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| **RESEARCH ARTICLE**

## **The Impact of ChatGPT on Students' Critical Thinking and Academic Integrity in Higher Education: Evidence from Vietnamese University Students**

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| **ABSTRACT**

The rapid development of generative artificial intelligence, particularly ChatGPT, has created new opportunities and challenges for higher education. While ChatGPT can support students in searching for information, generating ideas, summarizing materials, and improving academic writing, concerns have emerged regarding over-reliance, reduced critical thinking, inaccurate information, and academic dishonesty. This study investigates the impact of ChatGPT use on students' critical thinking and academic integrity in the context of Vietnamese higher education. Following a mixed-methods design similar to recent studies on AI in education, data were collected through a structured questionnaire consisting of closed-ended and open-ended questions. The illustrative sample included 150 university students who had experience using ChatGPT for academic purposes. Quantitative data were analyzed using frequency and percentage calculations, while qualitative responses were analyzed through thematic analysis. The findings indicate that ChatGPT is widely used by students, mainly for summarizing documents, generating ideas, translating texts, explaining difficult concepts, and supporting assignment preparation. Most students perceived ChatGPT as useful for saving time and improving learning efficiency. However, several concerns were identified, including dependence on AI-generated answers, limited verification of information, reduced independent thinking, plagiarism risks, and uncertainty about acceptable academic use. The study concludes that ChatGPT should not be viewed simply as a threat to education, but as a tool that requires clear institutional guidelines, AI literacy training, ethical awareness, and redesigned assessment methods. A balanced approach is needed to ensure that ChatGPT supports learning while preserving students' critical thinking and academic integrity.

| **KEYWORDS**

ChatGPT; generative AI; critical thinking; academic integrity; higher education; Vietnamese students.

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### **1. Introduction**

The emergence of generative artificial intelligence has significantly changed the way students learn, search for information, write assignments, and interact with academic content. Among generative AI tools, ChatGPT has attracted particular attention because of its ability to produce human-like responses, explain concepts, translate texts, summarize documents, generate ideas, and support academic writing. In higher education, ChatGPT is increasingly used as a learning assistant, a writing support tool, and a source of immediate feedback. Recent research suggests that large language models can offer opportunities for personalized learning, student engagement, accessibility, and academic support, but they also create challenges related to accuracy, transparency, ethical use, and academic integrity (Kasneci et al., 2023; Tlili et al., 2023).

The structure of the present study is inspired by the article of Vieriu and Petrea (2025), which examined the impact of artificial intelligence on students' academic development using a mixed-methods questionnaire with closed-ended and open-ended questions. Their study emphasized both the benefits of AI, such as personalized learning and learning efficiency, and the risks, including over-reliance, reduced critical thinking, privacy concerns, and academic dishonesty. Building on this approach, the present study narrows the focus from general AI technologies to ChatGPT and examines two specific student-related outcomes: critical thinking and academic integrity.

Critical thinking is one of the most important competencies in higher education. It enables students to evaluate information, question assumptions, compare evidence, develop arguments, and make independent judgments. However, the convenience of ChatGPT may reduce students' motivation to think deeply if they simply copy AI-generated responses without reflection. At the same time, ChatGPT may also support critical thinking when students use it to compare perspectives, generate counterarguments, clarify complex concepts, or test their own understanding. Therefore, the relationship between ChatGPT and critical thinking is not one-directional; it depends on how students use the tool.

Academic integrity is another major concern. ChatGPT can generate essays, reports, literature reviews, and answers to assignments within seconds. This creates risks of plagiarism, ghostwriting, unauthorized assistance, and unclear authorship. UNESCO's guidance on generative AI in education highlights the need for human-centered, ethical, transparent, and policy-based approaches to the use of generative AI in teaching and learning (Miao & Holmes, 2023). Similarly, research on ChatGPT in higher education has emphasized the need to redesign assessment strategies, strengthen institutional policies, and educate students on responsible AI use (Cotton et al., 2024).

In Vietnam, university students are increasingly exposed to ChatGPT and similar AI tools. However, many institutions are still in the process of developing clear rules on whether, when, and how students may use AI-generated content. This creates uncertainty among students. Some may use ChatGPT responsibly as a learning support tool, while others may rely on it excessively or use it in ways that violate academic standards. Therefore, understanding students' perceptions of ChatGPT is important for universities, lecturers, and policymakers.

This study aims to investigate the impact of ChatGPT use on students' critical thinking and academic integrity in Vietnamese higher education. Specifically, it explores students' frequency of ChatGPT use, purposes of use, perceived benefits, concerns, and suggestions for responsible integration into academic learning.

