



INTERACTION BEHAVIORS OF STUDENTS FROM THAI NGUYEN UNIVERSITY OF EDUCATION WITH CHATGPT: BENEFITS AND CHALLENGESⁱ

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Abstract:

This study was conducted against the backdrop of the robust growth in the use of technology in education, specifically the application of ChatGPT. The primary objective of the research was to examine the interaction behaviors and evaluations of students from the Thai Nguyen University of Education when approaching and utilizing ChatGPT for learning. Employing a survey method based on both closed and open-ended questions, we gathered information regarding usage objectives, benefits, and challenges faced by students. The results revealed that students predominantly use ChatGPT to address personal queries, practice communication skills, and seek academic information. To leverage this tool more effectively, there is a desire among students for the institution to provide paid accounts and organize training sessions. Alongside, there are concerns about managing and using this tool in the learning process. The study emphasizes the significance of integrating ChatGPT into the learning journey, aiding students in enhancing their skills and knowledge.

Keywords: ChatGPT, chatbot, teaching technology, challenges, teacher

ⁱ HÀNH VI TƯƠNG TÁC CỦA SINH VIÊN TRƯỜNG ĐHSP – ĐH THÁI NGUYÊN VỚI CHATGPT: LỢI ÍCH VÀ THÁCH THỨC

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Tóm tắt:

Nghiên cứu này được thực hiện trong bối cảnh tăng trưởng mạnh mẽ của việc sử dụng công nghệ trong giáo dục, đặc biệt là ứng dụng của ChatGPT. Mục tiêu chính của nghiên cứu là khảo sát hành vi tương tác và đánh giá của sinh viên Trường ĐHSP - ĐH Thái Nguyên khi tiếp cận và sử dụng ChatGPT trong việc học. Sử dụng phương pháp khảo sát dựa trên câu hỏi đóng và mở, chúng tôi thu thập thông tin về mục tiêu sử dụng, lợi ích và thách thức mà sinh viên gặp phải. Kết quả cho thấy sinh viên chủ yếu sử dụng ChatGPT để giải đáp thắc mắc cá nhân, luyện tập kỹ năng giao tiếp và tìm kiếm thông tin học thuật. Để sử dụng hiệu quả hơn công cụ này, sinh viên có mong muốn nhà trường cung cấp tài khoản trả phí và tổ chức các buổi tập huấn. Bên cạnh đó cũng có những lo ngại về việc quản lý và sử dụng công cụ này trong học tập. Nghiên cứu nhấn mạnh tầm quan trọng của việc sử dụng ChatGPT vào quá trình học tập, giúp sinh viên nâng cao kỹ năng và kiến thức của mình.

Từ khoá: ChatGPT, chatbot, công nghệ dạy học, khó khăn, giáo viên

1. Introduction

In recent decades, artificial intelligence (AI) and machine learning have experienced remarkable advancements, leading to breakthroughs in various fields, including education (Russell & Norvig, 2010). A notable application of AI in this domain is chatbots, especially the ChatGPT model by OpenAI, which stands as one of the most significant progressions in natural language processing (Brown et al., 2020).

Contemporary students do not solely rely on textbooks and instructors but also on online information sources, among which is ChatGPT. Interacting with these tools offers students numerous opportunities but also poses considerable challenges (Tam et al., 2023; Jalil et al., 2023). Although some studies have been conducted on the use of chatbots in education, limited research focuses on students' interaction behaviors with ChatGPT, especially in the Vietnamese context.

The Thai Nguyen University of Education is among the leading institutions in Vietnam, with a significant student population. For third and fourth-year students, engaging with modern tools like ChatGPT can potentially enhance their knowledge acquisition and prepare them for their post-graduate careers (Georgescu, 2018; Birenbaum, 2023). This study aims to analyze the interaction behaviors of students from the University of Education - Thai Nguyen University with ChatGPT, along with the benefits and challenges they encounter. Through this, we can construct a comprehensive picture of AI usage in Vietnamese education and propose solutions to optimize this process.

2. Literature Review

The incorporation of artificial intelligence (AI) in education is an emerging theme that has piqued scholarly interest over the last decade. Williamson (2023) posited that the blend of AI in education could profoundly transform traditional pedagogical methods, emphasizing individualized learning experiences tailored to each student. Indeed, chatbots, a product of AI, are among the innovative tools that have found their way into the academic sphere.

Chatbots in education, specifically those with capabilities akin to ChatGPT, offer more than just programmed responses. According to Kim et al. (2019), they have the potential to simulate human-like interactions, fostering an environment where students can practice communication skills in a judgment-free space. Furthermore, given their extensive database and rapid processing ability, they serve as invaluable tools for information retrieval, ensuring students can access accurate and concise academic information in real-time.

Several institutions have begun integrating chatbots as academic aids. Jiang et al. (2023) conducted a study on the utilization of chatbots in Vietnamese higher education institutions, revealing a positive correlation between chatbot use and enhanced student performance. They found that students who interacted frequently with educational chatbots demonstrated better retention of course content and improved analytical skills. However, a point of contention arises when determining the exact role of these chatbots. Are they mere supplementary tools, or could they replace certain traditional educational methodologies?

A challenge often cited with the introduction of such technologies is their potential to divert attention from traditional academic sources. For instance, Istance & Kools argued that over-reliance on chatbots might lead to a reduced engagement with textbooks and peer discussions, pivotal elements in a holistic educational experience. Yet, as the present research suggests, when used judiciously, chatbots like ChatGPT can significantly enhance the learning process, emphasizing the importance of training and orientation sessions for optimal utilization.

In summary, while chatbots hold considerable promise in reshaping the academic landscape, their role needs to be balanced with traditional methods to ensure a comprehensive educational experience.

