

Generative AI Literacy and Responsible Academic Writing Practices Among Bangladeshi University Students

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ABSTRACT

The rapid integration of generative artificial intelligence (GenAI) into higher education has transformed academic writing practices while creating new challenges in aspects of academic integrity, authorship, and ethical technology use. This study examines the level of generative AI literacy among university students in Bangladesh along with their level of responsible academic writing practices. Additionally, it explores the relationship between GenAI literacy and responsible writing behaviour and also aims to identify whether these practices differ across academic disciplines. The research was conducted by employing a quantitative cross-sectional survey, and 250 valid responses were collected from undergraduate students enrolled in different higher education institutions in Bangladesh through an anonymous online questionnaire. The survey instrument consisted of three sections: demographic information, generative AI literacy, and responsible academic writing practices. To analyze the data, descriptive and inferential statistical analyses were used with a view to examining students' AI literacy levels, writing practices, relationships between variables, and disciplinary differences. The study findings indicate that generative AI has become a common component of students' academic activities, with more than 71% of participants reporting frequent use of AI tools for purposes such as brainstorming, language improvement, summarization, and writing assistance. The research also revealed considerable awareness of AI capabilities, limitations, hallucinations, and ethical concerns. However, the results revealed that while most students engage in responsible AI-assisted writing practices, including fact verification, source checking, rewriting AI-generated content, and maintaining personal authorship, some students reported a need for clearer institutional guidelines and formal AI literacy training. Moreover, the findings also suggest a positive association between generative AI literacy and responsible academic writing practices, which is consistent with the relevance of Long and Magerko's (2020) AI literacy framework for understanding ethical AI engagement. The study concludes by recommending that universities in Bangladesh should consider formal approaches and develop curriculum models for GenAI literacy to support critical evaluation, ethical AI use, and responsible academic writing practices.

Keywords: Generative AI literacy; Responsible academic writing; Higher education; Academic integrity; AI ethics

INTRODUCTION

In the modern era, the term "literacy" has been broadened to encompass the performability of different competencies. One of the most widely popular subtypes of literacy under the domain of information technology is AI literacy (Carolus et al., 2023). Many researchers have tried to conceptualise AI literacy, but the most commonly cited definition is by Long and Magerko (2020) that it is a "set of competencies that enables individuals to critically evaluate AI technologies; communicate and collaborate effectively with AI; and use AI as a tool online, at home, and in the workplace". Although current frameworks for AI literacy are overly general and fail to capture the competencies required to use generative artificial intelligence, a comprehensive definition

of GenAI literacy remains elusive (Annapureddy et al., 2024). However, Generative AI literacy is considered a specialised subset of AI literacy that focuses on the skills needed to engage with GenAI systems to produce texts, visuals, and other forms of media autonomously (Yan et al., 2024a; Annapureddy et al., 2024). Since the proliferation of GenAI is transforming traditional pedagogical practices such as searching for information, generating ideas, drafting academic texts, and engaging with learning activities, it has also raised significant concerns regarding academic integrity, authorship, critical thinking, and the ethical use of AI-generated content (Kasneci et al., 2023; UNESCO, 2023).

Learners nowadays use applications like ChatGPT, Gemini, DeepSeek, Claude, Grok, etc for completing tasks such as summary writing, code generation, research analysis, text generation, content creation, and so on (Karim et al., 2026). Research shows that “overly reliance on generative AI tools” can cause dependency, which creates an impediment to performing “tasks without the assistance of generative AI”(Karim et al., 2026). Moreover, AI tools often hallucinate and may lead to biased or incorrect results (Karim et al., 2026). To address issues like these, it is imperative to reinforce the focus on GenAI literacy so that learners can understand how AI systems function, recognize their limitations and biases, and critically evaluate AI-generated outputs as well as use these technologies responsibly and ethically (Long & Magerko, 2020). The most highlighted discussion in academia, in terms of using GenAI tools, is their responsible use in academic writing. Generally, the concept of responsible writing involves producing original work, acknowledging intellectual contributions through accurate citation, critically evaluating sources, avoiding plagiarism, and adhering to institutional standards of academic integrity (Bretag, 2016; International Center for Academic Integrity [ICAI], 2021). Hence, universities worldwide are shifting from policies centred on prohibiting AI usage in academia toward educational approaches that emphasize ethical AI use, transparency, and responsible decision-making in academic writing (Jensen & Jensen, 2024).

These issues are particularly relevant in Bangladesh because while the use of generative AI in higher education is increasing, the institutional policies, governance frameworks, and AI literacy initiatives are still evolving (UNESCO, 2023; UNESCO, 2026). Recent studies indicate that Bangladeshi university students are rapidly using generative AI tools such as ChatGPT and Gemini to support academic writing. However, empirical research has primarily focused on AI adoption, perceptions, and usability, with limited attention to students' generative AI literacy and its relationship with responsible academic writing practices (Ahsan & Islam, 2025; Hasib & Islam, 2025; Long & Magerko, 2020). Moreover, little is known about whether responsible academic writing practices differ across academic disciplines within the Bangladeshi higher education context. Therefore, the study aims to investigate the following questions, intending to contribute to the growing literature on AI in higher education and offer practical implications for universities seeking to support ethical, informed, and responsible integration of generative AI into teaching, learning, and academic writing:

- RQ1: What is the level of generative AI literacy among Bangladeshi university students?
- RQ2: What is the level of responsible academic writing practices among Bangladeshi university students?
- RQ3: Is there a significant relationship between generative AI literacy and responsible academic writing practices?
- RQ4: Do responsible academic writing practices differ across academic disciplines?

LITERATURE REVIEW

Generative AI in Higher Education

The continuous development of AI offers revolutionary opportunities to education systems by facilitating individualized learning and reducing teachers' workload (Gocen & Aydemir, 2020). Since applications such as ChatGPT, Google Gemini, Claude, and Microsoft Copilot are powered by large language models (LLMs), they can generate human-like text, summarize information, translate languages, write computer code, and assist with

academic writing. While the earlier educational technologies helped to retrieve information, GenAI actively generates new content in response to user prompts, fundamentally changing how students interact with knowledge and complete academic tasks (Dwivedi et al., 2023; Kasneci et al., 2023). Therefore, it is believed that AI-enhanced tools and intelligent instructional systems can be substituted for adaptive learning, personalized to each learner's unique style (Gocen & Aydemir, 2020).

Furthermore, research shows that GenAI tools promote personalized learning, improve writing quality, facilitate brainstorming, provide instant feedback, and support students with diverse learning needs (Kasneci et al., 2023; Lo, 2023). Language learners, especially ESL learners, are using GenAI to enhance their grammar, vocabulary, coherence, and academic writing accuracy; subsequently, it is reducing their learning barriers and improving confidence in producing academic work (Kasneci et al. 2023; Barrot 2023; Kohnke 2024). However, one of the most concerning aspects of using GenAI in education is students' excessive reliance on AI-generated content, as it may reduce their critical thinking, independent problem-solving, and deep learning (Kasneci et al., 2023; Cotton et al., 2024). Moreover, large language models (LLMs) generate responses based on statistical language patterns rather than genuine understanding; they may produce inaccurate information, fabricated references, or biased outputs, commonly referred to as "hallucinations" (OpenAI, 2023; Kasneci et al., 2023). Consequently, students risk incorporating misinformation into their academic work when they accept AI-generated responses without critically evaluating them.

On the other hand, academic integrity remains another concerning aspect of the widespread availability of GenAI, as it has complicated conventional understandings of plagiarism, originality, authorship, and intellectual responsibility (Cotton et al., 2024; Perkins, 2023). Since traditional plagiarism detection systems were designed to identify copied text, they created new challenges for universities to identify AI-generated content and maintain academic standards (Perkins, 2023). Hence, many scholars advocate educational approaches emphasizing transparency, disclosure, and ethical AI-assisted writing, rather than adopting restrictive policies to prohibit AI use (UNESCO, 2023). These advocacies highlight the growing recognition of GenAI as an integral component of higher education and workplaces in the future. Similarly, recent policy documents recommend that instead of prohibition, institutions should integrate AI into education through responsible governance. For instance, UNESCO (2023) suggests that higher education institutions should establish clear ethical guidelines while simultaneously equipping students with the knowledge and competencies necessary to use AI responsibly. Likewise, the European Commission (2022) identifies AI literacy as a critical digital competence, enabling learners to evaluate AI systems critically and make informed decisions about their use.

While higher education institutions in Bangladesh are increasingly adopting digital technologies, formal institutional policies regarding GenAI use, academic integrity, and AI literacy remain underdeveloped (Islam, 2026; Ahsan et al., 2026). As a result, students often rely on publicly available AI tools without structured guidance regarding ethical use or academic responsibilities. This contextual gap highlights the need to investigate how Bangladeshi university students understand and utilize generative AI within academic writing.

Generative AI Literacy

The expansion of AI technologies has shifted scholarly attention to the importance of AI literacy integration in educational contexts. Unlike technical expertise in artificial intelligence, AI literacy emphasizes informed and responsible use, enabling individuals to recognize AI capabilities and limitations while making appropriate decisions in real-world contexts (Long & Magerko, 2020; Ng et al., 2021). However, the emergence of generative AI technologies, like ChatGPT, necessitates re-evaluation of AI literacy as researchers believe that it cannot be properly defined within traditional AI literacy frameworks. Since GenAI tools can generate substantial content from minimal input, it alters the landscape and hence prompts a need for a revised understanding of AI literacy in this context (Zhao et al., 2024). Generative AI literacy includes the ability to formulate effective prompts, verify AI-generated information, distinguish between human- and AI-generated content, acknowledge AI assistance transparently, protect personal data, and comply with institutional policies governing AI use (Ng et al., 2021; UNESCO, 2023). Therefore, generative AI literacy can be understood as a multidimensional construct involving technical understanding, cognitive evaluation skills, ethical awareness, and metacognitive reflection, which together support responsible academic engagement (Long & Magerko, 2020; Ng et al., 2021).

Recent research suggests that while university students increasingly demonstrate confidence and operational familiarity with AI tools, their abilities to critically evaluate AI-generated information, identify limitations, and apply ethical judgment remain comparatively less developed (Laupichler et al., 2022; Ng et al., 2021; Kong et al., 2025). Similarly, studies of Chan & Hu (2023) and Lo (2023) indicate that although students generally report confidence in generating content by using applications such as ChatGPT, they often struggle to identify factual inaccuracies, algorithmic bias, fabricated citations, and privacy risks. Hence, it is recommended that familiarity with AI technologies should not be equated with genuine AI literacy. Frameworks like the 3wAI Framework by Bozkurt (2024) address this need and focus on "Know What," "Know How," and "Know Why" to promote foundational understanding, practical application, and ethical awareness in educational contexts. Likewise, Zhao et al. (2024) advocate that GenAI literacy should include pragmatic, safety, reflective, socio-ethical, and contextual elements. To address the distinction between general AI literacy and GenAI literacy, scholars such as Lyu et al. (2024) and Annapureddy et al. (2024) emphasise that the specific skills required to utilise the GenAI tools effectively are often overlooked in existing frameworks.

