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# Accepting or rejecting AI: A mixed-methods study on undergraduate students' perception of Artificial Intelligence in education

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**Abstract**

**Aim:** This study examined the extent to which undergraduate students accept or reject artificial intelligence (AI) in education at Samar Colleges, Inc. during the academic year 2025–2026. Specifically, it investigated students' profiles, perceived familiarity with AI-related tasks, extent of AI use in academic activities, and the factors influencing their acceptance or rejection of AI. The study also sought to generate evidence that may support AI literacy development, responsible technology integration, and policy formulation in higher education.

**Methodology:** A sequential explanatory mixed-methods design (QUAN→qual) was employed, integrating descriptive-correlational quantitative analysis and qualitative thematic inquiry. The study involved 171 Bachelor of Science in Information Technology students selected through proportionate random sampling. Quantitative data were analyzed using descriptive statistics, Spearman's rho, Pearson's r, point-biserial correlation, and one-way ANOVA. Qualitative data were collected from 15 purposively selected participants through semi-structured interviews and analyzed using Braun and Clarke's thematic analysis.

**Results:** Findings revealed that students demonstrated highly favorable attitudes toward AI. However, their familiarity with AI tasks was only moderate across prompt creation, output enhancement, and result validation. AI was frequently used for content generation and enhancement, but only occasionally for validating outputs. Significant positive relationships were found between age, year level, internet connectivity, prior AI exposure, attitudes toward AI, and both AI familiarity and usage. Qualitative findings generated five themes: AI is accepted as a useful academic support tool; AI is accepted when used as a guide rather than a replacement for learning; AI is rejected due to concerns about overdependence and reduced critical thinking; AI is rejected when associated with academic dishonesty; and AI acceptance or rejection is influenced by teacher guidance and institutional policy.

**Conclusion:** Undergraduate students are frequent users of AI but demonstrate limited critical validation practices. Ethical awareness alone does not ensure responsible AI use. Internet connectivity, teacher guidance, and institutional support significantly influence AI engagement. The findings highlight the need for structured AI literacy programs, ethical AI education, curriculum-based guidance, and institutional policies that promote responsible and critical use of AI in learning. An intervention program, AI-LEARN (Advancing Intelligent Literacy for Ethical and Responsible Navigation), is proposed to strengthen students' AI competencies and support effective AI integration in higher education.

***Keywords:*** *Artificial Intelligence in Education, AI Acceptance, AI Literacy, Academic Integrity, Higher Education, Mixed-Methods Research*

## INTRODUCTION

Artificial intelligence (AI) has rapidly become part of higher education, reshaping how students access information, complete academic tasks, and learn. Students now use AI tools to write papers, search for information, summarize lessons, and finish assignments more efficiently. Some rely heavily on these tools, while others avoid them entirely—unsure how to use AI properly or fearful of academic penalties—and both patterns raise concerns for institutions (Holmes et al., 2019). AI refers to computer systems capable of tasks that typically require human cognition, such as understanding language, solving problems, making decisions, and learning from data (Russell & Norvig, 2021).

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In education, such tools now help teachers manage administrative work, give learners real-time feedback, and support personalized learning (Kamalov et al., 2023).

Global adoption has accelerated. Tools such as ChatGPT and Grammarly are now widely used by college students (Dwivedi et al., 2023), and the rise of generative AI brings clear opportunities alongside concerns about assessment, academic integrity, and responsible use (Kasneci et al., 2023). According to the Digital Education Council Global AI Student Survey (2024), approximately 86% of surveyed students reported using AI tools in their academic routines, prompting institutions to revise assessment and integrity policies (McDonald et al., 2024) and to redesign tasks as reliance on AI for writing and problem-solving raised concerns about originality and learning autonomy (Hern, 2024).

In the Philippines, AI use is growing but uneven. The Department of Education (DepEd) established its Education Center for Artificial Intelligence Research, signaling a shift toward structured AI-enabled learning (DepEd, 2025). Survey data indicate that more than half—up to 80%—of Filipino students have used AI for academic work (Instructure, 2023). Yet access is unequal: not all students have reliable internet or devices, especially in rural and provincial areas (Gocotano et al., 2021), and a digital readiness gap persists across institutions in underserved areas (World Bank, 2023).

At Samar Colleges, Inc., a private institution in Catbalogan City, Eastern Visayas, no study has examined how undergraduates understand, use, or respond to AI. Since School Year 2023–2024, faculty have observed an increase in AI-generated submissions, yet the institution has had no policy on acceptable AI use. Conducted in School Year 2025–2026, this study addresses that gap and provides evidence to inform the development of fair, inclusive policies and support programs. It is grounded in existing policy frameworks, including Republic Act No. 10844, the DICT Act (Republic of the Philippines, 2016); CHED Memorandum Order No. 46, s. 2012, on outcomes- and typology-based quality assurance (Commission on Higher Education, 2012); and DepEd Order No. 003, s. 2026, on the ethical use of AI in education (DepEd, 2026).

