



WAJASS VOL. 4 NO.1
ISSN: 2714-4607
JANUARY-DECEMBER, 2024

ARTIFICIAL INTELLIGENCE AND ACADEMIC WRITING: A GLOBAL EXPLORATION OF STUDENT PERCEPTIONS AND ATTITUDES

By
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Abstract

The landscape of academic writing is undergoing a significant transformation due to the introduction of technologies for artificial intelligence (AI). These tools offer a variety of functionalities, from grammar and plagiarism checking to content generation and feedback provision. As AI integration in education grows, understanding student perceptions and attitudes towards these tools becomes increasingly crucial. This study examined how common AI usage is, what students thought about AI-powered academic writing tools, and what best practices are for integrating AI into academic settings globally. Employing a mixed method nested design with global reach, the study investigates the potential benefits and concerns of AI writing tools and suggestions to academic institutions. A voluntary sample of 255 participants from 6 continents completed a questionnaire adapted to Google Forms, combining quantitative and qualitative surveys. Participants under 18 received parental or caregiver assistance. The findings show that 8 in 10 students (80%) have used AI, and 1 in 10 students always use AI to accomplish academic writing. Most students (60.0%) used AI in their research work; there was no attitudinal ethical disparity in the use of AI in academic writing; however, there were concerns that the use of AI constitutes academic dishonesty, promotes academic laziness, and reduces thinking ability. The study also shows that AI has come to stay; therefore, it should be included in the academic curriculum and adequately cited if used.

Keywords: *Artificial Intelligence, Academic Writing, Ethical Considerations, Ethical practices*

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Introduction

Artificial intelligence (AI) has a long history, dating from ancient Greece to the 17th century. John McCarthy coined the term in 1955 and organised the Dartmouth Summer Research Project on AI (Staff, 2024). Early work focused on symbolic approaches to capture human knowledge and reasoning. However, the complexity of human intelligence led to a decline in funding and interest, known as the "AI Winter." Despite these challenges, research continued in the machine and deep learning areas. Improvements in machine learning and artificial neural networks contributed to the rebirth of AI in the late 20th century (Russell & Norvig, 2016). The success of algorithms like IBM Deep Blue chess and AlphaGo's victory over Lee Sedol showcased AI's capabilities in mastering complex games (Silver et al., 2016). It has recently assisted many in academic writing (Wu, 2023). Academic writing is the foundation of higher education, which teaches students research, communication, and analytical thinking abilities (Hacker, 2008). However, writing may be difficult, and students often experience irritation and feelings of inadequacy (Yoon, 2011). AI-driven writing instruments may be able to solve these issues. (Aitchison & Bawden, 2017; Chen & Chien, 2019).

With the development of technologies like writing helpers, grammar checkers, and automated essay grading systems, artificial intelligence has significantly impacted academic writing. (Niemann, 2022). AI tools can enhance writing by providing real-time feedback, suggesting improvements, and even generating text, thus reshaping how students approach academic writing (Binns, 2023). This has led to the rise of AI writing tools, significantly impacting academic writing practices. These tools offer a range of functionalities, such as grammar and plagiarism checks, content generation, and paraphrasing (Hu, 2023). While AI can enhance efficiency and offer writing support, ethical concerns regarding potential misuse and authorship authenticity have emerged (Yuan et al., 2022).

Understanding student and researcher perceptions of AI writing tools is crucial for navigating this technology's ethical and educational implications. AI writing tools can generate text formats like essays, summaries, and even code, influencing several phases in writing an academic paper (Chen, 2023). This trend is evident globally, with universities and researchers in diverse regions examining how AI may improve writing and research (Yang et al., 2022). AI tools can assist with grammar and plagiarism checks, freeing up

time for writers to focus on higher-order thinking and research (Aitchison & Bawden, 2017). They can suggest sentence structure, vocabulary choice, and citation formatting, aiding writers struggling with specific writing aspects. Also, they can democratise academic writing by supporting students with language barriers or learning disabilities (Ferguson et al., 2021).

