
Educational Technology	22	18.3
Educational Supervision	16	13.3
Teaching Mathematics	12	10
Teaching Life Sciences	12	10
Educational Management	9	7.5
Teaching Chemistry	4	3.3
Special Education	4	3.3
Sports Management	4	3.3
Teaching Arabic Language	4	3.3
Teaching Physics	2	1.7
Teaching English Language	2	1.7
Teaching French Language	2	1.7
DIFLU	2	1.7
Master's program year		
M2 Professional	64	53.3
M1	35	29.2
M2 Research	21	17.5

Note. Total frequency is 120 & percentages may not sum to 100 due to rounding.

3.2. Participants' relationship with technology and AI (Table 3)

Table 3
Participants' Relationship with Technology and AI

	Frequency (n)	Percentage (%)
Relationship with technology in general		
Good	80	66.7
Excellent	38	31.7
Bad	2	1.6
Relationship with AI		
Good	91	75.8
Excellent	13	10.8
Bad	16	13.4

Note. Total frequency is 120 & percentages may not sum to 100 due to rounding.

3.3. Knowledge & Usage of GAI Tools

73.3% (n=88) of the participants reported moderate to high knowledge in GAI tools, while the rest of them reported low knowledge. The mean of the frequency level of using these tools was 2.20 on a scale from 1 (rarely) to 4 (always), indicating that participants are using these tools slightly more frequently than "sometimes" but less frequently than "often." (Table 4).

Table 4
Knowledge and Usage of GAI Tools in Assignments

	Frequency (n)	Percentage (%)
Knowledge of GAI Tools		
High	13	10.8
Moderate	75	62.5
Low	32	26.7
Frequency of Using GAI Tools		
Always	10	8.3
Often	31	25.8
Sometimes	52	43.3
Rarely	27	22.5

Note: Percentages may not total 100 due to rounding.

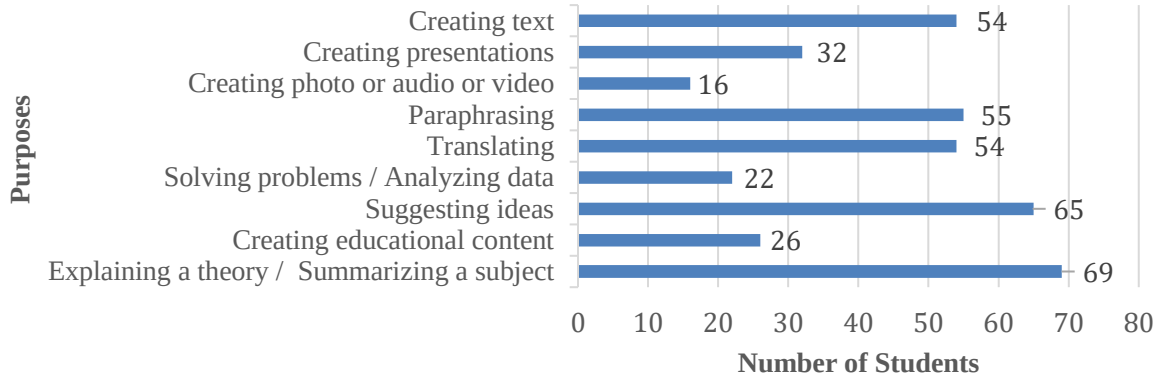
3.4. Formal ethical education in using GAI

Three-quarters of the respondents (n=90) indicated they hadn't received formal education or training in ethical considerations when using GAI tools. Meanwhile, the rest (n=30) did.

3.5. Purposes of, and reasons for, using GAI

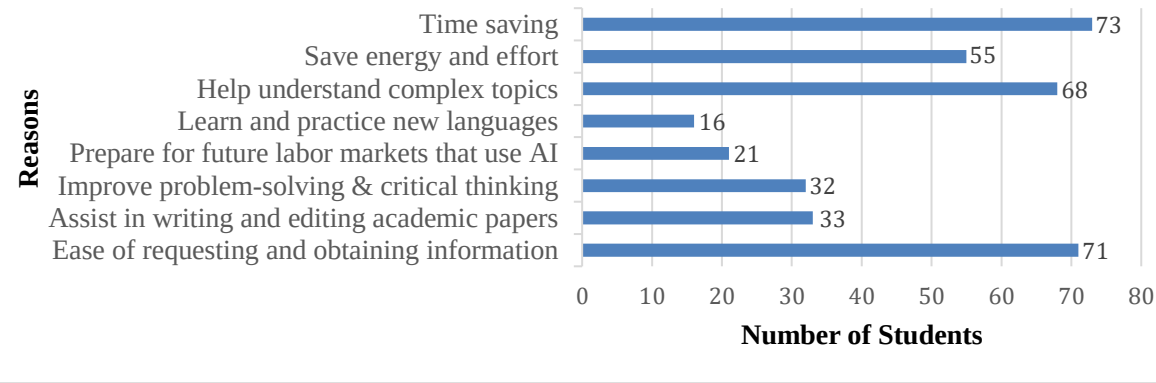
The findings revealed the number of students and their purposes of using GAI (Figure 1), and their reasons for using them (Figure 2).