Despite the rapid growth of generative AI use in higher education, empirical evidence on GenAI literacy among university students in South Asia, particularly Bangladesh, remains limited. While existing studies have largely focused on AI adoption, perceptions, and usage intentions, fewer studies have examined students' AI literacy competencies, critical evaluation abilities, and the relationship between these competencies and responsible academic practices such as AI-assisted writing (Hossain et al., 2025; Sharma & Ha, 2025; Kibria et al., 2026). Therefore, it is important to address this gap because universities require empirical evidence to design AI literacy curricula, establish institutional policies, and develop ethical guidelines that promote responsible and effective AI integration in teaching, learning, and assessment (Chan, 2023; Kasneci et al., 2023). Hence, investigating the level of generative AI literacy among Bangladeshi university students can contribute to the emerging literature on AI-supported higher education.

Responsible Academic Writing

Responsible academic writing is considered a fundamental component of higher education, which reflects students' commitment to academic integrity, ethical scholarship, and intellectual honesty through practices such as accurate attribution, responsible source use, and original knowledge production (International Center for Academic Integrity, 2021; Pecorari, 2008). As Bretag (2016) suggests, responsible academic writing encompasses the production of original work, appropriate acknowledgement of sources through accurate citation and referencing, critical evaluation of evidence, avoidance of plagiarism, and adherence to institutional ethical standards. Traditionally, academic integrity has been examined through the principles of honesty, trust, fairness, respect, responsibility, and courage (International Center for Academic Integrity [ICAI], 2021). Students are encouraged to follow these guidelines to produce authentic works while recognizing the contributions of others. However, the rapid rise of GenAI has complicated traditional understandings of originality and authorship because, unlike conventional plagiarism, where text is copied from existing sources, AI-generated content may produce original-looking text that obscures the extent of human intellectual contribution, creating new ethical challenges for students and educators (Perkins, 2023).

According to recent studies, university students primarily use generative AI to brainstorm ideas, improve grammar, summarize literature, and draft assignments (Lo, 2023; Dwivedi et al., 2023). Although generative AI applications can enhance learning when used appropriately, excessive reliance on these tools may reduce students' engagement in critical thinking, independent writing, and reflective learning (Kasneci et al., 2023; Chan, 2023). Therefore, responsible academic writing should not only be defined by the absence of plagiarism but also by students' ability to use AI transparently, critically evaluate AI-generated outputs, and acknowledge AI assistance where institutional policies require disclosure (International Center for Academic Integrity, 2021; Chan, 2023; Kasneci et al., 2023). Consequently, various universities worldwide have begun revising academic integrity policies to accommodate AI-assisted writing rather than imposing blanket prohibitions. The current guidance commonly emphasizes that students should remain accountable for the accuracy, originality, and ethical use of any AI-generated material incorporated into their academic work (Chan, 2023; Kasneci et al., 2023; Quality Assurance Agency for Higher Education, 2023; UNESCO, 2023).

Moreover, the aspects of responsible academic writing may also vary across academic disciplines; for instance, while learners in humanities and social sciences typically engage in argumentative and reflective writing, students in science, technology, engineering, and mathematics (STEM) often focus on technical reports, laboratory documentation, and problem-solving tasks (Russell, 2002; Swales & Feak, 2012; Wardle & Downs, 2020). Consequently, the disciplinary differences influence citation practices, writing conventions, and perceptions of acceptable AI assistance (Hyland, 2019). Hence, it is essential to examine whether responsible academic writing practices differ across academic disciplines in Bangladesh so that a nuanced understanding of ethical AI use can be drafted in higher education contexts.

Relationship Between Generative AI Literacy and Responsible Academic Writing

Since universities increasingly integrate AI technologies into teaching, learning, and assessment, the relationship between generative AI literacy and responsible academic writing has become an important area of inquiry. The in-depth understanding of this relationship is essential in promoting ethical AI use, maintaining academic integrity, and developing students' critical evaluation skills (Chan, 2023; Kasneci et al., 2023; Ng et al., 2021). It is believed that AI literacy equips students with competencies such as understanding AI systems to generate content, recognizing their limitations, identifying biases and inaccuracies, and evaluating the credibility of AI-generated information; consequently, it encourages students to treat AI-generated outputs as starting points for learning rather than final products (Long & Magerko, 2020; Ng et al., 2021; Kasneci et al., 2023). Therefore, students with higher levels of AI literacy are more skilled at verifying information, editing AI-generated text critically, providing appropriate citations, and maintaining academic integrity throughout the writing process (Uygun, 2025).

In contrast, students who have limited AI literacy may perceive AI-generated content as both authoritative and reliable without critically evaluating its accuracy (Glikson & Woolley, 2020; Logg et al., 2019). Additionally, they are more susceptible to submitting AI-generated work without sufficient revision, incorporating fabricated references, or unintentionally violating institutional academic integrity policies (Kasneci et al., 2023). Thus, AI literacy functions as a protective factor in academia that enables students to use AI responsibly while minimizing ethical and academic risks. Scholars like Ng et al. (2021) support this idea by claiming that AI literacy integrates technical knowledge with ethical reasoning, thereby promoting responsible decision-making during AI-assisted learning. In the same vein, UNESCO (2023) emphasizes the ethical use of AI by stating that it depends not only on technological competence but also on students' understanding of transparency, accountability, privacy, and intellectual property. Thus, these competencies directly align with the current principles of responsible academic writing.

Furthermore, educational researchers suggest that AI literacy encourages students' metacognitive awareness by enabling them to reflect on when AI assistance is appropriate and when independent intellectual effort is required (Chan & Hu, 2023; Lo, 2023). In this way, AI literacy may facilitate meaningful support for human-AI collaboration in which students remain active authors and critical evaluators of academic knowledge. Similarly, higher AI literacy is expected to be positively associated with responsible academic writing practices among university students.

Research Gap, Theoretical Foundation, and Conceptual Framework

Despite the emerging research on generative AI in education, several important gaps remain in the current literature. First, most existing studies have been conducted in developed countries, particularly the United States, Europe, Australia, and East Asia (Dwivedi et al., 2023; Kasneci et al., 2023). However, in the context of South Asian countries, including Bangladesh, comparatively little empirical evidence is available, where institutional AI policies, technological infrastructure, and educational environment differ substantially (Hossain et al., 2025; Islam, 2026; Ahsan et al., 2026).

Second, since previous research has primarily focused on students' attitudes toward ChatGPT, intentions to adopt AI tools, and the educational opportunities and challenges associated with generative AI, comparatively fewer studies have directly measured university students' generative AI literacy as a multidimensional construct

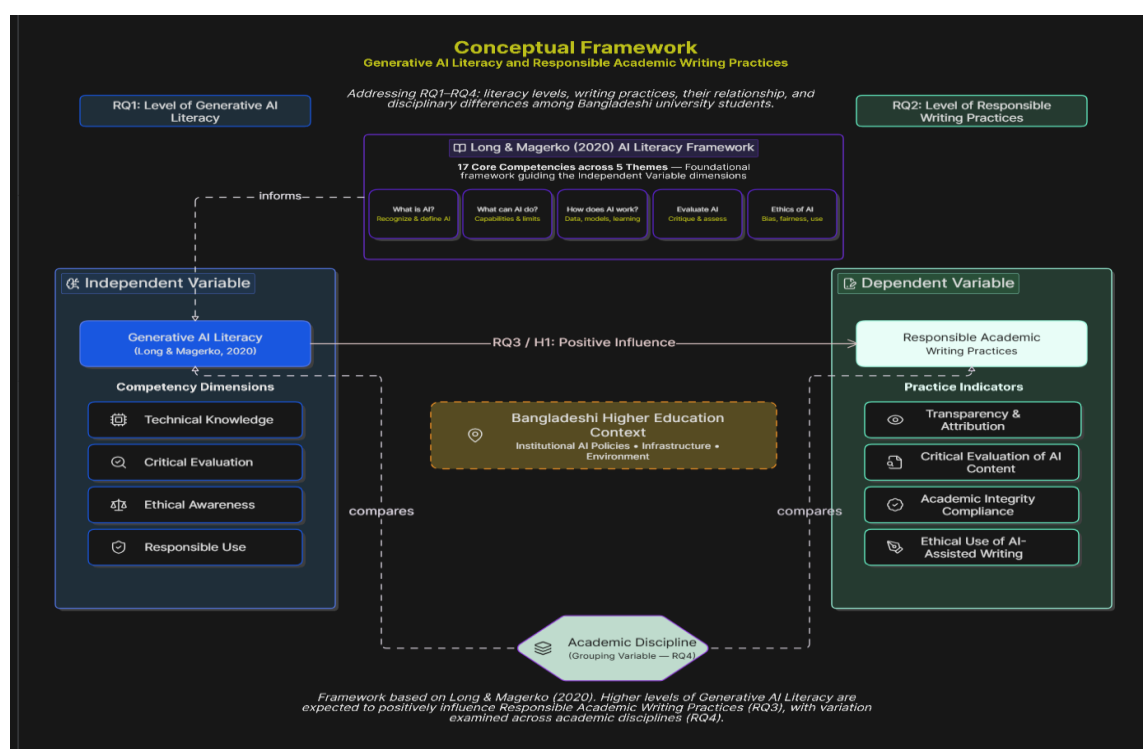
encompassing technical knowledge, critical evaluation, ethical awareness, and responsible use (Long & Magerko, 2020; Ng et al., 2021; Kasneci et al., 2023). Similarly, existing higher education AI research has largely emphasized technological adoption and implementation, which indicates the need for further empirical investigation into students' AI literacy competencies and their implications for responsible academic practices (Zawacki-Richter et al., 2019; Chan, 2023).

Lastly, although responsible academic writing has been widely investigated through the perspectives of plagiarism, authorship, and academic integrity, relatively few empirical studies have examined how generative AI literacy is associated with students' responsible writing practices. While traditional academic integrity research has primarily emphasized originality, attribution, and ethical scholarship (Bretag, 2020; International Center for Academic Integrity, 2021), emerging generative AI research highlights the need to understand how students' AI literacy affects transparency, critical evaluation, and responsible use of AI-assisted writing (Ng et al., 2021; Perkins, 2023). Furthermore, evidence on disciplinary differences in responsible academic writing remains inconsistent, particularly in the context of developing countries such as Bangladesh.