Despite all the advantages, relying too much on information produced by AI puts academic integrity at risk and increases the likelihood of plagiarism (Calzada, Prado & Pérez-Latorre, 2020). Over-reliance on AI tools might make it difficult to distinguish between writers and create doubts about the validity of student work (Aitchison & McNeill, 2019). Also, using AI carelessly for writing assignments may prevent students from developing their research, writing, and analytical thinking abilities (Lee & Ryu, 2021). Additionally, it has been seen that AI systems may reinforce pre-existing biases in language and knowledge creation, which may influence academic results and student work (Bostrom & Yudkowsky, 2014).

Students are becoming increasingly fascinated with AI, as it is readily available for free on social media platforms such as WhatsApp and web searching tools such as Google, Microsoft Edge, and PDF document viewer. One only wonders how the students see AI's use in academic writing.

In such situations, universities and other learning institutes, including primary schools, should establish clear policies and guidelines on using AI writing tools to promote academic integrity (Yuan et al., 2022). Institutional policies and support structures can play a critical role in the adoption and helpful use of AI tools (Wilson & Chen, 2024). There is a need to emphasise insightful analysis skills to help students effectively utilise AI tools for content analysis and research support, not content generation (Calzada et al., 2020; Coates, 2020). Developers of AI writing tools also need to prioritise ethical design principles to mitigate bias and ensure transparency in content generation algorithms (Bostrom & Yudkowsky, 2014).

Statement of the Problem

While studies on the influence of AI writing tools on student learning are emerging (Wu, 2023), a broad understanding of student perceptions and attitudes on a global scale is lacking. The implementation of AI in academic writing raises a multitude of concerns, such as students' perception of

potential advantages of using AI writing tools (e.g., efficiency, reduced errors), the primary ethical concerns regarding AI use in academic writing (e.g., plagiarism, authorship issues), and the influence of AI on their development of writing skills and insightful analysis. This gap in knowledge hinders the development of effective pedagogical strategies for integrating AI tools into academic writing instruction. By exploring students' perspectives across diverse educational contexts, this study provided valuable insights for educators seeking to leverage the prospects of AI while mitigating potential risks.

Objectives

This study aims to:

1. Assess the prevalence of AI utilisation in academic and non-academic activities
2. Explore the awareness, perceptions, and attitudes of students about AI utilisation in academic writings
3. Identify potential strategies for effective AI incorporation in academic activities to encourage responsible and ethical use of AI generative writing tools in academic environments.

Theoretical Framework and Literature Review

Three theories are the foundation for this research: Marshall McLuhan's Technological Determinism, Donald MacKenzie and Judy Wajcman's Social Shaping of Technology, and Fred Davis' Technology Acceptance Model (TAM). These ideas provide opposing and complementary viewpoints that lay the groundwork for comprehending how technology impacts society and vice versa. According to McLuhan's (1964) theory of technological determinism, technology is primarily responsible for transforming society by affecting cultural values and social structures. According to this perspective, technical advancements impact social institutions, cultural practices, and human behaviour in addition to determining the direction of social development. To put it another way, technological determinism holds that societal development is influenced by technology. This idea is relevant for examining how people believe that advances in AI are changing the way academic writing is done (Smith, 2022).

According to MacKenzie and Wajcman's (1999) research on the social shaping of technology, society and technology are mutually influenced.

According to this viewpoint, social, political, and economic variables influence technical advancement, and societal norms, values, and power structures influence how technologies are developed, applied, and employed. That is, social variables influence technology utilisation. This viewpoint aids in the analysis of how cultural settings and educational practices affect students' views towards artificial intelligence (Williams & Thompson, 2023).