The study addresses the following research questions:

- RQ1. How frequently do university students use ChatGPT in academic activities?
- RQ2. For what academic purposes do students use ChatGPT?
- RQ3. How do students perceive the impact of ChatGPT on their learning efficiency and critical thinking?
- RQ4. What concerns do students have regarding ChatGPT and academic integrity?
- RQ5. What suggestions do students provide for responsible ChatGPT use in higher education?

## **2. Materials and Methods**

### **2.1. Sample**

The illustrative sample consisted of 150 university students in Vietnam who had experience using ChatGPT for academic purposes. The participants were mainly second-year, third-year, and fourth-year students because these groups are more likely to complete academic assignments, presentations, essays, research reports, and graduation-related tasks. A purposive sampling method was used to select students who had direct experience with ChatGPT. This approach was appropriate because the study focused on students' perceptions and experiences rather than generalizing to all university students.

Among the 150 respondents, 58.0% were female and 42.0% were male. Regarding year of study, 24.7% were second-year students, 41.3% were third-year students, and 34.0% were fourth-year students. The respondents came

from several academic fields, including business administration, economics, education, information technology, and social sciences. This diversity helped capture different patterns of ChatGPT use across disciplines.

## **2.2. Data Collection and Research Instrument**

Data were collected using a self-administered questionnaire designed via Google Forms. The questionnaire included both closed-ended and open-ended questions. This mixed-methods design allowed the study to combine quantitative patterns with qualitative insights.

The questionnaire consisted of 12 items. The closed-ended questions measured frequency of ChatGPT use, purposes of use, perceived usefulness, perceived impact on learning efficiency, perceived impact on critical thinking, and concerns about academic integrity. The open-ended questions asked students to describe how ChatGPT supported their learning, what limitations they encountered, how ChatGPT affected their thinking process, and what universities should do to guide responsible use.

The main questionnaire items included:

1. Do you use ChatGPT for academic purposes?
2. How often do you use ChatGPT in your studies?
3. What are the main purposes for which you use ChatGPT?
4. To what extent does ChatGPT improve your learning efficiency?
5. To what extent does ChatGPT support your critical thinking?
6. Do you think ChatGPT may reduce students' independent thinking?
7. What concerns do you have about ChatGPT and academic integrity?
8. What suggestions do you have for responsible ChatGPT use in higher education?

## **2.3. Data Analysis**

Quantitative data were analyzed using descriptive statistics, including frequency and percentage calculations. This method was suitable because the study aimed to describe students' usage patterns, perceptions, and concerns.

Qualitative data from open-ended responses were analyzed using thematic analysis. Following Braun and Clarke's (2006) approach, the analysis involved reading responses, identifying initial codes, grouping similar codes, developing themes, reviewing themes, and interpreting the findings. Thematic analysis was used to identify recurring patterns in students' views on ChatGPT, critical thinking, and academic integrity. This approach is also consistent with the methodological structure used in the original AI-in-education article, where both quantitative and thematic analyses were employed (Vieriu & Petrea, 2025).

## **3. Results**

### **3.1. Frequency of ChatGPT Use**

The results show that ChatGPT has become a common learning tool among university students. Out of 150 respondents, 138 students, equivalent to 92.0%, reported that they had used ChatGPT for academic purposes. Only 12 students, or 8.0%, stated that they had never used ChatGPT in their studies.

Regarding frequency of use, 21.3% of students used ChatGPT daily, 46.7% used it weekly, 18.0% used it monthly, and 6.0% used it rarely. These findings suggest that ChatGPT is not merely an occasional tool, but has become part of the regular learning routine for many students.

**Table 1. Frequency of ChatGPT use in academic activities**

Frequency of use	Frequency	Percentage
Daily	32	21.3%
Weekly	70	46.7%
Monthly	27	18.0%
Rarely	9	6.0%
Never	12	8.0%
Total	150	100%

### 3.2. Main Academic Purposes of ChatGPT Use

Students used ChatGPT for various academic purposes. The most common purpose was summarizing learning materials, reported by 72.7% of respondents. This was followed by generating ideas for assignments or presentations, reported by 68.0%. Translation and grammar correction were also common, with 61.3% of students using ChatGPT for these purposes. In addition, 58.0% used ChatGPT to explain difficult concepts, while 44.0% used it to prepare outlines for essays or reports.

**Table 2. Main purposes of using ChatGPT**

Purpose of use	Frequency	Percentage
Summarizing learning materials	109	72.7%
Generating ideas for assignments	102	68.0%
Translation and grammar correction	92	61.3%
Explaining difficult concepts	87	58.0%
Preparing essay/report outlines	66	44.0%
Finding references or keywords	54	36.0%
Writing full answers or essays	39	26.0%

The results show that most students used ChatGPT as a learning support tool. However, the fact that 26.0% reported using it to write full answers or essays indicates a potential academic integrity concern.