Figure 1
Purposes of using GAI tools



Note. This Figure shows the distribution of participants according to their purposes of using GAI tools.

Figure 2
Reasons for Using GAI Tools



Note. This Figure shows the distribution of participants according to their reasons for using GAI tools.

3.6. Participants' practices

Participants were asked about their practices concerning the ethical use of GAI tools in their academic assignments, with responses coded as 1 for "always", 2 for "often", 3 for "sometimes", 4 for "rarely", and 5 for "never". The responses were as follows:

- 11.7% (n=14) always acknowledge using AI tools, 35.8% (n=43) often do, 38.3% (n=46) sometimes, 9.2% (n=11) rarely, and 5% (n=6) never do. The average response for acknowledgment was 2.60, suggesting that participants acknowledge using these tools more frequently sometimes rather than often.
- 52.5% (n=63) always critically evaluate AI-generated information, 22.5% (n=27) often do, 15% (n=18) sometimes, 9.2% (n=11) rarely, and 0.8% (n=1) never do. The average response was 1.83, suggesting that participants often critically evaluate AI-generated information.
- 36.7% (n=44) always cite sources, 29.2% (n=35) often do, 20.8% (n=25) sometimes, 7.5% (n=9) rarely, and 5.8% (n=7) never cite. The average response was 2.17, suggesting that citations often occur.
- 40% (n=48) always paraphrase to avoid plagiarism, 30.8% (n=37) often do, 20% (n=24) sometimes, 7.5% (n=9) rarely, and 1.7% (n=2) never do. The average response for paraphrasing was 2.00, suggesting that it often happens.

3.7. Participants' opinions

Participants were asked for their opinions on the ethical use of GAI tools in academic settings with responses coded as 1 for "strongly agree", 2 for "agree", 3 for "disagree", and 4 for "strongly disagree". The responses were as follows:

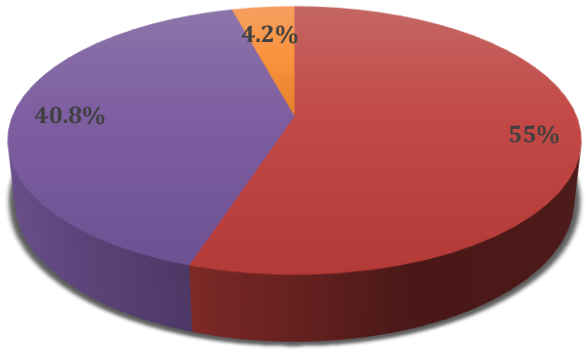
- A majority of 60.8% (n=73) strongly agreed that universities should provide guidelines for ethical AI use, with another 38.3% (n=46) agreeing, and only 0.8% (n=1) disagreeing. The average response was 1.40, suggesting a strong overall agreement on the importance of guidelines by universities.
- In terms of personal responsibility for ethical AI usage, nearly half of the respondents, 49.2% (n=59), strongly felt it was their responsibility, with another 47.5% (n=57) agreeing. Only 3.3% (n=4) disagreed or strongly disagreed, with the average response being 1.56, suggesting a high level of agreement on personal ethical responsibility.
- When it comes to views on plagiarism and AI tools, 48.3% (n=58) strongly believed that using AI tools without proper citation and critical evaluation constitutes plagiarism, and 40.0% (n=48) agreed. However, 11.7% (n=14 people) disagreed or strongly disagreed. The

mean response was 1.65, suggesting a high level of agreement that unethical use of AI tools aligns with academic dishonesty.

- Perceptions of fairness in using AI tools were mixed. While 20.0% (n=24) strongly felt that using AI tools gives an unfair advantage, 47.5% (n=57) agreed, and 32.5% (n=39) disagreed or strongly disagreed. The average response was 2.17, suggesting moderate agreement that AI tools can offer an unfair advantage.

Responses on the final question about their opinion in using GAI tools in their assignments (Figure 3), showed that most participants (n=115) generally consider ethical factors. Only 4.2% (n=5), think using them is ethically questionable and should be avoided. Remarkably, no one chose the option indicating no concern for ethical considerations.

Figure 3
Participants' Opinions in Using GAI Tools in Assignments



3.8. One-Way ANOVA test results

One-Way ANOVA test's results suggested no statistical significance age groups differences in all items of the questionnaire (all p-values > 0.05). Whereas there is a statistically significant differences among majors in classifying their knowledge of GAI tools (p-value = 0.046), acknowledging their usage (p-value = 0.000116), and critically evaluating the accuracy and relevance of the AI-generated information (p-value = 0.012). The rest of the questionnaire items show no statistically significant differences among the majors. Moreover, there is also a statistically significant difference among the Master students of first year M1 and second year M2

(professional or research) in only two questionnaire items: first, their agreement on universities should provide guidelines for using these tools (p-value = 0.02), and Post Hoc Bonferroni showed a significant difference between M1 and M2 research students, indicating that M2 research students agrees more for guidelines compared to M1 students. Second, in agreement of the personal responsibility ensuring that the use of AI tools adhere to ethical standards (p-value = 0.042), and Bonferroni revealed that M2 research students showed more agreement on this responsibility. On the other hand, results showed that there is no statistically significant difference among the M1 and M2 students in the remaining items.