Beyond its institutional purpose, the study informs broader practice. Its findings on students' AI familiarity and validation skills can guide the embedding of AI-literacy and critical-evaluation tasks in curriculum design, where AI literacy is still often peripheral (Salhab, 2024); inform faculty development and teacher AI-literacy training, given educators' uneven AI self-efficacy (Ding et al., 2024; Mah & Groß, 2024); and support assessment redesign that protects integrity in AI-rich settings (Lye & Lim, 2024; Kofinas et al., 2025).

Prior research has largely examined AI adoption, perceptions, and usefulness in urban or well-resourced universities. What remains underexamined is how students in provincial institutions both accept and reject AI, how familiar they are with specific AI tasks, and whether they validate AI-generated work; few studies have examined AI users and non-users in the same setting (Holmes et al., 2019). This study addresses that gap by examining AI familiarity, usage, validation practices, and the factors shaping both acceptance and rejection among undergraduates in a provincial institution, integrating quantitative and qualitative evidence to develop an evidence-based program for responsible AI use.

## Review of Related Literature and Studies

This section reviews the relevant literature on the use of artificial intelligence in education, focusing on students' perceptions and responses to AI tools. It covers key concepts such as familiarity, perceived usefulness, ease of use, and ethical concerns, and identifies research gaps this study aims to address.

### Global and National Trends in AI Use in Education

Artificial intelligence is reshaping the global education landscape. News agencies report that students increasingly use generative AI tools such as ChatGPT, Grammarly, and other AI-powered learning assistants to help them with writing, idea generation, and understanding complex lessons. The growing prominence of generative AI has intensified discussions on AI literacy and governance, underscoring the need for educational institutions to establish policies, ethical guidelines, and capacity-building initiatives that support the responsible use of AI in teaching and learning (Lao & You, 2024). Similarly, the growing reliance of students on generative AI for academic tasks has intensified concerns about originality and independent learning, prompting universities to reconsider traditional assessment methods and academic integrity policies (Evangelista, 2025).

In the Philippines, national education agencies are beginning to institutionalize discussions on AI policy. The Department of Education established its Education Center for AI Research, signaling a national pivot toward structured AI-enabled learning (DepEd, 2025). Despite rapid national AI adoption, a digital readiness gap persists in non-urban

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and regional institutions, marked by inconsistent internet access, limited device ownership, and uneven faculty preparedness (World Bank, 2023).

**Student Perceptions, Acceptance, and Rejection of AI**

Maala et al. (2025), analyzing 251 undergraduate responses using text mining, found that students perceive AI as improving learning efficiency but expressed concerns about plagiarism, reduced originality, and growing dependency on AI-generated content. Similarly, Co (2025) synthesized literature indicating that AI accelerates academic work while surfacing recurring issues such as misinformation and reduced independent thinking, emphasizing the need for structured AI education. Robinos et al. (2024) revealed that perceived usefulness is the strongest predictor of AI adoption among college students, supporting the Technology Acceptance Model (TAM). Chan and Hu (2023) found that students adopt AI when it improves speed and performance but avoid it when they fear academic penalties, low reliability, or personal skill limitations. Farrokhnia et al. (2024) identified weaknesses such as overdependence, misinformation risks, and a lack of critical evaluation skills in their SWOT analysis of ChatGPT in higher education.

**AI Literacy and Validation Practices.**

Zhai (2023), in a systematic review, found that students often over-rely on AI dialogue systems, accepting AI-generated responses without question and struggling to assess their reliability—partly because such systems present answers persuasively—thereby weakening critical thinking and other cognitive abilities. Ng et al. (2021) emphasized that without adequate AI literacy, users may either over-rely on AI or completely reject it due to misunderstanding its capabilities and limitations. Long and Magerko (2020) similarly argued that meaningful engagement with AI requires competencies, including understanding how AI works, evaluating AI outputs, creating prompts effectively, and applying ethical AI decision-making.

**AI in Instructional Design and Curriculum Innovation**

Beyond its influence on individual learners, AI is reshaping how courses are designed and how curricula are organized. Systematic reviews of AI-supported instructional design report that generative tools are increasingly used across the analysis, design, and development phases of course creation—assisting with drafting learning objectives, generating assessment items, and selecting instructional media—while raising concerns about quality assurance and the potential deskilling of designers (Xu et al., 2025; Hodges & Kirschner, 2024). At the curricular level, UNESCO's AI Competency Framework for Students (2024) urges that AI learning objectives be embedded directly into official curricula across four dimensions—a human-centered mindset, ethics of AI, AI techniques and applications, and AI system design—rather than treated as an optional add-on, extending the earlier commitments of the Beijing Consensus on Artificial Intelligence and Education (UNESCO, 2019). These frameworks reposition AI not merely as a study aid but as curricular content that institutions must deliberately deliver, with explicit attention to equity, inclusion, and local adaptation in lower-resourced and provincial settings.