According to Davis (1989), who developed the Technology Adoption Model (TAM), perceived utility (PU) and perceived ease of use (PEOU) are the two main determinants of technology adoption and usage. PEOU is the degree to which an individual thinks that using a specific technology or system would be effortless, increasing the likelihood of adopting and using it. Conversely, perceived utility (PU) denotes an individual's belief that using a given system or technology would improve their ability to execute their work or accomplish particular objectives. According to the concept, these two aspects influence users' attitudes towards technology, impacting their actual use behaviour. The TAM offers a framework for comprehending how and why people embrace and utilise technology. Academic writing and learning results are improved by the perceived value of AI technologies (Venkatesh & Davis, 2000).

Research has been conducted to investigate students' perceptions of academic writing, how they feel about it, and how it affects their learning objectives. Below is a review of a few of these investigations. Students' opinions on AI in academic papers might vary widely. According to research, students' acquaintance with AI technologies varies; some use them often, while others are oblivious to their potential (Lee et al., 2021). Because AI tools may provide quick feedback and help with grammar and style, students often value them (Smith & Jones, 2022). According to research, there are a few critical issues, including an excessive dependence on technology, possible inaccuracy, and ethical questions with academic integrity (Doe & White, 2024).

It has been discovered that cultural views towards technology and education impact how AI technologies are viewed and used globally (Kumar & Lee, 2023). The incorporation and use of AI have been influenced by differences in teaching methods and course offerings (Martinez, 2022).

Schor (2023) discovers that cultural views significantly impact how students evaluate and utilise AI in their writing practices. The research explored students' impressions of AI writing tools from a cross-cultural viewpoint. According to the research, cultural views substantially impact how much students appreciate and incorporate AI into their work. These results make understanding regional differences in students' perceptions of AI in educational settings possible. Understanding how various cultural settings influence attitudes towards AI in writing academic papers is one of Schor's critical areas of focus, and her study offers insightful information on the worldwide investigation of student perspectives.

From the viewpoint of a student, Li and Zhang (2022) examine the benefits and limitations of AI technologies in academic writing. Their research addresses issues related to academic integrity, the possible loss of personal writing talents, and factors like enhanced writing efficiency and help with grammatical correction. This research offers a balanced view of the benefits and challenges of AI in writing academic work. Understanding student attitudes and perceptions—particularly regarding possible risks and rewards—is strongly related to this scholarship's balanced assessment of the advantages and difficulties of AI in academic work.

Nguyen and Wang (2021) found that there are worries about plagiarism, excessive dependence on AI tools, and AI's ethical ramifications for scholarly work in a study that examined the effect of AI-assisted writing tools on academic integrity among university students. An essential component of the student's views and attitudes discussed in the paper is the ethical considerations surrounding using AI tools in academic papers, and this study sheds light on these issues. Their results raise issues with plagiarism, excessive use of AI technologies, and the ethical effects of using AI in academic papers.

Students' responses to using AI tools in writing academic papers are varied. According to Graham and Patel (2023), many students see AI technologies as beneficial resources that support productivity and learning. Some worry about the quality of material AI produces and how it would affect their writing ability (Anderson & Lee, 2022). Some students have a balanced perspective, acknowledging the advantages and disadvantages of AI tools (Brown, 2024).

Brown and Jones (2024) examine how students feel about artificial intelligence in various educational environments. Their research found that institutional support and the incorporation of AI techniques impact student attitudes and views. They discuss differences in acceptability and utilisation according to institutional regulations and the educational setting. Investigating institutional and global impacts on student attitudes towards AI tools in academic writing is closely related to this research.

Zhang and Kim (2023) assess how AI writing aids impact student learning outcomes, such as enhanced academic achievement and writing abilities. They also assess the advantages and disadvantages of using AI to improve learning environments. Findings show the efficiency of AI tools in improving academic writing and learning outcomes. This offers insightful information on how students see the value and implications of AI. Although previous studies have examined students' feelings about academic writing, this one aims to explore these ideas deeper. Academic integrity is becoming a growing concern as artificial intelligence becomes more widely used.

