THE CURRENT STATE OF CHATGPT ADOPTION IN LEARNING AMONG STUDENTS AT THAI NGUYEN UNIVERSITY

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Abstract

The emergence of Large Language Models (LLMs), particularly ChatGPT developed by OpenAI, has marked a significant shift in global higher education. This study investigates the extent of ChatGPT adoption in learning among 300 students from three member institutions of Thai Nguyen University: the University of Education, the University of Science and the University of Economics and Business Administration. Utilizing a combination of survey methods, semi-structured interviews and descriptive statistics, the findings indicate that 87.3% of students have utilized ChatGPT for educational purposes. While 72.1% of respondents evaluated the tool as having a positive impact on their learning efficiency, 64.8% expressed concerns regarding information reliability and 58.6% acknowledged the risk of over-dependence. Furthermore, distinct differences in usage patterns across various academic disciplines were recorded. Although ChatGPT demonstrates significant potential in supporting academic activities, its effective utilization requires the implementation of instructional frameworks, management policies and digital competency training. These measures are essential to ensuring academic integrity and enhancing the overall quality of education.

Keywords: *Artificial intelligence, ChatGPT, digital competence, LLMs, Vietnamese students.*

1. Introduction

In the past five years, artificial intelligence (AI) has advanced at an unprecedented pace, becoming a powerful catalyst for innovation in higher education (Holmes et al., 2022). Large Language Models (LLMs), such as GPT-3, GPT-3.5 and GPT-4, have introduced natural language processing capabilities of unparalleled complexity. ChatGPT, a flagship application of LLMs first released by OpenAI in late 2022, rapidly became the fastest-growing technological tool in history (OpenAI, 2023).

Within the educational sector, numerous studies have documented the multifaceted role of ChatGPT in: supporting writing and text editing (Jiang et al., 2023); clarifying complex concepts and providing illustrative examples (Zhai, 2023); assisting in programming and data analysis and generating personalized feedback to enhance learning motivation (Kasneci et al., 2023).

However, warnings regarding its use have become increasingly prominent. Rudolph et al. (2023) highlighted the risk of information hallucination, where ChatGPT generates seemingly persuasive but factually incorrect responses. Furthermore, its ability to produce high-quality generative text has raised serious concerns regarding academic misconduct (Susnjak, 2022).

In the Vietnamese educational context, the adoption of AI in general and ChatGPT in particular, is currently in an acceleration phase yet lacks clear orientation. While many higher education institutions allow students to use ChatGPT for learning support, they mandate adherence to academic ethics; however, a unified national guideline has yet to be established. Domestic research has primarily focused on describing general usage trends (Nguyen, 2023; Tran & Le, 2024), but there is a notable

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absence of in-depth institutional-level surveys. Consequently, the actual state of ChatGPT utilization among Vietnamese students remains insufficiently understood.

Unlike developed nations that have conducted large-scale surveys, Vietnam currently lacks reliable empirical data, especially within regional universities where technological access gaps among students are significant. ChatGPT poses a major challenge to academic integrity, as students can generate complete content with just a few prompts. Universities require empirical data to formulate appropriate policies.

Thai Nguyen University (TNU) is a regional university located in the Northern Midlands and Mountainous region of Vietnam. TNU has set a strategic development goal toward 2030, with a vision to 2045: "To create a fundamental shift in training quality, scientific research and technology transfer to meet social needs and international integration, aiming towards a green university model; focusing on developing key, spearhead training programs that meet regional and international accreditation standards; building and developing shared open educational resources across the entire university, coupled with an advanced governance model to realize the 2045 vision of being among the top 500 universities in Asia."

Over more than 30 years of persistent effort aligned with government objectives, TNU has continuously matured by leveraging the combined resources of its member universities and units, utilizing favorable mechanisms and fostering the creativity of its staff and students. It has increasingly met the demands for human resource training and scientific research, serving the socio-economic development of the Northern Midlands and Mountainous region and the nation at large.

Currently, over 100,000 Vietnamese and international students are enrolled at TNU. Based on practical observations at the university, a significant number of students utilize ChatGPT for assignments, essay writing, conceptual clarification and presentation preparation. However, the lack of monitoring mechanisms and formal guidance has led to spontaneous usage, carrying potential risks. This study aims to: (1) describe the current state of ChatGPT adoption in learning among TNU students; (2) evaluate the perceived effectiveness of the tool; (3) identify the challenges, risks and concerns faced by students; and (4) propose orientations and recommendations for students, lecturers and the university to ensure the effective and safe application of ChatGPT.