**Teacher Professional Development and Educational Leadership in AI Integration**

The way students engage with AI is also shaped by their teachers' preparedness and institutional leaders' decisions, yet these layers remain comparatively underexamined. A systematic review of research published between 2015 and 2024 found that roughly two-thirds of studies on AI in education focus on classroom applications, while only about one-third address teachers' own professional development, exposing a mismatch between the push for AI integration and the support available to educators (Tan et al., 2024). Scholars note that, as with earlier waves of educational technology, the benefits of AI depend on training that is practical, sustained, and embedded in collaborative communities of practice rather than delivered as one-off workshops. At the institutional level, reviews of AI in educational leadership map applications ranging from administrative efficiency and data-informed decision-making to strategic planning, while cautioning that leaders must establish governance, accountability, and ethical safeguards around data privacy and algorithmic fairness (Popenici & Kerr, 2017; Sposato, 2025). Responsible strategic leadership that aligns AI adoption with institutional mission and equity goals has accordingly been identified as a precondition for sustainable integration, particularly in contexts where formal AI policy remains sparse or fragmented.

**Gaps in Existing Literature**

Based on the review, AI has become widely used by students for academic tasks due to its speed and convenience, yet significant concerns persist regarding misinformation, plagiarism, weak validation practices, and unequal access,

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particularly in provincial institutions. Although existing studies affirm AI's value in productivity and academic engagement, most do not assess actual AI competencies, differentiate between patterns of user adoption and hesitation, or measure validation skills as a learning behavior. The present study addresses these gaps by investigating students' familiarity with AI, task-level competencies, adoption behaviors, and challenges in a provincial higher education context. While instructional design, curriculum innovation, teacher professional development, and educational leadership constitute the broader ecosystem in which these behaviors unfold, the present study focuses on the student layer, generating baseline evidence that can subsequently inform design, curricular, and professional development decisions at the institutional level.

**Theoretical Framework**

This study was grounded in four theories explaining how undergraduate students come to accept or reject AI in their academic work. The Technology Acceptance Model (TAM; Davis, 1989) holds that two beliefs primarily determine use—perceived usefulness (whether a system enhances performance) and perceived ease of use (whether it is effort-free)—which shape attitudes, intention, and actual use. Applied here, TAM explains why students integrate AI tools they find useful and easy to operate while rejecting those they find unhelpful or difficult.

The AI Literacy Framework (Long & Magerko, 2020) conceptualizes AI literacy as the competencies to critically evaluate, effectively use, and meaningfully interact with AI—recognizing what AI is and is not, understanding how it generates outputs, and knowing how to collaborate with it. Here, these are operationalized through students' ability to construct effective prompts, refine outputs, and validate results before relying on them, informing the study's independent variables, since students with higher AI literacy use AI more purposefully and critically.

Rogers's (2003) Diffusion of Innovations Theory explains how and at what rate technologies spread within a social system, identifying adoption attributes—relative advantage, compatibility, complexity, trialability, and observability—and classifying adopters from innovators to laggards. It accounts for varying levels of AI adoption, where accessibility, peer influence, institutional support, perceived risks, and ethical concerns shape whether students embrace AI early, adopt it cautiously, or reject it.

The Theory of Planned Behavior (TPB; Ajzen, 1991) posits that behavior is driven by intention, itself shaped by attitude toward the behavior, subjective norms (perceived social pressure), and perceived behavioral control (one's sense of how easy or difficult the behavior is). It explains how students' attitudes toward AI, the expectations of peers and instructors, and their confidence in their own ability collectively shape their intention to use or avoid AI.

Collectively, TAM and TPB explain the beliefs, attitudes, and intentions that drive AI use; the AI Literacy Framework specifies the competencies that determine how effectively students engage with AI; and the Diffusion of Innovations Theory situates these decisions within their broader social and institutional context. Together they form an integrated foundation for examining the familiarity, usage, attitudes, and acceptance or rejection of AI that constitute this study's central variables.

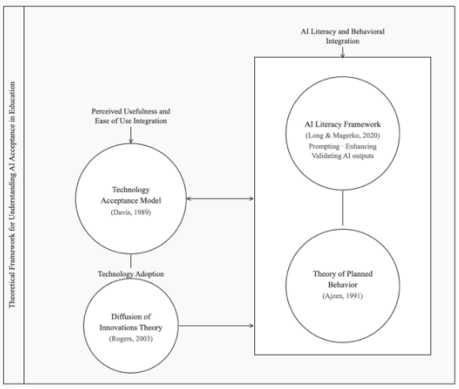


**Figure 1.**
*Illustration of the dynamics for the theoretical framework*

**Statement of the Problem**

Artificial intelligence (AI) has rapidly become integrated into higher education, transforming how students access information, complete academic tasks, and engage in learning. While AI technologies offer opportunities to improve

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learning efficiency, productivity, and access to educational resources, concerns remain regarding students' overreliance on AI, reduced critical thinking, academic dishonesty, and inadequate validation of AI-generated information. These concerns have significant implications for teaching and learning, curriculum implementation, academic integrity, and the responsible integration of technology in higher education.

Despite the growing use of AI among Filipino students, existing studies have largely focused on AI adoption, perceived usefulness, and general attitudes toward AI. Limited research has examined both AI users and non-users within the same educational setting, particularly in provincial higher education institutions. Furthermore, few studies have investigated specific AI literacy competencies such as prompt construction, enhancement of AI-generated outputs, and validation of AI-generated results as indicators of responsible AI use.