This study aims to examine the research gaps by implementing Long and Magerko's (2020) framework on AI literacy, which was developed before the widespread adoption of generative AI tools such as ChatGPT; its competency dimensions remain relevant for understanding students' interactions with generative AI because these systems require users to understand capabilities, limitations, biases, and ethical implications. Thus, this framework provides a theoretical explanation of the correlation between students' higher levels of generative AI literacy and more responsible academic writing practices.

Furthermore, by addressing these gaps, the present study proposes a conceptual framework in which 'Generative AI Literacy' functions as the independent variable and 'Responsible Academic Writing Practices' as the dependent variable. It is assumed that students with higher levels of generative AI literacy are more likely to demonstrate responsible academic writing practices as they possess a better understanding of AI capabilities, recognize ethical boundaries, critically evaluate AI-generated content, and comply with academic integrity standards. Additionally, academic discipline is examined as a grouping variable to identify whether responsible academic writing practices differ among students in different fields of study. This framework directly addresses the study's four research questions, expecting to contribute to empirical evidence in the Bangladeshi university education context, where research on AI literacy and ethical academic writing remains limited.

Figure 1: Conceptual framework of the study



METHODOLOGY

Research Design

This study employs a quantitative cross-sectional survey to investigate Generative AI literacy and responsible academic writing practices among university students in Bangladesh. The quantitative approach is suitable for this topic as it enables the translation of behaviors into objective, measurable data. This methodology helps reduce researcher bias and provides standardized quantitative data for analysis. Furthermore, given the sensitivity surrounding academic integrity, the survey's anonymity is expected to promote more candid responses from participants.

A primary advantage of this design is its capacity to identify patterns and facilitate reliable comparisons across categories. Statistical analysis enables examination of differences in AI literacy and writing practices across demographic characteristics, including gender, academic discipline, and university type. Additionally, the cross-sectional design permits the collection of all relevant data at a single point in time.

Population and Sampling

The study targeted undergraduate students enrolled in higher education institutions across Bangladesh. Participants were recruited using a non-probability convenience sampling technique, whereby the survey link was distributed through institutional contacts, student Facebook groups, WhatsApp groups, and personal academic networks. Participation was voluntary, and only currently enrolled undergraduate students in Bangladesh were eligible to complete the questionnaire. As a result of the non-probability convenience sampling approach, the sample may not be fully representative of the broader population of Bangladeshi university students. Therefore, the findings should be interpreted with appropriate caution when considering their generalizability. Data were collected using a structured online questionnaire.

A total of **250 valid responses** were included in the final analysis. The sample comprised **61.2% male** and **38.8% female** participants. Most respondents (90.4%) were enrolled in private universities, while the remainder attended public and national universities. Participants represented different stages of undergraduate education, including first-year (23.6%), second-year (27.2%), third-year (25.2%), fourth-year (22.0%), and fifth-year (2.0%) students. In terms of academic discipline, **48.0%** were from Humanities and Social Sciences, **21.2%** from Business, **8.0%** from STEM fields, and **22.8%** from other disciplines

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	153	61.2
	Female	97	38.8
Academic Year	1st Year	59	23.6
	2nd Year	68	27.2
	3rd Year	63	25.2
	4th Year	55	22.0
	5th Year	5	2.0
University Type	Public & National University	24	9.6
	Private University	226	90.4
Field of Study	Humanities & Social Sciences	120	48.0

	Business	53	21.2
	STEM	20	8.0
	Others	57	22.8

Figure 2: Demographic result

Data Collection Instrument

The empirical data for this study were collected using a formal, structured, self-report questionnaire administered online via Google Forms. The instrument was developed with careful attention to methodological rigor, incorporating both closed-ended items and established psychometric scales to systematically quantify students' behaviors, abilities, and attitudes. To align with the research objectives, the questionnaire was organized into three thematic sections:

1. **Demographic Data:** The initial stage of the instrument aimed to capture contextual variables related to students' academic profiles, including gender, university type, field of study, and year of study.
2. **Generative AI Literacy:** This component was designed to obtain measures of the independent variable that capture students' familiarity with, availability of, and frequency of use of various generative AI technologies (e.g., ChatGPT, Gemini) in academic contexts.
3. **Responsible Academic Writing Behaviour:** The final section assessed the dependent variable of academic integrity, examining students' use of generative AI as writing aids, their reliance on AI during task formulation, and their awareness of and adherence to plagiarism policies. It was distributed electronically via a direct link to improve response rates and minimize potential response bias, such as social desirability bias.

Participants could complete the online survey anonymously on any personal digital device of their choice.

Data Collection Procedure

The data collection process was conducted online to align with the digital focus of the research. Following validation of the instrument, the survey link was distributed across multiple digital channels, targeting the intended audience through student networks and social media platforms such as Facebook and WhatsApp. Two primary operational safeguards were implemented: (1) Informed Consent, achieved by including a mandatory ethical consent form on the survey landing page to ensure voluntary participation, anonymity, and the right to withdraw; and (2) Electronic Data Control, established to minimize the risk of duplicate responses. Data collection continued until 250 valid responses had been collected, after which the survey was closed and the raw data exported for statistical analysis. As the questionnaire was administered online, students with limited internet access or lower levels of digital engagement may have been underrepresented in the sample.

Reliability and Validity

To ensure the survey's structural integrity and credibility, measures were implemented to strengthen its validity and reliability. Content validity was established through a comprehensive literature review of global AI literacy frameworks and by aligning each survey item with the constructs of digital competence and academic integrity. Reliability and clarity were further supported by piloting the instrument with a subset of the target demographic prior to full deployment.

Data Analysis Plan

The quantitative data were systematically analyzed using both descriptive and inferential statistical methods. Following data collection, responses from 250 participants were cleansed, coded, and imported into statistical software. Descriptive statistics, including frequency distributions, percentages, and mean scores, were used to analyze demographic profiles, Generative AI literacy levels, and the prevalence of specific academic writing behaviors. Inferential statistics, such as Chi-square tests and independent-samples t-tests, were employed to identify significant differences and to cross-tabulate behaviors across demographic categories.

Ethical Considerations

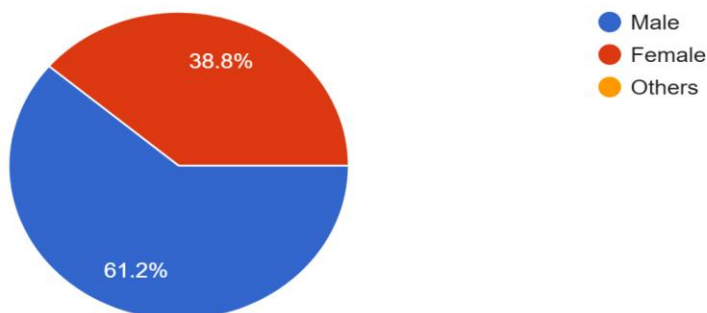
The research process adhered to the highest ethical standards to protect participants' privacy and reputations. Given the sensitivity of topics such as plagiarism and academic integrity, strict confidentiality was maintained by refraining from collecting personally identifiable information, including names and student identification numbers. An informed consent statement was provided on the survey landing page to ensure participants understood the study's purpose, procedures, and their right to withdraw at any stage.

SUMMARY

Overall, the methodology chapter discussed above has provided a thorough quantitative approach to investigating Bangladeshi students' generative AI literacy and writing behavior. By conducting an online, anonymous cross-sectional survey, the researchers obtained 250 valid responses from students across different educational levels and specializations. The implementation of ethical considerations, the tool validation process, and statistical analysis procedures helped enhance the credibility and rigor of the empirical findings presented in the next chapter.

FINDINGS AND ANALYSIS

1. Gender 250 responses

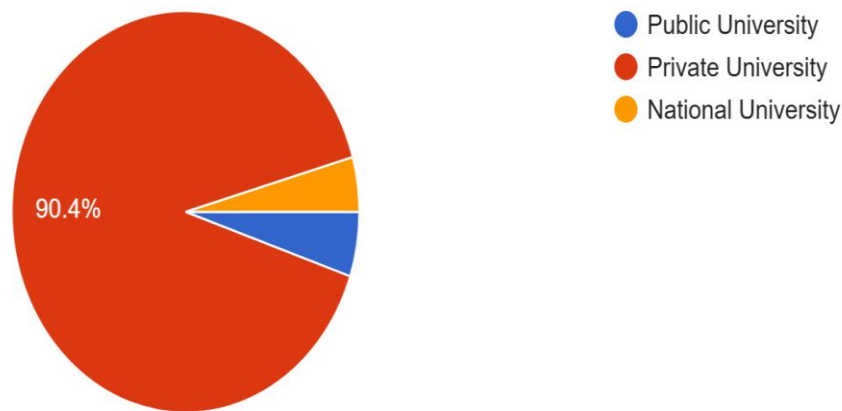


Findings: Among 250 participants, the overwhelming majority were Male, representing 61.2% of all respondents. The remaining 38.8% of participants were Female, with 0% in the “Others” category.

Discussion: These findings indicate more male involvement in the current research. It is important to consider this finding when assessing overall rates of AI implementation, as previous studies have shown that gender may affect the early stages of technology adoption.

2. University Type

250 responses

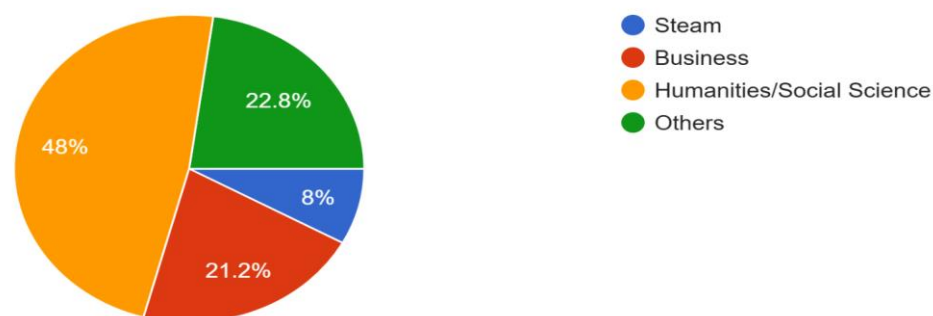


Findings: The data collected indicate that respondents from Private Universities constitute 90.4% of the total sample size. The other percentages are distributed almost equally between Public Universities and National Universities.

Discussion: As almost all participants are from private higher education institutions, the findings primarily focus on the digital practices and resources available within private academy frameworks. Private universities usually have built-in infrastructure with high-quality educational technology; this might account for the frequent use of AI reported in this study.