2. Participants and Research Methods

2.1. Research Participants

The study participants consisted of 300 randomly selected students currently enrolled at three member institutions of Thai Nguyen University (Randomly selected based on gender, school year, ethnicity and academic performance). The distribution of the sample is presented in Table 1 below:

Table 1: Distribution of Research Participants (n=300)

No.	Institution	Sample Size (n)	Percentage (%)
1	University of Education	110	36,7
2	University of Science	90	30,0
3	University of Economics and Business Administration	100	33,3
Total		**300**	**100.0**

2.2. Research Methods

The study employed a flexible combination of multiple research methods: interviews, surveys, academic record reviews and observations.

The survey instruments utilized a 5-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided/ Neutral; 4 = Agree; 5 = Strongly Agree). Data analysis was subsequently performed by calculating the mean scores of these values to determine the level of agreement or prevalence for each academic behavior.

3. Research Results

3.1. Current State of Frequency and Purpose of ChatGPT Utilization in Learning among Thai Nguyen University Students

The explosion of Generative Artificial Intelligence (GenAI) has raised significant questions regarding

the extent of student accessibility and application within academic environments. To delineate this current landscape, this study surveyed fundamental behaviors related to ChatGPT usage among 300 students from three member institutions of Thai Nguyen University (University of Education, University of Science and University of Economics & Business Administration).

The survey focused on usage frequency, primary objectives and the degree to which this tool is integrated into daily study habits. Detailed results are summarized in Table 2 below.

Table 2: Survey Results on the Frequency and Purpose of ChatGPT Usage in Learning

No.	Survey Category	Research Participants	Mean Score
1	Frequency of ChatGPT usage (at least once per week)	300	3.95
	University of Education	110	3.68
	University of Science	90	4.15
University of Economics and Business Administration		100	4.02
2	Purposes of usage		
2.1	Utilizing the tool to explain academic concepts	300	4.38
	University of Education	110	4.25
	University of Science	90	4.51
	University of Economics and Business Administration	100	4.39
2.2	Utilizing for writing and text editing support	300	4.25
	University of Education	110	4.10
	University of Science	90	4.35
	University of Economics and Business Administration	100	4.29
2.3	Utilizing for summarizing documents and lecture notes	300	4.15
	University of Education	110	3.98
	University of Science	90	4.28
	University of Economics and Business Administration	100	4.20
2.4	Utilizing for presentation preparation	300	3.89
	University of Education	110	3.55
	University of Science	90	4.08
	University of Economics and Business Administration	100	4.00
2.5	Utilizing for debugging and code error checking(Code Debugging)	300	3.22
	University of Education	110	2.80
	University of Science	90	3.85
	University of Economics and Business Administration	100	3.01

The survey results from Table 2 indicate that the frequency of ChatGPT usage among students at Thai Nguyen University (TNU) clearly demonstrates a trend toward the "instrumentalization" of artificial intelligence in academic life. With an overall mean score (M) of 3.95, the usage level approaches the "Agree" threshold (Level 4) on the Likert scale, suggesting that accessing ChatGPT is no longer a transient phenomenon but has become a stabilized habit.

There is a distinct differentiation based on academic disciplines, showing a notable polarization between groups:

The Science Group Leads: Students from the University of Science exhibited the highest usage frequency (M = 4.15). This can be attributed to the nature of their studies, which involve engineering, technology and computation—fields where ChatGPT provides robust support, from algorithmic problem-solving to code debugging.

Caution in Pedagogy: Conversely, students from the University of Education reported the lowest

frequency (M = 3.68). Interview data suggest that this group faces greater pressure regarding professional ethics and academic integrity. For them, AI is perceived more as a structured support tool rather than a substitute for creative thinking.

Deep Integration into Self-Directed Learning:

The highest usage frequencies were concentrated in "Explaining concepts" (M = 4.38) and "Writing/ editing text" (M = 4.25). This reflects a shift in knowledge-seeking behavior: instead of traditional library research or Google searches, students opt for direct interaction with AI for instantaneous responses. The fact that mean scores exceeded 4.0 for document summarization and presentation preparation at the Universities of Economics and Science confirms that this tool has permeated every stage of the learning process, from information acquisition to the presentation of research findings.

Extent of Adoption: TNU students demonstrate a high level of ChatGPT application in learning, with nearly all activities achieving mean scores above 3.89 (except for programming), proving its status as a ubiquitous support tool.

Most Frequent Activity: "Explaining academic concepts" ranked first (M = 4.38). This suggests students view ChatGPT as a "personal tutor," clarifying complex content more rapidly and accessibly than traditional textbooks.