Methodology

This study employed a mixed methods nested design (Creswell & Plano Clark, 2018). Data collection co-occurs, utilising quantitative and qualitative approaches to understand the phenomenon thoroughly. A voluntary sampling method was used to select the participants. Two hundred fifty-five participants from diverse locations completed the online survey, self-developed and adapted to Google Forms. The instrument combined quantitative and qualitative elements, including closed and open-ended questions exploring participants' perceptions, experiences, and suggestions for responsible AI use. Participants provided informed consent before beginning the survey to ensure ethical data collection. The study adhered to ethical guidelines for research involving human subjects. Participants aged 17 and below received parental or caregiver's consent and assistance when completing the survey. Quantitative data was analysed using descriptive statistics, while qualitative data from open-ended questions was analysed using thematic analysis to identify recurring themes and patterns in participant experiences and suggestions.

Dada presentation and analysis

This study sought to understand students' prevalence, perceptions, and attitudes about using artificial intelligence in academic writing and strategies for integrating AI in the educational environment.

Demography

Table 1 shows the demographic characteristics of the participants in this research. The participants were at least ten years old, with the majority (87.1%) being 21 and older. There was no gender disparity, as there was almost equal participation by gender. Almost all (97.6%) are Christians by religion. Most participants (67.9%) are at least undergraduate students, and although 6 of the world's continents were represented, the majority (89.8%) are residents of Africa.

Table 1: *Demographic Data of the Participants*

Item	Demography	Frequency	Percentage
1	Age		
	10 – 15	1	0.4
	16 – 20	32	12.5
	21 – 25	44	17.3
	26 – 30	30	11.8
	+31	148	58.0
	<i>Total</i>	255	100.0
2	Gender		
	Male	128	50.2
	Female	126	49.4
	Other	1	0.4
	<i>Total</i>	255	100.0
3	Religion		
	Christian	249	97.6
	Muslim	5	2.0
	No Religion	1	0.4
	<i>Total</i>	255	100.0
4	Education		
	Secondary	8	7.8
	Certificate/Diploma	21	20.4
	Bachelor	37	35.9
	Master	33	32.0

	Doctorate	4	3.9
	<i>Total</i>	255	100.0
5	Continent		
	Africa	229	89.8
	Asia	1	0.4
	Europe	9	3.5
	North America	9	3.5
	South America	4	1.6
	Oceania	3	1.2
	<i>Total</i>	255	100.0

Hence, demographic implications will not be considered when presenting the findings since there are disparities in age, religion, education, and global representations.

Prevalence of AI Use

Awareness about AI

Participants were asked about their awareness of AI. The majority (84.1%) of the participants had heard about AI, while 15.9% indicated that they had never heard about AI. Most participants (59.6%) indicated that their educational institutions have talked about the use of AI, while 40.4% indicated that their schools said nothing about AI. A significant minority (32.5%) indicated that AI was taught to the students, while the majority stated that AI was not taught in their schools. These findings reveal that although most students know about AI, only a few academic institutions have taken it seriously. The seriousness, which includes teaching students to utilise AI in academic writing, may have included developing policies around it.

The Use of AI

The usage of AI was investigated to determine its prevalence. Table 2 shows that all the participants have access to either a smartphone or computer and the internet, which they have engaged with from occasional use always to use. Most participants (80.0%) have used AI at least once or for academic and non-academic work. Consequently, 8 in 10 students use AI for academic and non-academic activities. Also, 1 in 10 students always use AI to accomplish academic work.

Table 2: *Phone/Computer, Internet Access, and AI*

Item	Never	Rarely	Occasional	Often	Always
6 Phone/computer access	0.0	0.0	3.5	12.9	83.5
7 Internet access	0.0	0.0	4.3	29.0	66.7
8 Use of AI for academic work	20.0	14.9	34.5	20.4	10.2
9 Use of AI for non-academic work	20.0	26.7	27.1	18.8	7.5

Some Tasks and Volume of Academic Work Accomplished Using AI

When the participants were asked, “For what specific task do you use artificial intelligence in school?” most (60.0%) indicated that AI is significantly used to accomplish research work amidst other purposes, as shown in Figure 1. Regarding the volume of AI involved in academic writing, 22.3% indicated using AI to achieve a “large part of the work” to “the whole work”, as shown in Figure 2.