At Samar Colleges, Inc., no empirical study has been conducted to determine students' familiarity with AI, patterns of AI usage, and the factors influencing their acceptance or rejection of AI in academic tasks. The absence of institution-specific evidence hinders the development of informed policies, instructional interventions, and AI literacy programs to support ethical and effective AI integration in education. Therefore, this study was conducted to generate evidence that may guide curriculum enhancement, instructional practices, institutional policy development, and responsible AI use among undergraduate students.

## Research Objectives

### General Objective

This study aimed to examine undergraduate students' perceptions, familiarity with, use of, and acceptance or rejection of artificial intelligence in education at Samar Colleges, Inc. during the academic year 2025–2026.

### Specific Objectives

Specifically, the study sought:

1. To describe the profile of the student-respondents in terms of age, sex, year level, internet connectivity, access to digital devices, and prior exposure to AI tools.
2. To determine the student-respondents' attitudes toward artificial intelligence and their perceived level of familiarity with AI in terms of creating AI prompts, enhancing AI-generated outputs, and validating AI-generated results.
3. To determine the perceived extent of AI usage in academic-related tasks in terms of creating AI prompts, enhancing AI-generated outputs, and validating AI-generated results.
4. To determine the significant relationships between the student-respondents' profile variables, attitudes toward AI, perceived familiarity with AI, and extent of AI usage in academic-related tasks.
5. To identify the barriers and enabling factors influencing students' acceptance or rejection of AI in academic tasks.
6. To develop an evidence-based intervention program that promotes responsible, ethical, and effective AI integration among undergraduate students.

### Research Questions

This study sought to answer the following questions:

1. What is the profile of the student-respondents in terms of:
   a. age;
   b. sex;
   c. year level;
   d. internet connectivity;
   e. access to digital devices; and
   f. prior exposure to AI tools?
2. What are the attitudes of the student-respondents toward artificial intelligence in education?
3. What is the perceived level of familiarity with AI in education in terms of:
   a. creating AI prompts;
   b. enhancing AI-generated outputs; and
   c. validating AI-generated results?
4. What is the perceived extent of AI usage in academic-related tasks in terms of:
   a. creating AI prompts;

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b. enhancing AI-generated outputs; and
c. validating AI-generated results?

5. Is there a significant relationship between the student-respondents' profile variables, attitudes toward AI, perceived familiarity with AI, and the extent of AI usage in academic-related tasks?
6. What barriers and enabling factors influence students' acceptance or rejection of AI in academic tasks?
7. What evidence-based intervention program may be developed based on the findings of the study?

**Hypotheses**

The following null hypotheses were tested at the 0.05 level of significance:

H01: There is no significant relationship between the student-respondents' profile variables and their perceived level of familiarity with artificial intelligence in education.

H02: There is no significant relationship between the student-respondents' profile variables and the extent of artificial intelligence usage in academic-related tasks.

H03: There is no significant relationship between the student-respondents' attitudes toward artificial intelligence and their perceived level of familiarity with artificial intelligence in education.

H04: There is no significant relationship between the student-respondents' attitudes toward artificial intelligence and the extent of artificial intelligence usage in academic-related tasks.

## METHODOLOGY

### Research Design

This study employed a sequential explanatory mixed-methods design, quantitative-qualitative (QUAN→qual), integrating descriptive-correlational quantitative analysis with qualitative thematic inquiry, as quantitative data alone could not fully capture students' acceptance or rejection of AI. The quantitative strand established patterns and relationships among variables, while the qualitative strand interpreted these results by examining students' experiences, perceptions, and contextual factors (Creswell & Plano Clark, 2018).

The quantitative phase measured student profiles, perceived familiarity with AI tasks, and extent of AI use through descriptive statistics (frequencies, percentages, weighted means, and standard deviations) and inferential tests (Spearman's rho, point-biserial correlation, ANOVA, and Pearson's r). The qualitative phase used an exploratory approach to examine students' experiences and decision-making around the use or non-use of AI, analyzed through Braun and Clarke's (2006) thematic analysis.

The study involved 171 BSIT students at Samar Colleges, Inc., during the 2025–2026 academic year, determined using Slovin's formula (0.05 margin of error) and distributed proportionally by year level. For the qualitative phase, 15 purposively selected participants representing AI users and hesitant users took part in semi-structured interviews.

### Population and Sampling / Sources of Data

The respondents were undergraduate students in the Bachelor of Science in Information Technology (BSIT) program at Samar Colleges, Inc., during the 2025–2026 academic year. Using Slovin's formula (0.05 margin of error) and proportionate stratified random sampling, 171 students were selected from a population of 300, distributed across year levels (1st year, n = 35; 2nd year, n = 35; 3rd year, n = 41; 4th year, n = 60). For the qualitative phase, participants were purposively selected from the survey respondents based on three criteria: their survey responses, self-reported AI usage patterns, and willingness to be interviewed. Interviews continued iteratively until data saturation—when no new themes emerged—was reached at 15 participants, which set the final qualitative sample size. Participants were then classified by level of AI adoption into AI users (n = 6), who reported regular, deliberate use, and hesitant users (n = 9), who reported occasional, cautious, or limited use with reservations about AI. These category sizes were not predetermined but emerged from the classification.