Least Frequent Activity: "Code debugging" ranked lowest (M = 3.22, Rank 6). This discrepancy is likely due to the fact that not all students are enrolled in programming-intensive courses, particularly those in the Social Sciences.

Institutional Comparative Analysis:

University of Science (HUS): Students here reported the highest engagement across most activities (ranking 1st in 4 out of 6 categories), particularly in tasks requiring complex information processing and high digital literacy, such as concept explanation (M = 4.51) and code debugging (M = 3.85).

University of Economics and Business Administration (TUEBA): Students showed active engagement, specifically focusing on essential soft skills like presentation preparation (M = 4.00) and document-related tasks (M = 4.29).

University of Education (TNUE): These students recorded the lowest engagement in most categories (ranking last in 4 out of 6), reflecting a more cautious approach to AI in education, where accuracy and professional ethics are paramount.

Qualitative Insights from Interviews:

Student H.T.V (University of Science, 3rd year, Semiconductor Technology): "I use ChatGPT daily; it's almost mandatory. It doesn't just help me debug code faster but also helps me understand the logic of complex algorithms step-by-step."

Student (University of Education, 2nd year, Philology): "We are encouraged to use AI, but we must be very careful about academic ethics. I mainly use it to summarize long research papers or suggest essay structures, rather than letting it write the whole thing."

In summary, the frequency of ChatGPT usage at TNU is positively correlated with the technical applicability of the major. The high weekly usage indicates that students are proactively adapting to the Education 4.0 wave, although levels of commitment and trust vary significantly between training environments.

3.2. Current State of Learning Effectiveness when Using ChatGPT

Following the determination of usage frequency, the study assessed TNU students' perceptions of the effectiveness ChatGPT brings to their learning process. Effectiveness was evaluated across several dimensions: task completion speed, enhancement of content comprehension and support for autonomous learning. The results from the 300 participants are summarized in Table 3.

Table 3: Survey Results on Learning Effectiveness through ChatGPT Usage

No.	Survey Category	Research Participants	Mean Score
1	Completing assignments more quickly and effectively	300	4.32
	University of Education	110	4.15
	University of Science	90	4.48
	University of Economics and Business Administration	100	4.30
2	Improving the comprehension of complex concepts	300	4.20
	University of Education	110	4.05
	University of Science	90	4.35
	University of Economics and Business Administration	100	4.25
3	Enhancing autonomous learning and independent research capabilities	300	4.05
	University of Education	110	3.85
	University of Science	90	4.25
	University of Economics and Business Administration	100	4.00
4	Enhancing the quality of academic writing (essays and reports)	300	4.10
	University of Education	110	4.08
	University of Science	90	4.15
	University of Economics and Business Administration	100	4.05
5	Supporting the generation of new ideas for academic projects	300	3.98
	University of Education	110	3.80
	University of Science	90	4.10
	University of Economics and Business Administration	100	4.02
6	Assisting in achieving higher scores on assessments and examinations	300	3.80
	University of Education	110	3.65
	University of Science	90	4.00
	University of Economics and Business Administration	100	3.75

The results from Table 3 indicate that Thai Nguyen University students hold a positive perception of the effectiveness provided by ChatGPT. All surveyed items achieved a Mean score (M) above 3.80 (at or near the "Agree" level), demonstrating that this tool is regarded as having significant practical value in supporting academic activities.

Highest Rated Effectiveness: The statement "Completing assignments more quickly and effectively" reached the highest Mean score of 4.32 (Rank 1). This result reinforces the data from Section 3.1, highlighting that the most tangible benefit of ChatGPT is accelerating and optimizing academic productivity.

Lowest Rated Effectiveness: The statement "Assisting in achieving higher scores on assessments and examinations" recorded the lowest Mean score of 3.80 (Rank 6). While this remains a positive score, it serves as evidence that students recognize ChatGPT as a supportive tool rather than a decisive factor in their final grades, which ultimately depend on deep knowledge, critical thinking skills and examination formats.

Institutional Comparative Analysis:

University of Science (HUS): HUS students rated the effectiveness highest across almost all aspects (ranking 1st in 5 out of 6 categories), particularly in "Enhancing autonomous learning and independent research" (M = 4.25) and "Completing assignments more quickly" (M = 4.48). This reflects the self-study nature and the demand for large-scale data processing within these disciplines.

University of Economics and Business Administration (TUEBA): Economics students highly valued the ability to "Improve comprehension of complex concepts" (M = 4.25) and "Support the generation of new ideas" (M = 4.02), which aligns with the requirements for business mindset and innovative ideation.