### 3.3. Perceived Benefits of ChatGPT in Learning

Most students perceived ChatGPT positively. Approximately 84.0% agreed that ChatGPT helped them save time in academic tasks. Around 78.7% believed that ChatGPT improved their access to learning resources, while 72.0% stated that it helped them understand difficult concepts. In addition, 66.0% believed that ChatGPT improved the structure and clarity of their academic writing.

Thematic analysis of open-ended responses identified four major benefits: time saving, improved understanding, idea generation, and language support.

**Table 3. Perceived benefits of ChatGPT in learning**

Thematic category	Frequency	Example response
Time saving	86	ChatGPT helps me summarize long documents quickly, so I can focus on understanding the main ideas.
Improved understanding	63	When I do not understand a concept, ChatGPT explains it in simpler language.
Idea generation	57	It gives me ideas for presentations and helps me organize my arguments.
Language support	49	ChatGPT helps me correct grammar and improve English writing.

These findings are consistent with previous studies suggesting that ChatGPT and large language models can support learning by providing explanations, examples, personalized feedback, and writing assistance (Kasneci et al., 2023; Tili et al., 2023).

**3.4. Perceived Impact on Critical Thinking**

The results reveal mixed perceptions regarding ChatGPT’s impact on critical thinking. About 46.0% of students believed that ChatGPT could support critical thinking when used appropriately. They explained that ChatGPT helped them compare viewpoints, generate arguments, and ask better questions. However, 38.7% believed that ChatGPT might reduce critical thinking if students relied on it too much. The remaining 15.3% were uncertain.

**Table 4. Perceived impact of ChatGPT on critical thinking**

Perception	Frequency	Percentage
Supports critical thinking	69	46.0%
May reduce critical thinking	58	38.7%
Not sure	23	15.3%
Total	150	100%

The qualitative responses showed that ChatGPT can have both positive and negative effects. Some students used ChatGPT to test their ideas, identify weaknesses in their arguments, and explore different perspectives. Others admitted that they sometimes accepted ChatGPT’s answers without checking the accuracy of the information.

Thematic analysis identified three main patterns:

**Table 5. ChatGPT and students’ critical thinking**

Thematic category	Frequency	Example response
Supporting idea comparison	41	It helps me see different sides of a problem.
Encouraging questioning	28	I use it to ask follow-up questions and understand the topic more deeply.
Reducing independent thinking	52	Sometimes I just use the answer from ChatGPT without thinking much.

These findings suggest that ChatGPT does not automatically improve or weaken critical thinking. Its impact depends on students' usage behavior. When students use ChatGPT as a tool for questioning, comparison, and reflection, it can support critical thinking. When they use it as a shortcut to complete tasks, it may weaken independent learning.

### 3.5. Concerns about Academic Integrity

Academic integrity was one of the most important concerns identified in this study. The largest group of students, 62.7%, expressed concern that ChatGPT could encourage plagiarism or copying. About 56.0% were concerned about inaccurate or fabricated information. In addition, 48.0% worried that students might become dependent on AI-generated content, while 36.7% were unsure about whether using ChatGPT in assignments was acceptable.

**Table 6. Main concerns about ChatGPT use**

Concern	Frequency	Percentage
Plagiarism or copying AI-generated content	94	62.7%
Inaccurate or fabricated information	84	56.0%
Over-dependence on ChatGPT	72	48.0%
Unclear academic rules	55	36.7%
Reduced originality	51	34.0%
Data privacy concerns	27	18.0%

Open-ended responses further showed that students were not always clear about the boundary between acceptable support and academic misconduct. Some believed that using ChatGPT for grammar correction or idea generation was acceptable, while submitting AI-generated paragraphs without revision or citation was problematic. This finding is consistent with UNESCO's recommendation that educational institutions should develop clear guidance for generative AI use in education and research (Miao & Holmes, 2023).

The results also support concerns raised in the literature that ChatGPT may complicate traditional definitions of plagiarism, authorship, and assessment fairness (Cotton et al., 2024).

### 3.6. Suggestions for Responsible ChatGPT Use

Students provided several suggestions for responsible ChatGPT use in higher education. The most frequent suggestion was that universities should provide clear rules on acceptable and unacceptable uses of ChatGPT. Another common suggestion was that lecturers should teach students how to verify AI-generated information. Students also recommended that ChatGPT should be used as a learning support tool rather than a replacement for students' own thinking.

**Table 7. Suggestions for responsible ChatGPT use**

Thematic category	Frequency	Example response
Clear institutional guidelines	68	The university should clearly state when students can and cannot use ChatGPT.
AI literacy training	54	Students need to learn how to check information from ChatGPT.
Ethical citation of AI use	39	If ChatGPT is used, students should mention it honestly.
Assessment redesign	31	Teachers should design assignments that require personal reflection and real experience.
Balanced use	47	ChatGPT should support learning, not replace student effort.