### Instrumentation

A five-part questionnaire served as the primary instrument: Part I gathered the demographic profile; Part II measured attitudes toward AI on a five-point Likert scale adapted from Ng et al. (2021); Part III assessed familiarity with AI tasks adapted from Long and Magerko (2020); Part IV determined the extent of AI usage adapted from Chan and Hu (2023); and Part V comprised open-ended questions for the qualitative data. Before administration, a panel of

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five experts—in AI and educational technology, research methodology and educational measurement, and language and instrument design—validated each item for relevance, clarity, and alignment with the study's constructs, and ambiguous items were revised. Internal consistency was examined using Cronbach's alpha (Cronbach, 1951) computed on all 171 participants rather than a separate pilot sample, since the instrument had already undergone expert content validation and a full-sample estimate provides a more stable, representative measure of reliability. It yielded an overall coefficient of .96 and subscale coefficients of .92 (attitudes, Part II), .96 (AI-task familiarity, Part III), and .91 (extent of AI usage, Part IV)—all within the excellent range (George & Mallery, 2003). For the qualitative strand, the panel likewise reviewed and refined a semi-structured interview guide for thematic richness and analytical suitability.

**Data Collection Procedure**

Formal written permission was obtained from the senior vice president for academic programs and the deans prior to data collection. Data collection was conducted among Bachelor of Science in Information Technology (BSIT) students for over a 2-month period from December 2025 to January 2026. Orientation sessions were held to inform participants of the study's purpose, voluntary nature, and ethical safeguards, including anonymity, confidentiality, and the right to withdraw. Survey questionnaires were personally administered by the researcher in designated classrooms with 20–30 minutes allotted for completion. For the qualitative phase, semi-structured interviews were conducted with audio recording, transcribed verbatim, and coded using participant labels (R1, R2, etc.) to protect anonymity. All data was stored in password-secured devices accessible only to the researcher.

**Data Analysis**

Frequency, percentage, mean, standard deviation, and weighted mean were used for descriptive analysis. The Shapiro–Wilk test determined normality; Spearman's rho was applied for ordinal and non-normally distributed data; Pearson's r was used when normality was satisfied; point-biserial correlation addressed the sex variable; and one-way ANOVA with eta squared ($\eta^2$) determined group differences. The significance of the correlation coefficients was tested using the t-test. All inferential tests were evaluated at $\alpha = 0.05$. For the qualitative data, Braun and Clarke's six-phase thematic analysis was used to identify, organize, and interpret recurring patterns of meaning across the participants' responses.

**Ethical Considerations**

Ethical standards were strictly observed throughout the study. Approval to conduct the research was obtained from the Research Ethics Committee of Samar Colleges, Inc., prior to data collection. Written informed consent was secured from all 171 survey respondents and 15 interview participants before their involvement. Participation was voluntary, and participants were informed of their right to withdraw at any time without penalty. No personally identifiable information was collected; interview participants were anonymized using coded identifiers (P1–P15), and audio recordings were securely stored and accessible only to the researcher. Confidentiality was maintained throughout, and all data were used solely for academic and research purposes.

**RESULTS AND DISCUSSION**

**Table 1**

*Profile of the Student-Respondents (N = 171)*

| Variable | f | % |
|---|---|---|
| Age (years) | | |
| 18–20 | 76 | 44.44 |
| 21–23 | 76 | 44.44 |
| 24–26 | 12 | 7.02 |
| 27–30 | 7 | 4.09 |
| Sex | | |
| Male | 97 | 56.73 |
| Female | 74 | 43.27 |
| Year level | | |

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| | | |
|---|---|---|
| First year | 35 | 20.47 |
| Second year | 35 | 20.47 |
| Third year | 41 | 23.98 |
| Fourth year | 60 | 35.09 |
| Internet connectivity | | |
| Mobile data | 118 | 69.01 |
| Fiber | 48 | 28.07 |
| Access to devices [a] | | |
| Cellphone | 167 | 97.66 |
| Laptop | 20 | 11.70 |
| Desktop | 19 | 11.11 |
| Prior exposure to AI tools [a] | | |
| ChatGPT | 158 | 92.40 |
| Grammarly | 88 | 51.46 |
| QuillBot | 84 | 49.12 |
| Google Gemini | 72 | 42.11 |

*Note.* Mean age = 21.35 years (MAD = 1.86). [a] Multiple responses were allowed; percentages therefore exceed 100%.

As shown in Table 1, the student-respondents were predominantly young adult learners, with the 18–20 and 21–23 age brackets forming the largest groups (44.44% each; *M* = 21.35 years, MAD = 1.86) and a slight majority being male (56.73%). Fourth-year students comprised the largest year-level group (35.09%). Most respondents relied on mobile data for connectivity (69.01%), and the cellphone was the most widely accessed device (97.66%), while ChatGPT was by far the most familiar AI tool (92.40%). This profile suggests that the respondents belong to a digitally immersed generation of 'digital natives' inclined to adopt emerging tools such as AI in learning (Ng et al., 2021); their reliance on mobile data rather than fixed broadband, however, indicates that the stability of access may vary and shape their AI engagement.