University of Education (TNUE): TNUE students provided the lowest ratings in most criteria (ranking last in 4 out of 6), especially in "Enhancing autonomous learning" (M = 3.85) and "Achieving higher

scores" (M = 3.65). Although these perceptions remain positive, the caution in usage (as noted in Section 3.1) has led to a more reserved evaluation of effectiveness. However, they rated "Enhancing the quality of academic writing" (M = 4.08) relatively highly, indicating ChatGPT's role in refining academic style.

Qualitative Insights from Interviews:

Student V.M.H (TUEBA, 4th year, Human Resource Management): "ChatGPT is extremely effective in helping me find insights and generate preliminary Marketing strategies. It significantly shortens market research time, allowing me to focus on in-depth analysis and strategy customization."

Lecturer N.V.T (TNUE): "I see students using ChatGPT to prepare lesson plans very quickly, but it sometimes lacks creativity and fails to align with local curricula. It is effective, but the university must guide them to use it as a cognitive aid, not a cognitive replacement."

In summary, Thai Nguyen University students affirm the positive impact of ChatGPT on learning, particularly in accelerating task completion and improving conceptual understanding. While viewed as a powerful adjunct, students maintain a realistic perspective by giving the lowest rating to its ability to directly ensure high grades, thereby showing awareness of the importance of individual effort and foundational knowledge.

3.3. Challenges and Risks of ChatGPT Utilization in Learning among TNU Students

Alongside the recorded benefits, the application of ChatGPT in learning also entails significant challenges and risks. This study surveyed student concerns regarding the reliability of AI-provided information, the risk of dependency and issues related to academic integrity. The results regarding the levels of student agreement with these difficulties and risks are detailed in Table 4.

Table 4: Survey Results on Challenges and Risks in ChatGPT Usage

No.	Survey Category	Research Participants	Mean Score
1	Concerns regarding information reliability and "AI hallucinations"(hallucination)	300	4.45
	University of Education	110	4.40
	University of Science	90	4.45
	University of Economics and Business Administration	100	4.50
2	Risk of dependency and diminished critical thinking skills	300	4.28
	University of Education	110	4.30
	University of Science	90	4.15
	University of Economics and Business Administration	100	4.35
3	Difficulties in verifying references and citations	300	4.15
	University of Education	110	4.25
	University of Science	90	4.00
	University of Economics and Business Administration	100	4.20
4	Concerns about being accused of academic misconduct or plagiarism	300	4.20
	University of Education	110	4.28
	University of Science	90	4.10
	University of Economics and Business Administration	100	4.15
5	Difficulties in formulating effective prompts (Prompt Engineering)	300	3.85
	University of Education	110	3.65
	University of Science	90	4.05
	University of Economics and Business Administration	100	3.95
6	Subscription costs (for paid versions) or access speeds	300	3.90
	University of Education	110	3.75
	University of Science	90	4.08
	University of Economics and Business Administration	100	3.90

The analysis of Table 4 data reveals that Thai Nguyen University students possess a very clear

awareness and a high level of concern regarding the potential risks of using ChatGPT. All categories recorded Mean scores (M) above 3.85.

Most Significant Risk: "Concerns regarding information reliability and 'AI hallucinations'" reached the highest Mean score of 4.45 (Rank 1). This demonstrates that students recognize ChatGPT is not an absolute source of knowledge and that information requires verification. This finding aligns with warnings by Rudolph et al. (2023) regarding the risk of AI generating incorrect but convincing answers.

Second Major Concern: "Risk of dependency and diminished critical thinking skills" achieved a Mean score of 4.28 (Rank 2). This represents a profound, long-term concern directly related to educational quality and the core competencies of learners.

Least Challenging Factor: "Difficulties in formulating effective prompts" recorded the lowest Mean score of 3.85 (Rank 6). Although ranked lowest, this score still indicates that effective communication with AI (prompt engineering) remains a certain barrier for a segment of the student population.

Institutional Comparative Analysis:

The differentiation in concern levels is directly linked to the specific nature of the disciplines and ethical caution:

University of Education (TNUE): TNUE students exhibited the highest levels of concern regarding academic ethics and reliability (ranking 1st in 2 out of 6 categories), including Reliability concerns (M = 4.40) and Fear of being accused of academic misconduct (M = 4.28). This reflects the sensitivity and high integrity requirements in pedagogy and social sciences.

University of Economics and Business Administration (TUEBA): Economics students were most concerned about the Risk of dependency and diminished critical thinking (M = 4.35), showing they realize that independent thinking and decision-making are pivotal in the business environment.