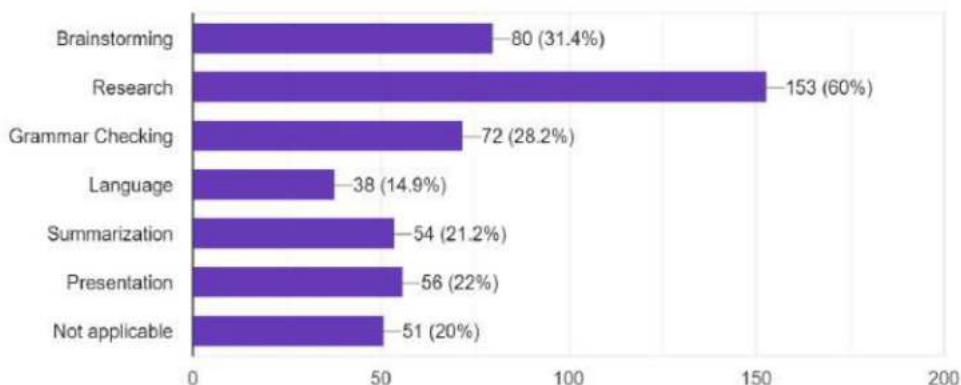
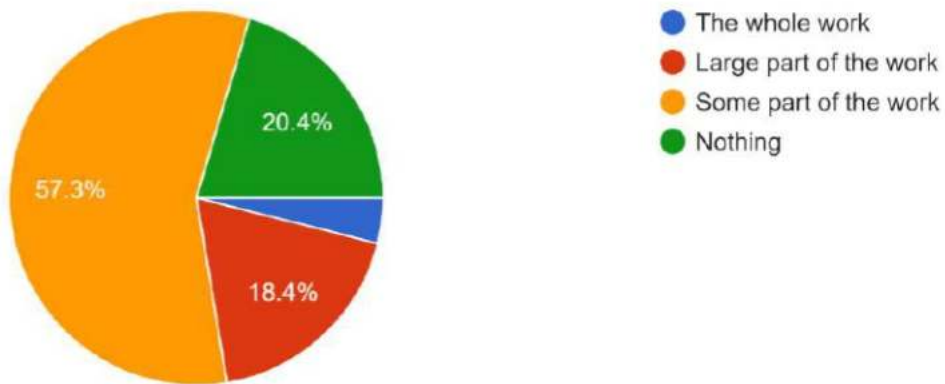
Figure 1: *Tasks Accomplished Using AI*

Figure 2: *Volume of Work Accomplished Using AI***Perception of Students about AI**

From the qualitative survey, the participants were asked about their perception of the usage of AI in academic writing; the perceptions were positive and negative, as thematised herewith:

Positive Perceptions of AI include,

1. AI has come to stay
2. AI is valuable and suitable for accomplishing academic writing
3. AI makes academic writing easier and faster
4. AI brings accuracy
5. AI helps in solving complex questions
6. AI shapes students thinking
7. AI is a tool just like many other tools used in academic research
8. AI helps in academic scholarship (review of literature)
9. AI helps in spell-checking and grammar correction
10. AI helps with brainstorming

Negative Perceptions of AI include

1. AI reduces thinking ability
2. AI is fast replacing originality
3. AI promotes academic dishonesty
4. AI use in academics is a poor way of studying
5. AI is eroding the human components of life
6. AI promotes intellectual laziness
7. AI is useless since God gave humans intellect; they should use it

Attitudes Associated with the AI Usage

This study also investigated students' attitudes and feelings when they use AI to accomplish their academic work.

General Attitude

Table 3 shows positive (Items 10, 13, 14) and negative (Items 11 and 12) feelings/attitudes toward using AI to accomplish academic assignments.