3. Academic Discipline

250 responses

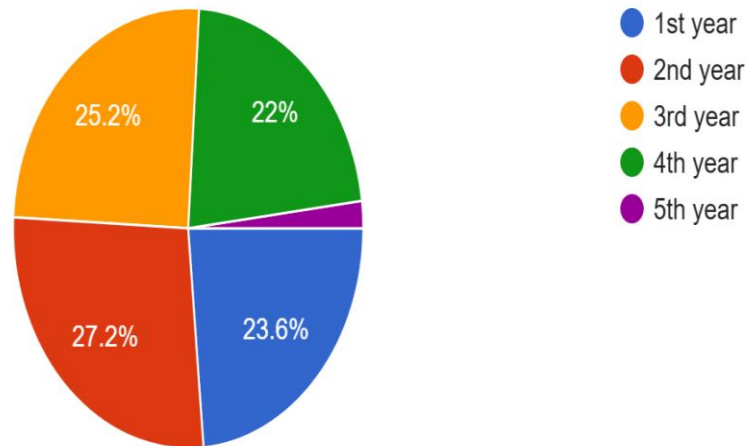


Findings: The largest share of participants falls under the Humanities/Social Science category, at 48%. The Others come second (22.8%), then comes Business (21.2%), and lastly, STEAM (8%).

Discussion: Remarkably, about half of the respondents represent text-intensive fields (Humanities and Social Sciences). Although it is traditional for technical subjects such as STEAM to be associated with computational tools, the large number of Humanities students suggests that NLP systems (ChatGPT, Google Gemini) appear to be widely used in contexts where writing, editing, and reading skills are paramount.

4. Year of Study

250 responses

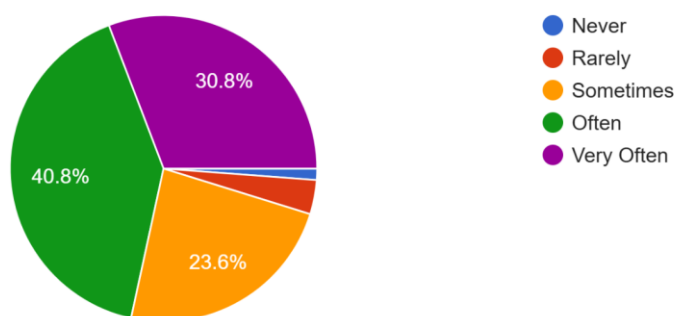


Findings: The proportions across academic years are fairly even: 2nd-year students, 27.2%; 3rd-year students, 25.2%; 1st-year students, 23.6%; and 4th-year students, 22%. Only a few 5th-year students are included.

Discussion: This evenly distributed pattern helps reduce potential sampling bias by including students from different stages of undergraduate study. Therefore, the findings provide perspectives from students across various academic years and their experiences with academic writing practices at university.

5. How often do you use generative AI tools for academic writing? (ChatGpt, Google Gemini, Claude, DeepSeek)

250 responses

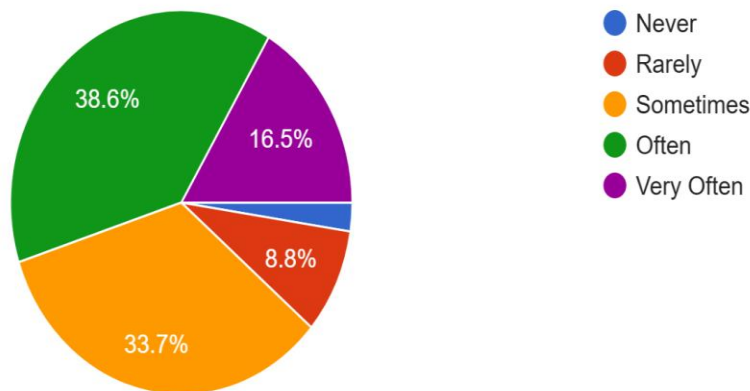


Findings: 71.6% of students use such technologies frequently. To be more specific, 40.8% use these technologies “Often,” and 30.8% “Very Often.” The other group is represented by those who use them “Sometimes” – their share is 23.6%. Those who use them “Rarely” or “Never” form a negligible group.

Discussion: It is a strong conclusion. It suggests that generative AI technologies have become part of the infrastructure of the student writing process. The fact that fewer than 5% of students do not use AI proves that reliance on AI appears to be common among the participants.

6. I use generative AI to generate ideas for assignments.

249 responses

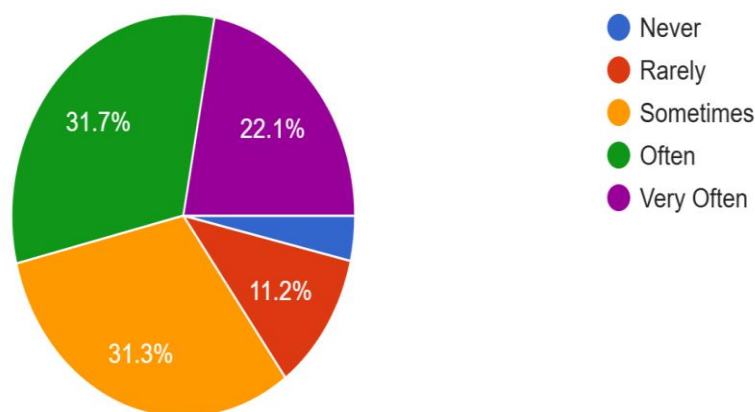


Findings: Among 249 respondents, 38.6% “Often” apply AI in their brainstorming process, while 16.5% do it “Very Often”. An impressive 33.7% apply AI “Sometimes”, whereas just 8.8% and a few people “Rarely” or “Never” use it.

Discussion: The statistics above clearly show that GenAI appears to serve as an important support tool of one’s thinking in the pre-writing stage. Many students reported using it to solve the problem of the blank page syndrome and create their brainstorming outlines.

7. I use generative AI to improve grammar and writing style.

249 responses

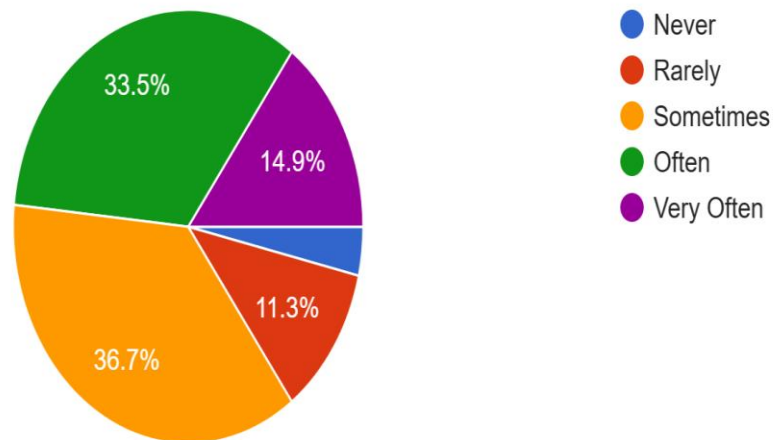


Findings: About syntax and style, 31.7% employ AI “Often” and 22.1% “Very Often.” An equally considerable number of students, 31.3%, indicate that they use it “Sometimes,” and 11.2% use it “Rarely.”

Discussion: Such numbers highlight the function of AI as a copy editor. Students apply the computational capabilities of LLMs to improve the structure of writing, fix grammar errors, and change registers. It suggests that the mechanics of syntactic construction are becoming increasingly automated within educational processes.

8. I use generative AI to summarize academic materials.

248 responses

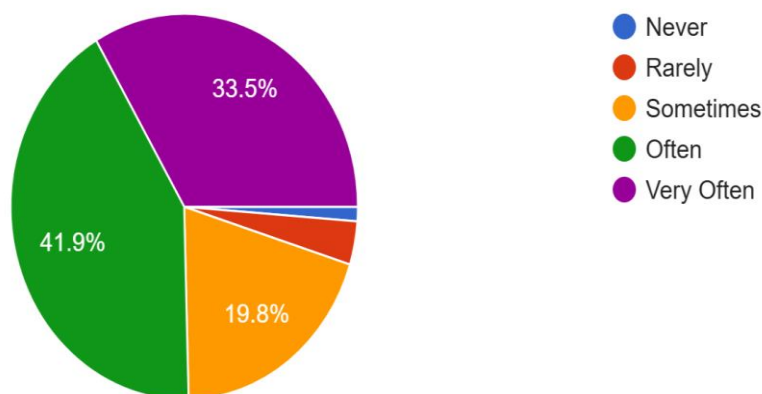


Findings: From the total number of 248, 36.7% use AI “sometimes” for summarizing the reading materials, 33.5% use it “often,” and 14.9% “very often,” while 11.3% use it “rarely.”

Discussion: AI summary tools appear to play a significant role in reading comprehension and literature review processes. This makes it easy to digest information for research papers but also raises the issue of academic weakness: whether students critically analyze sources independently or have everything filtered through algorithms.

9. I understand what generative AI is

248 responses

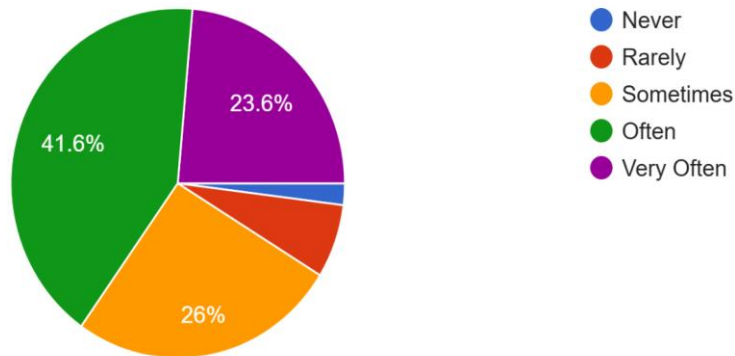


Findings: Reported level of conceptual awareness is extremely high. 41.9% “Often” experience that they are aware of it, whereas 33.5% “Very Often.” “Sometimes” is chosen by 19.8%, with very few choosing less frequent awareness options.

Discussion: The student population appears extremely confident in their technological literacy. They are not using the technology blindly but are aware of its basic operational concept.

10. I understand both the strengths and limitations of generative AI.

250 responses

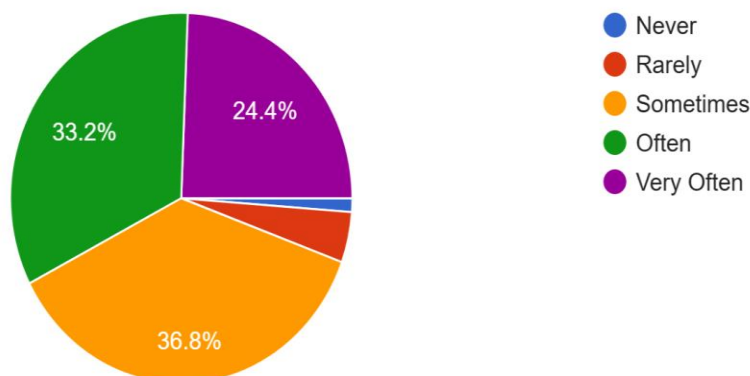


Findings: In terms of critical evaluation, 41.6% indicate that they “Often” know these strengths and weaknesses, 23.6% say that they know it “Very Often,” while 26% believe they “Sometimes” know it.