3.9. Summary of findings

Finally, to answer the research question; results showed that most students have no formal education on ethical use of GAI tools. Findings suggested that most respondents have moderate to high level of knowledge of GAI tools, and there is a moderate, but not frequent, use of these tools in their academic work. Findings also suggested that students often evaluate, cite, and rephrase ai-generated content to maintain academic integrity and avoid plagiarism, while acknowledging the usage of these tools happened less frequently. There's also strong agreement on the importance and need for university guidelines on ethical AI use and a high level of personal commitment to these standards. However, responses suggested that there is a moderate agreement that using GAI tools gives an unfair advantage. These Results emphasize the students' ethical awareness and highlight the need for clear policies and educational programs regarding the use of AI tools in academics.

4. Discussion

4.1. Interpretations of findings

This study explored the extent to which master’s students at LU Faculty of Education use GAI tools ethically. Results showed although most respondents lack formal ethical education using them, they demonstrated a notable engagement in ethical practices, and recognize the need for formal ethical guidelines at the university level, along with strong commitment to maintain personal ethical standards.

Most respondents reported a moderate to high knowledge of GAI tools, with a usage which is slightly above “sometimes” but below “often”, suggesting a moderate frequency of using them, aligning with the rapid integration of AI in education worldwide as noted by previous studies (Chiu et al., 2023; Neelakantan, 2020; O’Dea, 2023) and their rapid advancement in creating content in different platforms (ISTE, 2023; Maeng et al., 2023).

The survey revealed that three-quarters of the respondents didn’t receive any formal ethical training in using GAI tools. This suggests possible risks of misuse and emphasizes the need for the faculty to develop comprehensive AI ethical norms and training, as recommended by UNESCO. Despite no formal training, findings showed that respondents engaged in ethical practices, where they are often citing sources by the GAI tools, often critically evaluating, and often paraphrasing ai-generated content to prevent plagiarism, which aligns with academic integrity principles outlined by ICAA (2021) and QAA (2020), which indicates an effort and engagement in maintaining ethical standards. However, participants showed a less frequent practice of acknowledging the usage of GAI tools compared to the previous practices, indicating a potential transparency issue which is a form of academic dishonesty.

Although findings indicated that respondents have responsibility and engaged in ethical practices, Ahmad and Fauzi (2024) claimed that internet increased plagiarism, worsening academic dishonesty across different educational levels (Hadjar, 2017; Kibler et al., 1988), and study by Sullivan et al. (2023) and Intelligent (2024) highlighted concerns and actual misuse of the AI tool ChatGPT in academic settings, showing that students often use such tools unethically. This implies that even though students try to adhere to ethical standards, their behavior may still lean toward unethical practices, which aligns with Stephen (2017). Moreover, while our findings indicated that respondents often paraphrased AI-generated content, Hammond et al. (2023) raised concerns about the misuse of automated paraphrasing AI tools which might threaten academic integrity.

Results also revealed that respondents strongly agreed that universities should provide guidelines for ethical GAI use in academic settings. They also felt strong personal responsibility for their use, and strong agreement that using them without citations is considered plagiarism. These views of students align with UNESCO recommendations (2021) which emphasize transparency, accountability, and inclusivity, like academic integrity policies noted by Anohina-Naumeca et al. (2020). Also, there were mixed perceptions about the fairness, it indicated a moderate agreement

that GAI tools offer advantages to those who use them in academia, this can suggest developing educational programs that teach all students about using them.

4.2. Limitations & recommendations

Even though the questionnaire was distributed by classes representatives for all students, the response rate was lower than expected, and the sample size just reached 35.6% of the population. This may be due to the sensitive subject of the research, which could prevent students from participating. Moreover, the use of a mixed convenience and snowball sampling method has its limitations, particularly the representativeness of the findings. These non-probability sampling methods may lead to selection bias, and consequently might not represent the boarder population accurately. Additionally, another limitation is the desirability bias, where participants might answer questions that reflect what is acceptable to others, rather than how they truly behave and feel, which can also affect the accuracy of the findings.

Future research could involve more reliable random sampling approach for boarder and representative sample. In addition to a questionnaire, research can also use more objective methods like observations of students' practices and analyzing their actual academic assignments to confirm and verify the accuracy of the self-reported data.

5. Conclusion

This research shows that many master's students at LU faculty of Education, among who participated, are familiar with GAI tools and use them in their academic work, but there is a lack in formal ethical use of AI in education among most of participants, which confirms the necessity for comprehensive guidelines or policy. Despite this, many participants practice ethical behaviors such as evaluating, citing, and paraphrasing AI-generated content, though acknowledging AI use is less frequent. There is strong support among respondents for the university to provide clear guidelines on ethical AI use. To sum up, these findings highlight the need for policies and training programs to ensure responsible AI usage, maintaining academic integrity as AI technology keep evolving in the future.

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