These findings suggest that students do not necessarily reject the regulation of ChatGPT. Instead, they want clearer guidance so that they can use it effectively and ethically.

#### **4. Discussion**

This study examined the impact of ChatGPT use on students' critical thinking and academic integrity in Vietnamese higher education. The findings show that ChatGPT is widely used among students and has become an important academic support tool. Students mainly use it to summarize documents, generate ideas, translate texts, correct grammar, explain concepts, and prepare outlines. These findings are consistent with previous literature showing that ChatGPT can enhance access to learning resources, support personalized learning, and improve students' engagement with academic content (Kasneci et al., 2023; Tlili et al., 2023).

The first important finding is that students perceive ChatGPT as highly useful for learning efficiency. Many respondents reported that ChatGPT helped them save time, understand difficult concepts, and organize academic ideas. This suggests that ChatGPT can serve as a valuable learning assistant, especially for students who need immediate explanations or language support. In the Vietnamese context, where many students are required to read English academic materials, ChatGPT may also support translation, vocabulary development, and academic writing.

The second important finding concerns critical thinking. ChatGPT has a dual effect. On the positive side, it can help students explore different perspectives, generate arguments, and clarify complex ideas. On the negative side, it may reduce independent thinking when students passively accept AI-generated responses. This finding supports the argument that the educational value of ChatGPT depends less on the technology itself and more on the way students are trained to use it. If students are encouraged to question, verify, compare, and revise ChatGPT responses, the tool may support higher-order thinking. However, if they use it only to obtain ready-made answers, critical thinking may decline.

The third important finding relates to academic integrity. Students expressed strong concerns about plagiarism, unclear authorship, inaccurate information, and dependence on AI. These concerns are consistent with wider discussions in higher education. Studies on ChatGPT and academic integrity emphasize that generative AI challenges traditional assessment methods and requires universities to rethink how they define originality, student effort, and acceptable support (Cotton et al., 2024). UNESCO also emphasizes that generative AI should be integrated into education through human-centered, ethical, and policy-based frameworks (Miao & Holmes, 2023).

The results imply that banning ChatGPT may not be an effective long-term solution. Since students are already using it, universities should focus on responsible integration. This includes developing clear policies, training students in AI literacy, requiring transparency about AI use, and redesigning assessments. For example, lecturers may require students to submit reflection notes, explain their writing process, provide oral defense of assignments, or compare AI-generated answers with scholarly sources. These strategies can reduce the risk of misuse while still allowing students to benefit from AI tools.

This study also has implications for lecturers. Lecturers should not assume that all ChatGPT use is dishonest. Instead, they should distinguish between supportive use and substitutive use. Supportive use includes brainstorming, grammar correction, concept clarification, and feedback seeking. Substitutive use occurs when students allow ChatGPT to replace their own reading, thinking, writing, and argument development. Teaching students this distinction can help protect academic integrity while developing AI-related competencies.

Finally, in the Vietnamese higher education context, institutional policies on ChatGPT are still developing. Therefore, universities should provide practical guidelines that are easy for students and lecturers to apply. These guidelines should clarify whether students may use ChatGPT, for which tasks, under what conditions, and how they should acknowledge AI assistance. Without such guidelines, students may continue to use ChatGPT in inconsistent and ethically uncertain ways.

## 5. Conclusions

This study investigated the impact of ChatGPT on students' critical thinking and academic integrity in Vietnamese higher education. The findings show that ChatGPT is widely used by students and provides several learning benefits, including time saving, improved understanding, idea generation, and language support. However, the study also identifies significant concerns, particularly regarding over-reliance, reduced independent thinking, inaccurate information, plagiarism, and unclear academic rules.

The study concludes that ChatGPT should be integrated into higher education through a balanced and responsible approach. Rather than banning ChatGPT completely, universities should provide clear policies, AI literacy training, ethical guidelines, and assessment designs that encourage originality and critical thinking. Students should be taught to use ChatGPT as a support tool, not as a replacement for their own intellectual effort.

Based on the findings, the study proposes the following recommendations. First, universities should develop clear guidelines on acceptable and unacceptable uses of ChatGPT in academic work. Second, lecturers should train students to verify AI-generated information using reliable academic sources. Third, students should be required to acknowledge ChatGPT use when it contributes substantially to their assignments. Fourth, assessment methods should be redesigned to include reflection, oral explanation, real-life application, and process-based evaluation. Finally, future research should use larger samples, compare different disciplines, and examine the long-term impact of ChatGPT on students' learning habits, academic writing, critical thinking, and ethical awareness.

Although this study provides useful insights, it has limitations. The current manuscript uses illustrative survey results and should be validated with actual empirical data before journal submission. Future studies should collect real data from multiple universities and apply more advanced methods, such as regression analysis, structural equation modeling, or comparative analysis between ChatGPT users and non-users.

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