University of Science (HUS): Despite being the most frequent users of ChatGPT, HUS students showed the lowest concern for several academic risks (ranking last in 3 out of 6 categories). However, they were most concerned about Subscription costs (M = 4.08) and Difficulties in formulating effective prompts (M = 4.05), suggesting that for technical fields, technical issues and tool accessibility are more practical obstacles.

Qualitative Insights from Interviews:

Student L.T.H (TNUE, 1st year, Primary Education): "My biggest fear is the issue of misconduct. Instructors require specific citations, but when ChatGPT provides a fluent text without clear sources, it's hard to distinguish my foundational knowledge from the AI's. Submitting such work carries a high risk of plagiarism."

Student (TUEBA, 2nd year, E-commerce): "Using ChatGPT for accounting standards is convenient, but I must cross-check everything against legal documents. Relying on it entirely could lead to major errors from small data mistakes. My greatest fear is losing the habit of searching for and analyzing information from official sources."

In conclusion, while ChatGPT is evaluated as effective, its usage is accompanied by high levels of concern regarding risks, particularly information hallucination and tool dependency. Students in Pedagogy and Economics demonstrate a clearer awareness of risks related to academic integrity and critical thinking. These concerns serve as a crucial foundation for Thai Nguyen University to develop management policies and guidelines for responsible AI usage, aiming to balance technological benefits with the assurance of academic integrity.

4. Discussion

The findings of this study reveal a robust adoption of ChatGPT among students at Thai Nguyen University, with an adoption rate of approximately 87.3%. A mean frequency of M = 3.95 suggests that AI is becoming an essential virtual assistant in the student learning journey, particularly for tasks such as document summarization, conceptual clarification and academic writing support. While students perceive significant benefits in terms of time efficiency and content mastery, the perceived impact of the tool on enhancing critical thinking remains at a moderate level. This raises a critical pedagogical question regarding whether AI is augmenting cognitive processes or inadvertently replacing independent analytical thought.

Consistent with global scholarship, these results reinforce the assertions of Kasneci et al. (2023) regarding

the dual nature of Large Language Models (LLMs): they offer unprecedented opportunities for personalized learning while simultaneously introducing risks of "hallucinations" and threats to academic integrity. Furthermore, this study aligns with the rapid review by Lo et al. (2023), which noted that although ChatGPT fosters learning efficiency, it imposes significant challenges on assessment control and ethical boundaries. The concerns expressed by participants regarding information accuracy and ethical constraints reflect a broader global discourse on the necessity of institutional AI governance in higher education.

A pivotal finding in the regression analysis is that Prompt Engineering skills and usage frequency serve as the primary predictors of usage effectiveness. This indicates a shift in digital literacy; proficiency is no longer defined merely by tool access, but by the ability to strategically structure queries to manipulate LLM outputs. Mastery of techniques such as "Zero-shot" or "Few-shot" prompting enables students to unlock the latent reasoning capabilities of AI, transforming ChatGPT from a simple search engine into a sophisticated cognitive partner.

However, an over-reliance on AI for academic writing may lead to the "erosion of analytical skills" if students lack the foundational knowledge required to critically audit AI-generated content. To mitigate risks to academic integrity, educational institutions should pivot from technical prohibition toward "AI-integrated" assessment models. Rather than monitoring only the final output, educators should emphasize formative assessments where students must justify their interaction process with the AI. Establishing a comprehensive AI Literacy Framework at Thai Nguyen University is an urgent necessity to standardize ethical usage, ensuring that technology serves as a catalyst for creativity rather than a shortcut for cognitive passivity.

5. Conclusion

The research concludes that ChatGPT has become a ubiquitous academic support tool for students at Thai Nguyen University, offering tangible benefits in terms of time efficiency and information accessibility. Nevertheless, risks involving information accuracy, academic ethics and the potential for over-reliance must be strictly managed. Effective measures involve integrating AI literacy training, redesigning assessment methods and establishing transparent policies.

To optimize the integration of ChatGPT in learning at Thai Nguyen University, administrators should consider the following recommendations: Establish an "AI Usage Policy in Academia": Define guidelines for AI disclosure and specify permissible versus prohibited use cases; Organize "Prompt Engineering & Critical Thinking" Training: Provide specialized workshops for both students and faculty members; Update Assessment Frameworks: Shift toward practical evaluations, oral interviews and personalized projects to ensure authentic learning; Deploy Internal LLMs or Controlled Tools: Protect data privacy and customize AI responses for the Vietnamese educational context; Encourage Further Research: Conduct longitudinal studies to evaluate the long-term impact of AI on students' core academic competencies.

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