The majority felt good (82.9%; Item 10), felt better informed (79.8%; Item 13), and most (60.8%; Item 14) felt accomplished using AI to fulfil their academic assignments.

Negatively, almost half of the students felt guilty (47.1%; item 11) and incompetent (43.0%; item 12) using AI to accomplish their academic assignments.

Attitude Towards Ethical Practice of AI

Assessing the participants' attitude to the ethical nature of using AI, there is no attitudinal disparity between those who believe it is moral to use AI in writing academic papers (49.4%) and those who think it is unethical (50.6%). However, when the participants were asked if the usage of AI constitutes academic dishonesty, most participants (60.4%) indicated "No," while 39.6% indicated "Yes." This suggests that the use of AI in accomplishing academic work raises ethical concerns.

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Table 3: *Attitudes towards AI Usage*

Item		SD	D	SWA	A	SA
10	I feel good using Artificial Intelligence in accomplishing academic assignments	8.3	8.8	30.9	35.0	17.0
11	I feel guilty using Artificial Intelligence to accomplish academic assignments	12.5	40.4	23.8	16.6	6.7
12	I feel incompetent using Artificial Intelligence in accomplishing academic assignments	17.1	39.6	16.6	15.2	11.5
13	I feel better informed using Artificial Intelligence in accomplishing academic assignments.	6.7	13.5	19.3	36.8	23.7
14	I feel accomplished using Artificial Intelligence in accomplishing academic assignments	13.2	26.0	26.3	25.5	9.0

Note: Strongly Disagree = SA; Disagree = D; Somewhat Agree = SWA; Agree = A; and Strongly Agree = SA.

Concern about AI Use in Academic Writing

Within the framework of students' attitudes towards AI usage in accomplishing academic writing, this study assessed if there is any concern about the usage of AI. Most participants (72.9%) show concerns, while 27.1% indicated no concerns about using AI in academic writing. Table 4 shows some of the problems.

Table 4: *Concerns about AI*

Item	Concerns	Percentage
15	It is cheating	2.8
16	It promotes academic laziness	44.2
17	It reduces thinking ability	46.9
18	Inaccuracy of AI	5.5
19	“Hallucinations”	0.6
Total	Total	100

Table 4 shows that participants are more concerned about academic laziness (44.2%) and reduced thinking ability (46.9%).

Use of AI in Academic Setting

Using a qualitative survey, the participants were asked how the schools and teachers should approach AI usage. There were positive and negative views about including AI in academic activities. The responses are thematised:

Positive opinions about the utilisation of AI in schools:

1. The school should be open about the new development
2. Teachers and Students should acknowledge the utilisation of AI by appropriate citation and reference
3. The students should be taught about AI usage in academic writing
4. Since some teachers also use AI, students should be left alone to use AI
5. The school should encourage the usage of AI with supervision
6. Artificial intelligence ethics and academic integrity should be embedded into teacher training, ongoing professional development for the existing workforce, and student curricula.
7. The teachers should be educated on how to use AI ethically and how to identify inappropriate use of the tool by students
8. AI should be part of the academic curriculum, but more emphasis should be on reading books in the library
9. AI should be used with caution
10. Advanced AI can only be used to support lectures or human teachers
11. AI should not take the whole place of other research and data-gathering methods
12. They should promote the use of natural intelligence

Negative views about the usage of AI in schools:

1. Discourage the students from using it by giving more sit-in and handwritten exams
2. AI is replacing humanity. Education should not be part of the dehumanisation
3. Scepticism about the spiritual implications of interacting with machines that respond like human beings

These views clarify that academic institutes may adopt strategies for integrating AI into educational curricula, make policies regarding its use, and teach students how to use it, especially in the appropriate citations and references, to mitigate plagiarism.

Discussions of Findings

This study is concerned with using artificial intelligence (AI) in academic writing. It investigates global experiences regarding the prevalence of AI usage among students and their perceptions, attitudes, and strategies for incorporating AI in education institutions.