**Table 2**

*Attitudes Toward the Use of AI in Academic Tasks*

| Attitude Statement | WM | Interpretation |
|---|---|---|
| 1. Using AI tools helps me understand lessons more quickly | 4.11 | Highly Favorable |
| 2. I feel more confident submitting school outputs when AI helps me improve them. | 3.59 | Highly Favorable |
| 3. AI encourages me to participate more actively in academic tasks or discussions. | 3.74 | Highly Favorable |
| 4. AI provides learning support that I do not usually get from textbooks or lectures. | 3.78 | Highly Favorable |
| 5. I believe using AI improves the quality of my academic outputs. | 3.98 | Highly Favorable |
| 6. AI helps me generate ideas when I do not know how to start my schoolwork. | 3.86 | Highly Favorable |
| 7. I feel comfortable using AI to explore unfamiliar topics or academic concepts. | 3.71 | Highly Favorable |
| 8. I think AI should be encouraged as a learning tool in school. | 3.66 | Highly Favorable |
| 9. I believe responsible use of AI can help me become a better independent learner. | 3.81 | Highly Favorable |
| **Grand Weighted Mean** | **3.80** | **Highly Favorable** |

The student-respondents demonstrated a highly favorable attitude toward the use of AI in academic tasks with a grand weighted mean of 3.80. All indicators were interpreted as highly favorable, with the highest-rated statement being 'Using AI tools helps me understand lessons more quickly' (WM = 4.11) and the lowest—though still highly favorable—being 'I feel more confident submitting school outputs when AI helps me improve them' (WM = 3.59). These results are consistent with previous studies indicating that students adopt AI technologies when they perceive them as useful, efficient, and supportive of academic performance (Chan & Hu, 2023; Farrokhnia et al., 2024).

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**Table 3**

*Student-Respondents' Perceived Level of Familiarity With AI in Education Across Three Dimensions.*

| Dimension | GWM | Interpretation |
|---|---|---|
| Creating AI Prompts | 3.38 | Moderately Familiar |
| Enhancing AI-Generated Outputs | 3.29 | Moderately Familiar |
| Validating AI-Generated Results | 3.07 | Moderately Familiar |

The three familiarity dimensions were all moderately familiar. Creating AI prompts was highest (GWM = 3.38), indicating that students can build basic prompts but not yet optimize them for accurate, high-quality outputs. Enhancing AI-generated outputs (GWM = 3.29) showed that students can edit but struggle to personalize and restructure outputs for academic purposes. Validating AI-generated results was weakest (GWM = 3.07), reflecting limited ability to critically evaluate accuracy, reliability, and academic integrity—consistent with literature noting that students often rely on AI without sufficient verification, risking misinformation (Lo, 2023; Chan & Hu, 2023). This pattern is telling: competence is strongest where cognitive demand is lowest (prompting) and weakest where independent judgment is most required (validation), suggesting that familiarity acquired incidentally settles at functional use and does not, on its own, mature into the evaluative judgment that AI-literacy frameworks identify as central to competent use (Long & Magerko, 2020; Ng et al., 2021). Institutions should therefore treat AI literacy as a competency to be deliberately developed through both curricular and co-curricular programs. Such development can be structured across three progressively advanced competencies. First, prompt engineering can move students beyond basic prompts toward precise, context-sensitive ones that yield more accurate, academically useful outputs. Second—most urgently, given the low validation score—explicit instruction in critically evaluating AI-generated content can equip students to verify accuracy, detect bias or fabrication, and cross-check sources before adopting outputs. Third, instruction in responsible and ethical use can foreground academic integrity, attribution, and awareness of the limitations of generative tools, reducing uncritical dependence and misinformation (Lo, 2023; Chan & Hu, 2023). Embedding these within course outcomes, assessments, and faculty-guided practice—rather than leaving them to be acquired incidentally—is a shared responsibility of faculty, curriculum developers, and policymakers, ensuring AI supports rather than substitutes for students' own judgment.

**Table 4**

*Summary of Perceived Extent of AI Usage in Academic-Related Tasks*

| Dimension | GWM | Interpretation |
|---|---|---|
| Creating AI Prompts | 3.83 | Often |
| Enhancing AI-Generated Outputs | 3.72 | Often |
| Validating AI-Generated Results | 3.07 | Sometimes |

Students frequently use AI to create prompts (GWM = 3.83, often) and to enhance outputs (GWM = 3.72, often), particularly for summarizing lectures and improving grammar. However, validation practices were only sometimes performed (GWM = 3.07), with testing originality and plagiarism (WM = 3.01) and ensuring ethical standards (WM = 3.02) being the lowest-rated behaviors. This critical gap between high usage and infrequent validation confirms findings by Lo (2023) that students prioritize speed and convenience over accuracy and ethical checking.