Discussion: According to this data, there is a high level of critical literacy regarding artificial intelligence among the students. The responses suggest that many students recognize that AI has limitations.

11. I know that AI-generated information may contain inaccuracies.

250 responses

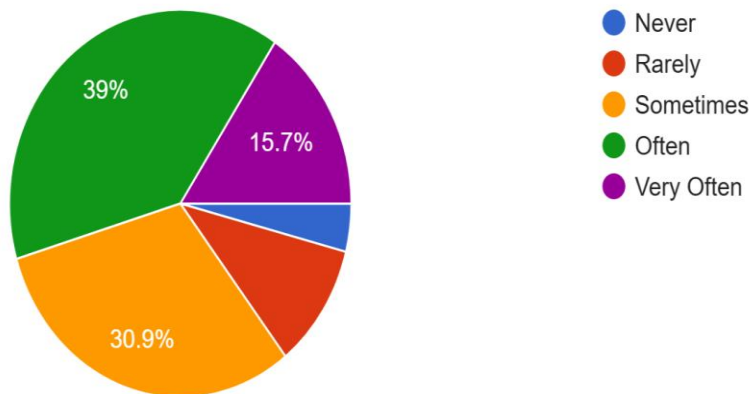


Findings: Awareness of AI hallucinations and mistakes is fairly evenly distributed: 36.8% know about this “Sometimes,” 33.2% “Often,” and 24.4% “Very Often.”

Discussion: Acknowledgment of the errors indicates that the students consistently maintain a degree of skepticism when interpreting AI-generated results. The somewhat clustered nature around “Sometimes” and “Often” points to the fact that the danger exists and needs to be addressed.

12. I can write effective prompts to obtain useful AI responses.

249 responses

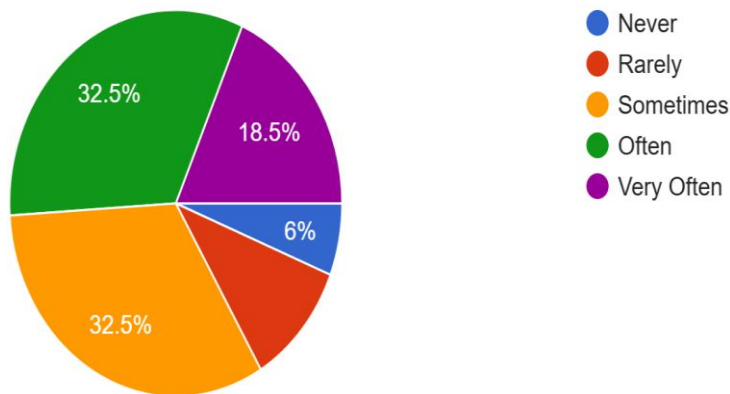


Findings: Ability to write good prompts is positive: 39% “Often,” 15.7% “Very often,” and 30.9% “Sometimes.”

Discussion: Prompting ability directly influences the efficacy and usefulness of AI. This survey suggests the emergence of a group of students capable of producing appropriate inputs to obtain the desired results.

13. I can modify prompts to improve AI-generated output.

249 responses

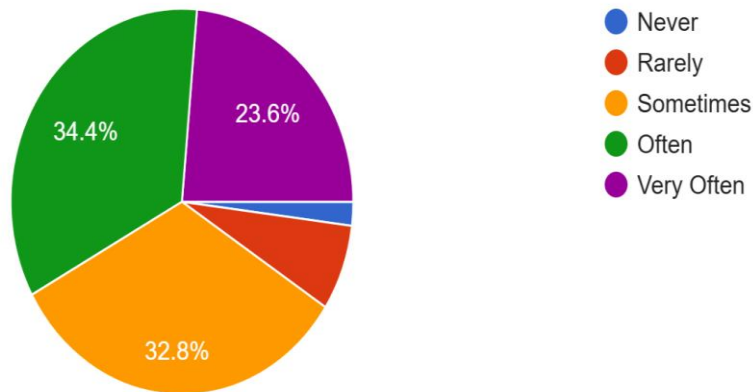


Findings: When the results are not satisfactory, there is an iterative process, whereby 32.5% will “Often” edit their prompts, 32.5% “Sometimes”, and 18.5% “Very Often”. Only 6% “Never” try editing their prompts.

Discussion: This suggests in the graph above, which shows that the interaction is iterative. It does not entail sticking to the very first answer they get; rather, it involves persistent editing of their prompts.

14. I know how to use AI to support rather than replace my own work.

250 responses

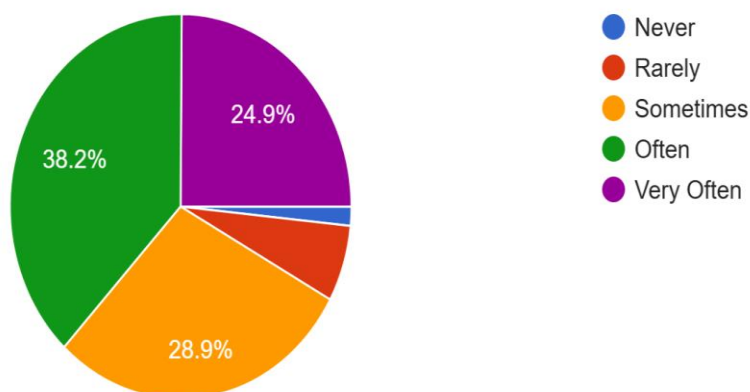


Findings: Of the 250 participants, 34.4% of students report that they “Often” are capable of using AI in a supportive way, whereas 23.6% report “Very Often”. A considerable number (32.8%) use it “Sometimes,” whereas a small number answer either “Rarely” or “Never.”

Discussion: The analysis suggests that many students prefer collaboration between humans and AI rather than total reliance on it. The distribution of answers in the higher percentiles indicates students' efforts to preserve their autonomy as main contributors by treating computer applications as an additional framework.

15. I verify AI-generated information before using it.

249 responses

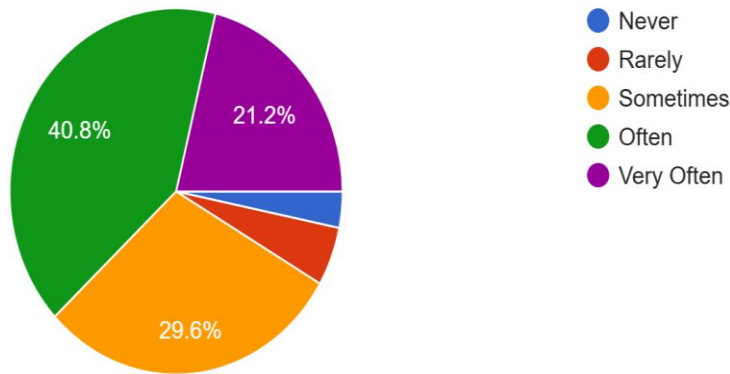


Findings: Fact-checking tendencies are positively biased, with 38.2% “Often” and 24.9% “Very Often” performing the task of verification. On the other hand, 28.9% verify “Sometimes,” while less than 10% either “Rarely” or “Never.”

Discussion: This distribution is consistent with previous findings on error identification. Given the inherent tendency of large language models to err on the side of accuracy, most students reported verifying information before incorporating it into their text.

16. I compare AI-generated information with reliable academic sources.

250 responses

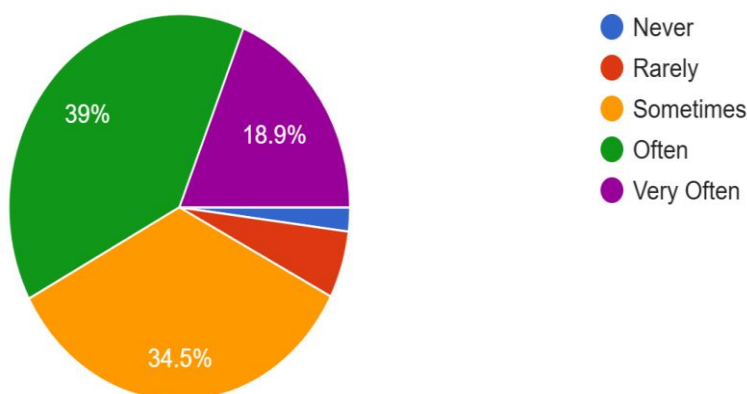


Findings: Amongst the 250 participants, 40.8% often benchmark AI text against normal academic writing and databases, and 21.2% do so very often, whereas the other 29.6% sometimes compare AI with normal academic writing.

Discussion: The high score in comparative analysis suggests that the students are using AI as a composite route into a subject matter but then rely on peer-reviewed research as the basis for their papers.

17. I can recognize inaccurate or misleading AI-generated responses.

249 responses

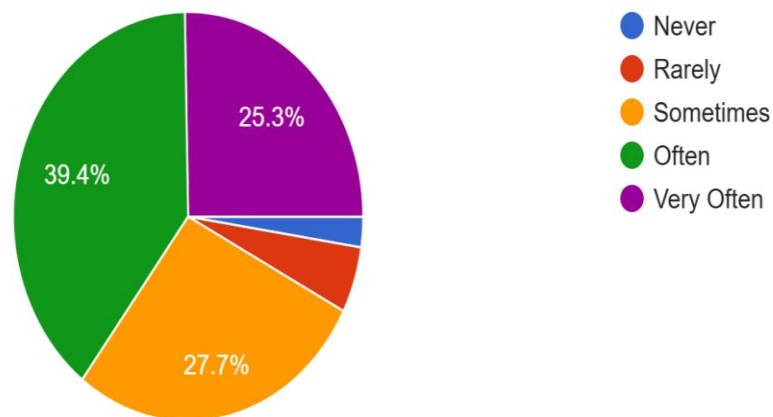


Findings: A significant number of respondents believe they can easily detect mistakes: 39% can do so “often,” 18.9% “very often,” and 34.5% “sometimes.” Only 6% of respondents select “rarely.”

Discussion: This statistic suggests that students may possess sufficient background knowledge of the subject matter before engaging with artificial intelligence. Without any prior knowledge of the subject, it will not be possible to identify errors in texts.