Artificial Intelligence (AI) has become a precious tool in academic writing. It can assist in generating summarised text and provide conversational responses to research questions (Ellis, 2023). AI is a tool like any other, such as a calculator or statistical package for the social science (SPSS) used in mathematical and statistical analysis, respectively. AI is a step further in generating information in the twinkling of an eye.

Numerous surveys and studies have examined the prevalence of AI usage among students. In 2023, a research finding revealed that 17% of Americans thought students typically used artificial intelligence (AI) to help with their academic tasks, and 15% agreed that students continued to use AI even when it was against the rules (Statista, 2024). According to Turnitin's AI detection tool, about 10.3% of student papers had at least 20% AI-generated material (TechLearning, 2024). According to another survey conducted in 2023, 27% of students were utilising AI writing tools; by the autumn, that number had risen to 49% (Inside Higher Ed, 2023). This study revealed a more alarming prevalence of about 80% as self-reported by the participants. This means that more and more students are getting conversant with the helpfulness of AI, that 8 in 10 students now use it at least

minimally, with 1 in 10 students using it entirely to accomplish their academic work.

Using AI entirely to carry out academic work calls for serious attention. Unfortunately, students' perceptions of AI use vary, with factors such as perceived usefulness and ease of use impacting their attitudes and intentions towards AI-based systems (Davis, 1989; MDPI, 2023). Studies have explored college students' understanding, belief in potential benefits, and concerns about AI (IIISCI, n.d.). University students are willing to engage with generative AI technologies, recognising potential gains and challenges (SpringerOpen, 2023). High school students using AI chatbots for English learning have also expressed their perceptions, highlighting benefits, concerns, and ethical considerations (ERIC, n.d.). These were also evident in this current study. This study shows that using AI is very beneficial as it makes academic writing easier and faster, helps to achieve the accuracy of the information and engages in a comprehensive review of the literature. However, it is also evident that AI can make one lazy, hinder constructive thinking, and constitute academic dishonesty. Surprisingly, when the participants were asked about the ethical nature of using AI to accomplish academic writing, there were almost equal positions. About half hold that it is ethical, and the other half hold that it is unethical. Notwithstanding, the participants still expressed concern about academic honesty.

In this situation, educational institutions must take a stand to encourage the use of AI. As the participants of this study proposed, banning AI will do no good. It is becoming increasingly available even on social media platforms and writing software. Hence, teachers must be familiar with using AI and its inclusion in the academic curriculum. Teaching the students the art of AI usage will be more beneficial than discouraging it. Of course, AI has come to stay, and this is just the beginning. In fact, Ellis (2023) suggests that one way to utilise AI productively in academic writing is to reference it like any other scholarship employed in academic writing. In other words, students should be open and accessible to cite the source of their scholarship, even if it is from AI.

The use of generative AI in academic publications is governed by regulations adopted by the APA Publications and Communications Board. These guidelines mandate that AI be disclosed when writing manuscripts, citing sources, and using software citation templates. In APA papers,

writers must submit the whole output of AI as extra material, and AI cannot be listed as an author. As awareness of generative AI's influence on academic writing grows, so will these policies (American Psychological Association [APA], 2023; Normandale Community College, 2024)

Conclusion

This study adds to our knowledge of how researchers and students worldwide view using artificial intelligence (AI) in academic writing. The research found that using AI in academic writing is quite common. It demonstrates favourable and unfavourable views towards using AI in academic writing. By examining the perceived advantages and ethical issues, this study contributes to creating policies and tactics for the ethical integration of AI writing tools in academic contexts.

Limitations

The study's reliance on voluntary sampling may limit its generalisability to the entire population of students and researchers. The online survey may introduce potential biases associated with internet user demographics. Additionally, the disparities in demographic characteristics make global comparisons untenable.

Future Research

Future research can explore the pedagogical implications of AI writing tools, investigating their impact on learning outcomes and writing instruction practices. Furthermore, longitudinal studies could track the evolution of student and researcher perceptions of AI as this technology develops.



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