The findings carry clear implications for instructional practice. Because students engage AI frequently for prompt creation (GWM = 3.83) and output enhancement (GWM = 3.72), yet validate results only sometimes (GWM = 3.07)—with testing originality and plagiarism (WM = 3.01) and ensuring ethical standards (WM = 3.02) rated lowest—educators should deliberately strengthen the verification habits that current practice leaves underdeveloped. Instructional strategies ought to emphasize critical thinking, information verification, and ethical use of technology, treating these competencies not as optional add-ons but as integral components of responsible AI-assisted learning. Rather than discouraging the use of AI, instructors can guide students to interrogate the accuracy, originality, and reliability of AI-generated outputs by tracing claims to credible sources, detecting errors or fabricated information, and

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weighing the ethical implications of the work they submit. Curriculum developers, in turn, may consider embedding AI evaluation tasks directly into coursework—such as requiring learners to assess, revise, or justify AI-generated material—so that verification becomes a routine, assessable part of academic work rather than an afterthought. Anchoring these tasks within existing assessments encourages students to move beyond the mechanical operation of AI toward genuine analytical engagement, thereby strengthening higher-order thinking skills such as analysis, evaluation, and reasoned judgment. In this way, habitual and convenience-driven AI use can be transformed into a disciplined practice that reinforces, rather than replaces, the critical and ethical capacities at the heart of meaningful learning.

**Barriers and Enabling Factors: Qualitative Findings**

Five major themes emerged from the semi-structured interviews regarding factors influencing students' acceptance or rejection of AI in academic tasks.

**Theme 1: AI is Accepted as a Useful Academic Support Tool.** Students widely accept AI for simplifying learning, providing quick explanations, and efficiently supporting academic tasks. One participant shared, "*AI is like my genie that helps me with my studies… it answers all my questions and provides a vast range of information"* (P5). This triangulates with the quantitative data—highly favorable attitudes (GWM = 3.80) and frequent use for prompt creation (GWM = 3.83, often). The implication for instructional innovation is direct: because students already approach AI positively and use it routinely, educators can build on this readiness by deliberately embedding AI into course design—modeling effective prompting, designing AI-assisted inquiry tasks, and scaffolding activities that move learners from retrieving ready-made answers toward evaluating, questioning, and synthesizing information. This reframes the instructor from sole knowledge provider to facilitator of critical engagement and positions AI as a partner in active learning, channeling the efficiency students value toward deeper understanding rather than dependency.

**Theme 2: AI is Accepted When Used as a Guide, Not a Replacement**. Students accept AI when it supports rather than replaces their own thinking. As one participant stated, "AI is only a guide and not a replacement in learning" (P1). This complements the quantitative findings, where the gap between high usage (GWM = 3.83) and moderate familiarity (GWM = 3.38) reveals a self-regulated pattern of assisted rather than substituted learning. Since students already regard AI as a scaffold rather than a substitute, this disposition can be deliberately cultivated through guided learning. Teachers can embed AI in structured tasks that assist specific stages of inquiry, while learners retain ownership of the analysis, judgment, and final output. Modeling when to consult AI, when to verify its responses against credible sources, and when to set it aside strengthens self-regulation and critical evaluation skills. Positioning AI as a guided learning aid rather than an unrestricted source of answers safeguards academic integrity, deepens conceptual understanding, and reinforces the supportive role students themselves value.

**Theme 3: AI is Rejected Due to Overdependence and Reduced Critical Thinking**. Students limit their AI use when they perceive it as fostering overdependence. Participant 7 stated, "*Using AI might reduce my own skills, learning, and critical thinking skills,"* and Participant 14 expressed "*the fear of losing my ability to critically think about things."* This converges with the quantitative finding that validation was the weakest competency (GWM = 3.07). Students' own fear of dulling their thinking makes a stronger case for cultivating critical thought than any external rule, suggesting that tasks should be designed so that the reasoning AI might do for them is the reasoning the work obliges them to do themselves. Critical thinking should therefore be treated as an explicit, assessed learning outcome rather than an assumed by-product of coursework, and—since validation was weakest—educators should foreground the evaluation of AI output as a teachable skill. This means requiring learners to interrogate, verify, and contest AI responses—checking claims against primary sources, exposing flawed assumptions, and justifying revisions—so that validation itself, not the answer, becomes the graded task. Assessment can be redesigned around process-oriented, reasoning-intensive activities such as annotated drafts, oral defenses, problem variants, and reflective journals, where the cognitive work cannot be delegated to a tool. Positioning AI as a "thinking partner" to be questioned rather than an authority to be copied turns students' own apprehension into a foundation for developing critical thinking, ensuring the technology augments rather than displaces the reasoning it is meant to support.