18. I understand the ethical issues related to AI use in education.

249 responses

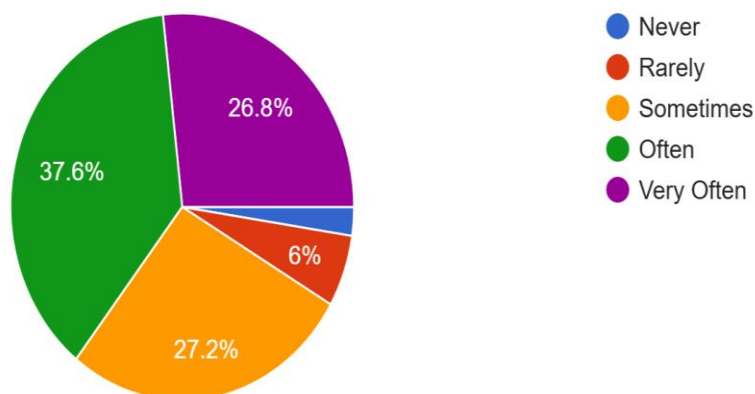


Findings: Of the total 249 participants, high levels of ethical literacy have been found in 39.4% of respondents saying “often” and 25.3% saying “very often”. 27.7% of students chose “sometimes”.

Discussion: This suggests that the students are very aware of the broader ethical issues involved in using artificial intelligence, such as data privacy, structural issues, and limits to authorship. The students are not oblivious to the ethical ramifications of using this technology.

19. I know when AI use may violate academic integrity.

250 responses

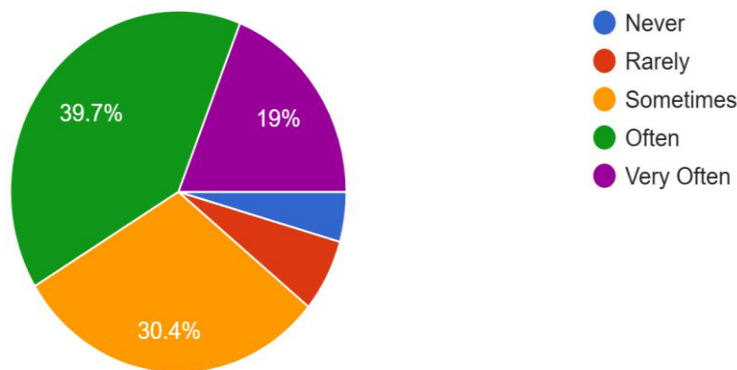


Findings: Concerning the topic of conduct codes, 37.6% indicate that they “Often” know the lines of conduct, while 26.8% say they know these lines “Very Often”. In a second cluster, 27.2% know about these boundaries “Sometimes,” while 6% choose “Rarely.”

Discussion: The statistics show that students are aware of plagiarism and illegal collusion involving artificial intelligence. Awareness of the integrity guidelines suggests that policy violations may occur due to an ambiguous interpretation of the word “help.”

20. I understand my university's expectations regarding AI use in academic work.

247 responses

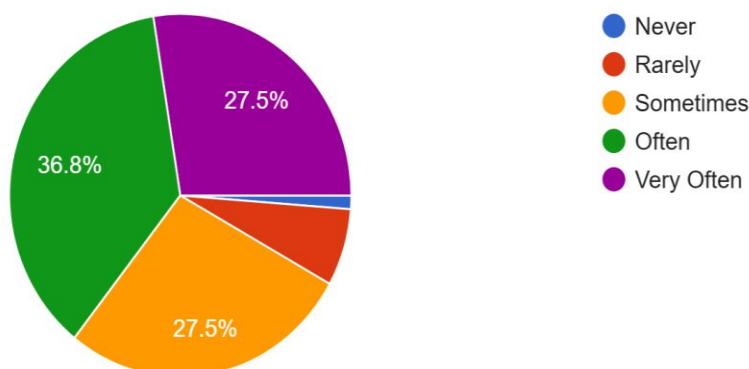


Findings: Among the 247 respondents, institutional policy clarity is of moderate strength, with 39.7% “often” understanding the scope of the university, 19% “very often,” and 30.4% “sometimes.” Only a few recognize that they have little knowledge about institutional policies.

Discussion: In comparison to the perception of individual ethical conduct (Question 19), institutional policy clarity decreases marginally in terms of “very often.” Such variation suggests the continued existence of a communications challenge, as while most students know what is right and wrong in general, universities need to revise their policies on student compliance.

21. I verify information generated by AI before including it in assignments.

247 responses

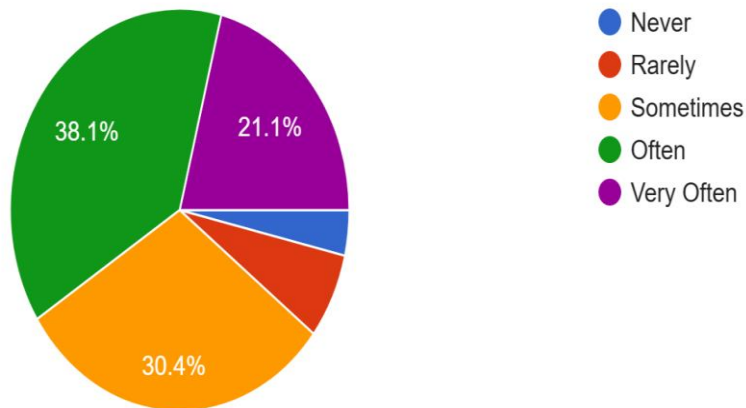


Findings: Among 247 participants, 36.8% “often” undertake rigorous data validation prior to the final submission of assignments, along with 27.5% who “very often” perform this activity, followed by 27.5% who “sometimes” perform this activity.

Discussion: It suggests the baseline structural criterion among the group of students. The process of data validation before submitting assignments indicates a structured attempt at quality control to prevent the submission of illusory citations or facts.

22. I check references suggested by AI before citing them.

247 responses

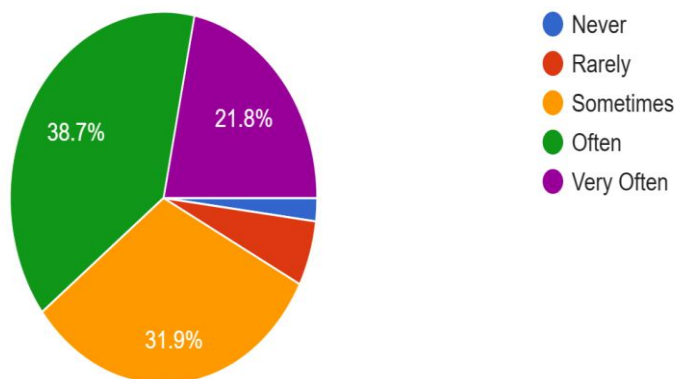


Findings: Artificial intelligence systems often produce citation fraud. In response, 38.1% of the respondents “Often” verify suggested sources, 21.1% “Very Often,” and 30.4% “Sometimes.”

Discussion: Due to probabilistic generation of text, reference creation poses the highest risk for student writing. It appears from the data provided that the student cohort is aware of the problem and verifies hyperlinks and paper titles before submission.

23. I consult original academic sources instead of relying only on AI-generated content.

248 responses

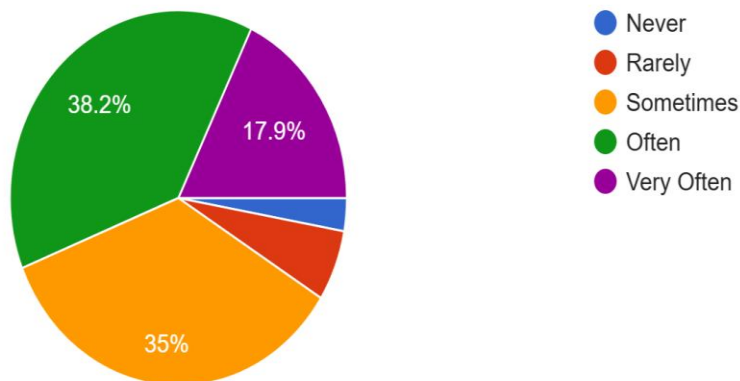


Findings: In total, 38.7% of the 250 participants “Often” refer back to the original literature as a source of information rather than relying solely on the automated text; 21.8% of them do this “Very Often,” and 31.9% “Sometimes.”

Discussion: This observation is consistent with the view that AI is used primarily as an effective tool for search and synthesis. It is a means for gaining insight into a particular field of knowledge; however, students understand that authority lies in the original data and research articles.

24. I acknowledge AI assistance when required by my instructor or institution.

246 responses

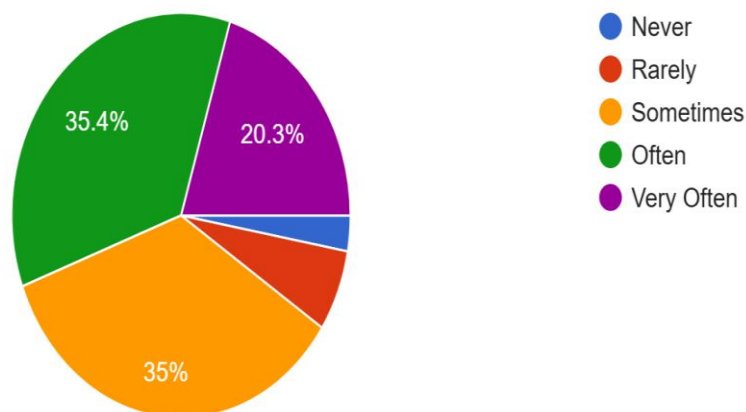


Findings: Among the 246 answers received, there is a significant level of adherence to the requirement: 38.2% respond “Often,” 17.9% respond “Very Often,” and 35% say they “Sometimes” quote and mention the usage of AI tools as requested. Only 8.9% respond “Rarely.”

Discussion: Transparency scores indicate that students reported a willingness to be compliant with classroom policies. The significant clustering of responses in the “Sometimes” and “Often” categories implies that adherence largely depends on whether individual instructors have set forth guidelines for disclosures for each task.

25. I follow citation guidelines when AI use needs to be disclosed.

246 responses

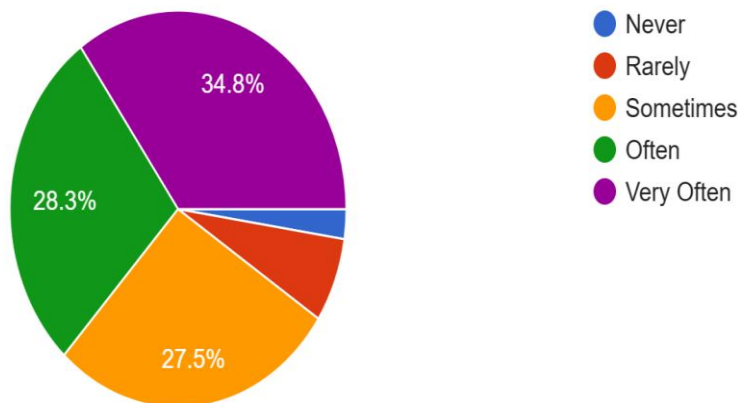


Findings: As far as formatting standards for citations (in APA and MLA format for AI), 35.4% comply with these standards “Often,” 20.3% “Very Often,” and 35% “Sometimes.”

Discussion: Formatting styles used specifically for AI models signify changing trends regarding students’ citation literacy skills. Interaction with the engine is increasingly perceived by students as formatting for non-retrievable information or even for personal communication.

26. I avoid presenting AI-generated content as entirely my own work.

247 responses

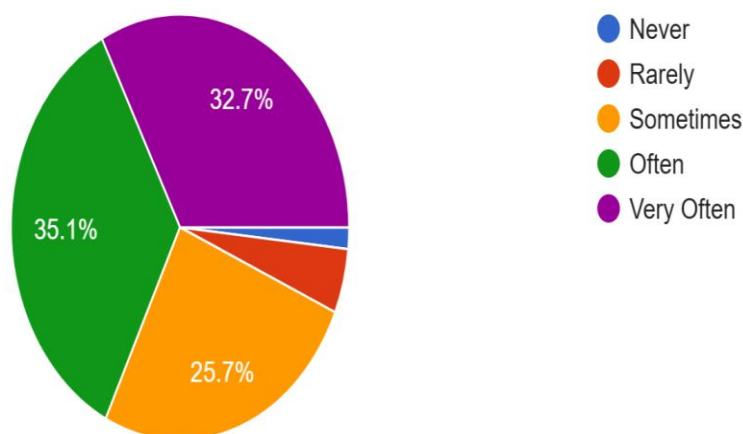


Findings: In a total of 247 answers, an extremely dominant 34.8% “Very Often” refrain from pretending that the AI-generated text is solely their work, supported by 28.3% who do it “Often” and 27.5% who do it “Sometimes”.

Discussion: This is a very important finding to consider regarding academic integrity. Over 63% of people questioned intentionally preserve their intellectual property by not just copying and pasting without any changes. The responses suggest that many students attempt to avoid any academic misconduct.

27. I revise AI-generated text in my own words before submitting assignments.

245 responses

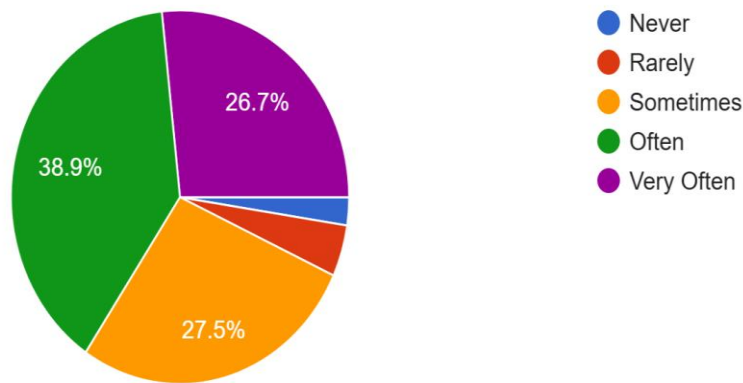


Findings: Among 245 respondents, linguistic adaptation is exceedingly high; 35.1% “often” modify AI-generated texts, while 32.7% “very often” do it. Moreover, 25.7% “sometimes” perform adaptation, and there is practically no one left in the lower categories.

Discussion: In most cases, raw machine-generated texts have certain distinctive style features (monotonous rhythm, predictable transitions between sentences). To get rid of that, students reported adapting AI-generated text to better reflect their own writing style by rewriting vocabulary and sentences to fit their style.

28. I use AI mainly as a learning aid rather than as a replacement for writing.

247 responses

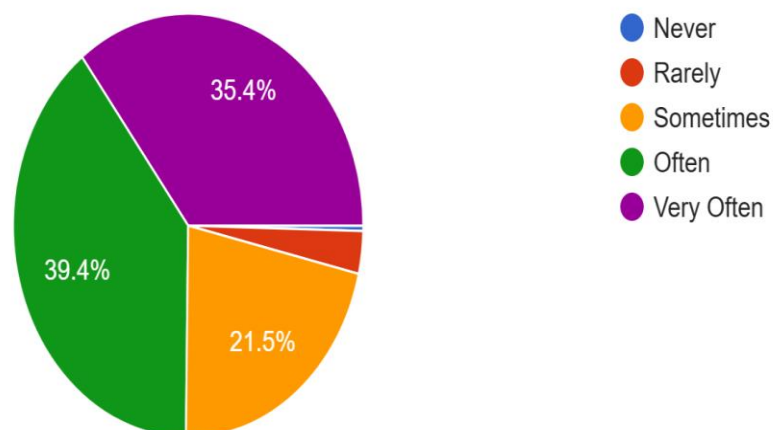


Findings: Of 247 participants who responded to this question, 38.9% answered “Often” when asked whether the tool serves as a pedagogical learning assistant. In addition, 26.7% described the tool as a “Very Often” pedagogical assistant. Furthermore, 27.5% responded “Sometimes”.

Discussion: This suggests the cognitive framework used by the participants. The general agreement is that the role of generative engines is pedagogical: they explain difficult texts, analyze arguments, and suggest structures.

29. I ensure that my submitted work reflects my own understanding.

246 responses

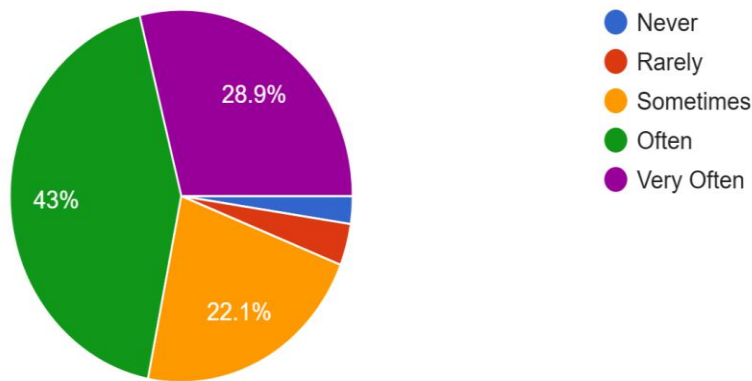


Findings: In a survey of 246 people, an extremely high proportion is concerned about comprehension: 39.4% “Often” recheck whether the final paper reflects their own voice, while 35.4% do so “Very Often.” Only 21.5% answer “Sometimes.”

Discussion: This point demonstrates that the final criterion of value for university students is self-comprehension. Even when using automatic generation in the writing process, the responses suggest that many students value their own comprehension.

30. I avoid using AI to complete entire assignments without meaningful personal contribution.

249 responses

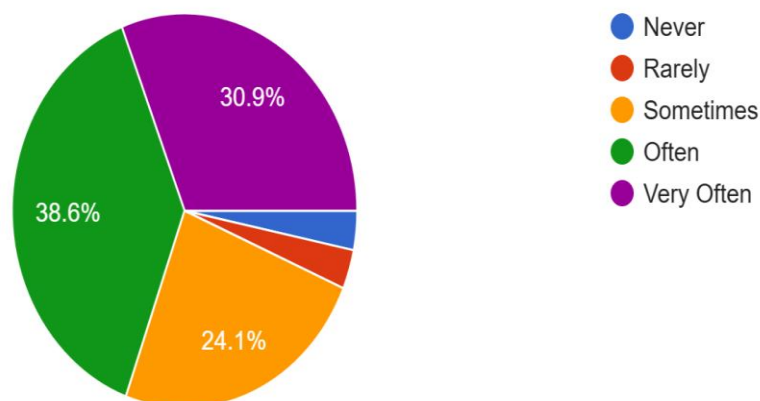


Findings: From the 249 respondents, 43% “Often” guarantee their efforts to contribute meaningfully as humans, while 28.9% do so “Very Often”. On the other hand, 22.1% pick “Sometimes”.

Discussion: The dominance in these two categories reflects an internal protection mechanism from becoming fully academically dependent. This suggests that even in such an environment of heavy reliance on digital acceleration, students are ethically committed to lifelong learning and efforts.

31. I consider responsible AI use important for maintaining academic integrity.

249 responses

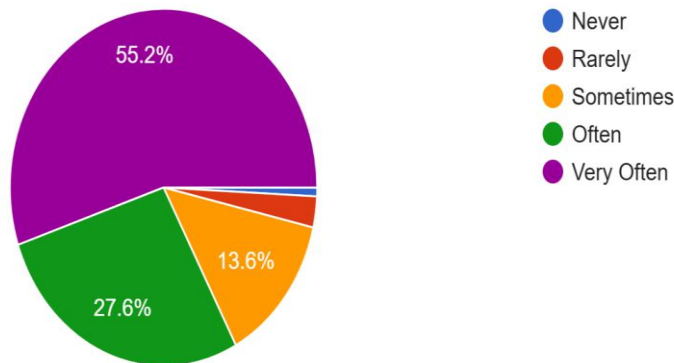


Findings: From among the 249 responses collected, 38.6% “Often” find responsible use to be an important aspect of the institution’s value, while 30.9% find it essential to be used “Very Often”. 24.1% regard it as significant “Sometimes”.

Discussion: This indicates that a group of students values maintaining their academic credentials. The responses suggest that many students recognize irresponsible use may compromise the reputation of their degrees, necessitating ethical limits.

32. I believe students should receive training on responsible AI use in academic writing.

250 responses



Findings: Out of 250 answers, an absolute majority of 55.2% indicates that students “Very Often” require formal training in universities. Another 27.6% answered “Often.” And also 13.6 are chosen “Sometimes”. In total, more than 83% explicitly demand intervention through training.

Discussion: The final result is the most practical piece of information from this survey. Even though students demonstrate decent literacy individually and are careful in their use of AI, they remain isolated due to a lack of formal training. Thus, the findings suggest a strong perceived need for formal classes on prompt engineering and AI literacy that should be integrated into university academic writing courses.

From the study, the evidence suggests how generative AI appears to have become not just an ancillary invention but a fundamental foundation of student writing systems since 71.6% of the subjects, most of whom come from Humanities and Social Science majors (48%), especially in the context of private universities (90.4%), use them frequently. Contrary to fostering passive reliance, advanced natural language processing algorithms appear to serve as active co-working agents which are used by more than half the sample size for prewriting ideation (55.1%) and syntax editing of the content (53.8%). More importantly, the findings suggest relatively high levels of digital literacy and proactive human agency, with 63.4% refusing to hand in purely machine-generated text as their own independent work, and 68% customizing their language to take back control of their authorship before submitting it. There is, however, tension between the high levels of individual ethical literacy and the vague guidelines from institutions, culminating in the overwhelming 83% of students reporting a need for university-based learning on AI ethics.

DISCUSSION

The objective of the study was to investigate the interplay between Generative AI (GenAI) literacy and responsible academic writing practices of university students. As reflected in the findings below, the respondents were primarily from private institutions and represented a higher proportion of text-intensive subjects.