**Theme 4: AI is Rejected When Associated With Cheating and Academic Dishonesty.** Students hesitate or refuse to use AI when they link it to academic dishonesty. Participant 4 noted, "*AI is like you are cheating, because it's not totally your work."* This converges with the quantitative finding that ethical validation was the least practiced behavior (WM = 3.01–3.02), confirming that integrity concerns exist but have not translated into consistent ethical checking. Closing that gap is the priority, and prohibition alone is unlikely to do it; learners who already sense where the ethical line lies respond better to formative guidance and to assessment designed so that honest, transparent AI

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use is the path of least resistance. The integrity policy should therefore shift from prohibition to transparency. Students perceive the ethical boundary but do not consistently act on it; outright bans tend to drive AI use underground, whereas a disclosure-based framework is more likely to be followed. Programs should state explicitly—in the syllabus and in each assessment—which uses of AI are permitted, which require acknowledgment, and which are prohibited. To strengthen the weak ethical-validation behavior (WM = 3.01–3.02), these expectations should become routine practice: requiring students to declare and cite AI assistance, retain drafts, and verify AI-generated content makes ethical checking a normal, assessable part of the work. Such measures work best paired with formative support rather than detection and sanctions alone, since a purely punitive stance discourages the honest, transparent use the policy aims to cultivate.

**Theme 5: AI is Accepted or Rejected Depending on Teacher Guidance and School Policy.** Students' decisions are strongly shaped by teacher influence and institutional policy. Participant 7 explained, *"School policies and teachers affect my decision… if it is allowed, I use it; if not, I avoid it."* This is complemented by quantitative data showing that attitudes toward AI—shaped by institutional climate—had significant positive relationships with all familiarity ($\rho$ = 0.503–0.515, p = .000) and usage dimensions ($\rho$ = 0.431–0.451, p = .000). Students take their cue so openly from teachers and school rules that the clarity of those rules becomes consequential: where guidance is transparent, consistent across courses, and delivered by prepared faculty, students follow it; where it is vague or contradictory, the same readiness to defer leaves them without direction. This places a clear obligation on academic leaders to move beyond ad hoc, classroom-by-classroom improvisation toward coherent, explicitly articulated institutional policy. The central governance failure is not prohibition or permission as such, but inconsistency—students defer readily and are well served only when there is something clear and stable to defer to. And because climate-shaped attitudes correlated significantly with both familiarity and usage ($\rho$ = 0.431–0.515), governance does not merely permit or restrict AI; it shapes students' competence with it, making institutional climate a direct lever on learning outcomes.

## Conclusions

Based on the findings, undergraduate students demonstrated highly favorable attitudes toward artificial intelligence and frequently used AI tools in academic tasks. However, their familiarity with AI remained moderate, particularly in validating AI-generated information, indicating that students possess functional AI skills but require further development in critical evaluation, ethical use, and responsible decision-making. Internet connectivity, prior exposure to AI, year level, and attitudes toward AI significantly influenced familiarity and usage, while sex and device ownership did not. The findings further revealed that students' acceptance or rejection of AI is shaped by perceived usefulness, concerns regarding overdependence and academic dishonesty, and the influence of teacher guidance and institutional policies. These results highlight the need for higher education institutions to move beyond simple access to AI and focus on developing comprehensive AI literacy competencies. The study contributes to educational research by providing evidence on how AI familiarity, usage, and validation practices influence learning behaviors in higher education. The findings underscore the importance of integrating AI literacy into curriculum design, strengthening instructional approaches that promote critical thinking and ethical use of technology, and establishing institutional policies that guide responsible AI adoption. Furthermore, the study highlights the role of educational leaders, faculty members, and curriculum developers in fostering technology-enhanced learning environments that balance innovation with academic integrity. The proposed AI-LEARN Program offers a pedagogically grounded framework for enhancing AI literacy, promoting responsible AI use, and supporting the effective integration of AI into higher education teaching and learning.

## Recommendations

Based on the findings of the study, the following recommendations are offered:

1. AI literacy programs may be developed and implemented to strengthen students' competencies in prompt construction, output enhancement, and, in particular, the validation of AI-generated information, which emerged as the weakest area of familiarity and use.
2. Teachers may incorporate instructional activities that promote fact-checking, source verification, ethical reasoning, and critical evaluation of AI-generated outputs to strengthen higher-order thinking skills and responsible use of technology.
3. Curriculum developers may integrate AI literacy competencies, digital citizenship, and ethical AI use into relevant courses and learning outcomes to support responsible technology-enhanced learning.

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4. School leaders and administrators may establish institutional policies and guidelines that clearly define acceptable and ethical uses of AI in academic work while supporting innovation in teaching and learning.
5. Educational institutions may strengthen digital infrastructure and internet connectivity to ensure equitable access to AI-supported educational resources and learning opportunities.
6. Faculty development programs may be conducted to enhance teachers' capacity to integrate AI tools effectively into instruction, assessment, and student support services.
7. Teacher education institutions may incorporate AI literacy, responsible AI integration, and technology-enhanced pedagogy into pre-service and in-service teacher training programs.
8. Education policymakers may consider developing broader policy frameworks that encourage responsible AI adoption while safeguarding academic integrity, learner autonomy, and equitable access to educational technologies.
9. Future researchers may replicate the study in different educational contexts and examine the effectiveness of AI literacy interventions in improving responsible AI use, critical thinking, and academic performance.

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