The Baseline of Generative AI Literacy (Answering RQ1)

When analyzing the data with contemporary perspectives on AI literacy in mind, one is quick to conclude that in the context of Bangladesh, GenAI’s integration into students’ lives has gone beyond experimentation and is now perceived as a common component of students’ academic activities. First and foremost, over 71% of

students use such technologies regularly (often or very often). Accordingly, the baseline for GenAI literacy among the respondents appears relatively high, which may be associated with the widespread availability and use of GenAI tools.

Conceptual and Skills Literacy: The fact that over 75% of students feel highly confident about conceptual literacy and nearly 55% have strong prompt engineering skills, along with 51% possessing solid prompt-editing competencies, speaks volumes about respondents' abilities in this regard. It is aligned with the 3wAI Framework, proposed by Bozkurt (2024b), as students reported competencies consistent with "Know What" (conceptual literacy) and "Know How" (skills literacy) dimensions.

Critical Literacy: In turn, 65.2% of students critically assess the strengths and weaknesses of various GenAI applications, and over 57% remain consistently aware of potential hallucinations. Zhao et al.'s (2024) view of the reflective and security aspects of GenAI literacy is also embedded in the findings, as respondents reported awareness of technological limitations and potential hallucination risks.

The Mechanics of Responsible Academic Writing (Answering RQ2)

A rather alarming trend in contemporary academia is the pervasiveness of plagiarism and cheating, especially with the adoption of GenAI. Perhaps the central takeaway from this study is that, despite concerns about rampant AI-driven academic dishonesty, the majority of respondents reported using such technologies responsibly, treating them as writing assistants rather than content producers.

As shown in the results, nearly 55% of students use GenAI for pre-writing tasks, while over 53% use it for copyediting. In both cases, however, the respondents reported maintaining their authorship, which suggests patterns of AI use that align with responsible writing practices. First and foremost, 63.4% of students explicitly note that they do not submit text generated by ChatGPT or any other LLM as their own work. Additionally, nearly 68% of respondents make sure to rewrite chunks or entire sentences produced by AI to retain their authorship and voice.

Accordingly, the responsible writing mechanics observed in the findings include a clear delineation of when and how GenAI can be used for assistance. In particular, students reported using it primarily as a writing aid rather than as a replacement for their own authorship. They use it for pre-writing activities and copyediting but refrain from submitting text generated by ChatGPT as their own.

The Interplay Between Literacy and Responsibility (Answering RQ3)

Guided by Long and Magerko's (2020) AI Literacy framework, the results make it evident that there is a positive association between students' level of GenAI literacy and their adherence to responsible writing mechanics. In other words, as the scholars Long and Magerko (2020) argued, those with higher levels of literacy tend to engage in better academic writing practices. Consequently, higher literacy levels may be associated with a lower likelihood of reported dishonest practices. Moreover, students with higher literacy levels may be better positioned to identify AI-generated text.

In particular, 63.3% of respondents take time to verify facts, and 62.3% of students use academic databases to double-check information provided by AI. Similarly, 59.5% manually assess linked sources and papers to ensure that they are properly formatted or even exist. In effect, higher levels of reported GenAI literacy, particularly critical evaluation competencies, were associated with more frequent verification and originality-related practices within responsible academic writing. If one wishes to identify AI-produced text, one must first possess a basic level of literacy, which, as explained in RQ1, includes conceptual literacy and related skills. This is particularly relevant for the verification component, which requires detecting potential hallucinations.

Disciplinary Adaptations and Institutional Friction (Answering RQ4)

While analyzing the sample characteristics for potential disciplinary differences, it was noted that the majority of respondents (48%) were studying the humanities and social sciences, compared with only 8% of STEM

students. This is important for RQ4 because it indicates general trends in the use of NLP-driven technologies across text-intensive disciplines. Indeed, while STEM fields are traditionally associated with computation and algorithms, the presence of AI in these fields is primarily instrumental (e.g., for debugging or checking mathematical calculations). In contrast, students majoring in the humanities and social sciences may use GenAI tools for purposes such as overcoming writer's block and improving written expression.

The Institutional Communication Gap: As the results show, although the majority (64.9%) of students have strong ethical literacy, there appears to be a disconnect between institutional guidelines and policies on GenAI use. In particular, students are generally aware of the ethical implications of utilizing such technologies but lack comprehensive knowledge about university policies. The evidence for this is that only 55.7% of students strictly adhere to citation style guidelines (e.g., APA or MLA modifications). As such, there is a degree of ambiguity regarding institutional regulation, which appears to be resolved on a per-instructor basis. The findings are consistent with this interpretation, as students are much more likely to comply when specific instructions are given regarding AI use.

Conclusion and the Mandate for Reform

The culmination of this study's findings is the final statistic: an overwhelming 83% of Bangladeshi university students surveyed expressed a desire for formal instruction in using GenAI. Students appear to demonstrate efforts toward responsible AI use through practices such as fact-checking, rewriting, and avoiding the direct submission of AI-generated text; however, without formal guidelines or structured institutional frameworks, they may face uncertainty due to limited institutional guidance. Institutions of higher learning in Bangladesh should consider introducing formal prompts for engineering, algorithmic skepticism, and standardized citation practices for AI-assisted writing.

Study Limitations

This study has several limitations that should be considered when interpreting the findings. First, the study employed a convenience sampling technique, and the sample consisted predominantly of students from private universities, which may limit the generalizability of the findings to the broader population of university students in Bangladesh. Second, the study relied on self-reported survey responses, which may be subject to social desirability bias and may not fully reflect students' actual AI-assisted academic writing practices. Additionally, since data were collected through an online questionnaire, students with limited internet access or lower levels of digital engagement may have been underrepresented in the sample. Finally, the cross-sectional research design enabled the examination of associations among variables at a single point in time but did not permit conclusions regarding causal relationships between generative AI literacy and responsible academic writing practices.

CONCLUSION AND RECOMMENDATIONS

This research aimed to examine generative AI literacy and responsible academic writing practices among university students in Bangladesh. The research findings indicate that generative AI has become an important component of students' academic activities, particularly for brainstorming, language improvement, summarization, and writing support. However, students' engagement with these tools extends beyond general usage, as many reported awareness of AI limitations and practices such as fact-checking, source verification, and maintaining personal authorship.

Furthermore, the findings suggest a positive relationship between generative AI literacy and responsible academic writing practices. Students with higher-level reported awareness of AI capabilities, limitations, and ethical considerations are also reported to have higher levels of critical evaluation and responsible AI-assisted writing practices. Additionally, the study also highlights a gap between students' individual awareness and institutional support since many respondents expressed the need for formal AI literacy training and clearer university guidelines.

Hence, this study recommends that universities in Bangladesh introduce structured initiatives for formal generative AI literacy training, covering AI capabilities, limitations, prompt skills, verification strategies, and ethical use. Similarly, responsible AI practices should be integrated into academic writing and research methodology courses to help students utilize AI tools while maintaining originality and academic integrity. Additionally, it is suggested that universities should focus on developing clear institutional policies regarding AI disclosure, citation, authorship, and acceptable use in academic activities. Moreover, future research should consider larger and more diverse samples using probability-based sampling approaches, objective assessments of AI literacy, and longitudinal approaches to gather a better understanding of the long-term impact of generative AI on academic practices.

Data Availability Statement

The data analyzed during the current study are not publicly available due to participant privacy and confidentiality restrictions regarding student data but are available from the corresponding author upon reasonable request.

Ethical Approval

This study was conducted in accordance with the ethical standards of academic research. Since the study involved an anonymous online survey with no risk to participants, formal institutional ethical approval was waived. Informed consent was explicitly obtained from all individual participants before they participated in the survey.

Conflict of Interest

The authors declare that they have no competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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APPENDIX

Survey Topic: Generative AI Literacy and Responsible Academic Writing Practices Among University Students in Bangladesh

- **Target Audience:** Undergraduate University Students in Bangladesh
- **Format:** Anonymous, Self-Report, 5-Point Likert Scale ("Never", "Rarely", "Sometimes", "Often", "Very Often" unless specified otherwise)

Demographic Questions

Q1. What is your gender?

- Male
- Female
- Others

Q2. What type of university do you attend?

- Public University
- Private University
- National University

Q3. What is your current year of study?

- 1st Year
- 2nd Year
- 3rd Year
- 4th Year
- 5th Year or above

Q4. What is your field of study?

- Humanities & Social Sciences
- Business
- STEM
- Others

Section A: Generative AI Literacy

Q5. How frequently do you use Generative AI tools (e.g., ChatGPT, Gemini) for academic purposes?

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q6. I use Generative AI to brainstorm ideas before writing assignments.

- Never
- Rarely

- Sometimes
- Often
- Very Often

Q7. I use Generative AI to improve grammar, sentence structure, and writing style.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q8. I use Generative AI to summarize academic articles or study materials.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q9. I understand how Generative AI works and generates responses.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q10. I understand the strengths and limitations of Generative AI.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q11. I am aware that Generative AI can produce incorrect or hallucinated information.

- Never

- Rarely
- Sometimes
- Often
- Very Often

Q12. I know how to write effective prompts to obtain better AI-generated responses.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q13. If the AI response is unsatisfactory, I revise my prompts and try again.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Section B: Responsible Academic Writing

Q14. I use Generative AI as a support tool rather than allowing it to complete my work.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q15. I verify facts provided by AI before using them in academic writing.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q16. I compare AI-generated information with academic books, journals, or databases.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q17. I can identify mistakes or misleading information in AI-generated content.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q18. I understand the ethical issues associated with using Generative AI in academic writing.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q19. I know the academic integrity guidelines regarding AI use.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q20. I check the accuracy of all information before submitting assignments.

- Never
- Rarely
- Sometimes
- Often

- Very Often

Q21. I verify AI-generated references and citations before using them.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q22. I consult original sources instead of relying only on AI-generated summaries.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q23. I acknowledge or disclose my use of AI tools when required by my instructor.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q24. I follow APA/MLA or other citation guidelines when citing AI-generated content.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q25. I avoid submitting AI-generated text as entirely my own work.

- Never
- Rarely
- Sometimes

- Often
- Very Often

Q26. I modify or rewrite AI-generated text to reflect my own writing style.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q27. I consider Generative AI as a learning assistant rather than a replacement for learning.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q28. I ensure that my final submission reflects my own understanding and voice.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q29. I make meaningful personal contributions when using AI for academic writing.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q30. Responsible use of Generative AI is important for maintaining academic integrity.

- Never
- Rarely

- Sometimes
- Often
- Very Often

Q31. Universities should provide formal training on the responsible use of Generative AI.

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q32. Universities should provide formal training on the responsible and ethical use of Generative AI in academic writing.

- Never
- Rarely
- Sometimes
- Often
- Very Often