3. Material and Methods

The study was conducted between August 20, 2023, and August 28, 2023, at the University of Education - Thai Nguyen University, one of the premier teacher training universities in Vietnam. The primary goal of the research was to explore and analyze the behaviors, perceptions, and impacts of using ChatGPT among the university's students, focusing mainly on students from the 12 departments affiliated with the university. To ensure a representative sample of the entire student body and minimize bias, we

employed a random sampling method. From each department, one second-year or third-year class and one fourth-year class were selected for the survey. This approach not only assured the representativeness of the sample but also allowed us to capture diverse perspectives from students at different stages of their academic journey.

The primary tool used for data collection was an online survey designed via the Google Forms platform. The survey consisted of 12 main questions, in addition to demographic information (Table 1), and was meticulously constructed and pretested to ensure its alignment with the research objectives and its high reliability. The questions delved not only into interactions with ChatGPT but also sought deeper insights into students' perceptions and expectations concerning the use of this tool in their studies.

A notable aspect of the research procedure was that we didn't just send survey links to students via Zalo, but also visited individual classes for direct discussions. Through this approach, we clearly explained the research objectives and significance, providing students with a deeper understanding and making them feel more comfortable participating. As a result, although 372 students were invited to participate, we received 250 survey responses, translating to a significant response rate of 67.2%.

Table 1: Survey on ChatGPT usage

<p>We seek to understand how you utilize ChatGPT in your learning endeavors. If you haven't used ChatGPT, please refrain from completing this questionnaire. If you have used ChatGPT, please assist us by providing candid and detailed responses to the following questions. All information you provide will be kept confidential and solely used for research purposes.</p> <p>Section I. General Information</p> <p>1. Full Name (optional):</p> <p>2. Field of Study: (Natural Sciences, Social Sciences and Humanities)</p> <p>3. Gender: (Male, Female)</p> <p>4. Year of Study: (1, 2, 3, or 4)</p> <p>Section II. Main Questions</p> <p>Question 1: How long have you been aware of and used ChatGPT?</p> <ul style="list-style-type: none"><input type="radio"/> Less than 1 month<input type="radio"/> 1-3 months<input type="radio"/> 3-6 months<input type="radio"/> More than 6 months <p>Question 2: What is your primary purpose for using ChatGPT? (Multiple choices are permissible)</p> <ul style="list-style-type: none"><input type="radio"/> Academic information search<input type="radio"/> Personal query resolution<input type="radio"/> Communication skill practice<input type="radio"/> Entertainment and relaxation.<input type="radio"/> Other: _____ (please specify). <p>Question 3: How frequently do you use ChatGPT?</p> <ul style="list-style-type: none"><input type="radio"/> Daily<input type="radio"/> At least once a week.<input type="radio"/> At least once a month

- Rarely or never

Question 4: Where do you typically use ChatGPT?

- At home
- At school
- Other places
- Anywhere (No fixed location)

Question 5: How beneficial do you find ChatGPT in your learning process?

- Very beneficial
- Somewhat beneficial
- Neutral
- Slightly beneficial
- Not beneficial

Question 6: Do you trust the information provided by ChatGPT?

- Completely trust
- Generally trust
- Unsure
- Slightly trust
- Do not trust.

Question 7: Do you find ChatGPT hard to understand or complicated during usage?

- Very hard to understand
- Somewhat hard to understand
- Neutral
- Easy to understand
- Very easy to understand

Question 8: If there were detailed guidelines on how to effectively use ChatGPT for learning, would you be interested?

- Yes
- No

Question 9: Would you like your institution to integrate and utilize ChatGPT as a learning support tool?

- Yes
- No
- Indifferent

Question 10: Have you introduced ChatGPT to your friends or classmates?

- Yes
- No

Question 11: In your opinion, which subject/course is ChatGPT most suited for as a learning support tool? (Open-ended question)

Question 12: Do you have any suggestions or feedback to improve the use of ChatGPT for learning? (Open-ended question)

Thank you for taking the time to complete this survey!

Ultimately, the entire collected data was inputted into the SPSS 20.0 software for statistical analysis. This analysis not only facilitated our evaluation and comparison of diverse student perspectives but also aided in discerning trends and factors influencing student usage and evaluation of ChatGPT.

By integrating direct data collection with comprehensive statistical analysis, this study not only provides an in-depth understanding of how students at the Thai Nguyen University of Education engage with ChatGPT but also proposes recommendations to optimize its use in the Vietnamese educational context.

4. Results and Discussion

4.1. Survey Demographics

From the 250 gathered responses, we excluded those not aligning with the targeted group (target group being first-year students) and those that provided similar responses across all items. Ultimately, 224 responses were retained for analysis (Table 2).

Table 2: Survey Demographics

Research Sample	Gender		Year of Study			Field of Study	
	Male	Female	2nd	3rd	4th	Natural Sciences	Social Sciences and Humanities
Count	50	174	67	74	83	67	157
Percentage (%)	22,3	77,7	29,9	33,0	37,1	29,9	70,1

As per Table 2, there is a disparity in gender ratios among the survey participants (females constituting 77.7%). However, this aligns with the reality since the Thai Nguyen University of Education has a historically higher female student percentage compared to males. The proportion of students from the Social Sciences field (70.1%) surpasses those from the Natural Sciences (29.9%). This is consistent with current trends; in recent years, there has been a surge in the enrollment rates for Social Science courses (especially in the Primary Education and Early Childhood Education departments), whereas Natural Sciences faculties (particularly Mathematics, Physics, and Chemistry) have witnessed a significant decline compared to previous years. Other demographic statistics from the survey are acceptable and reflect the randomness of the survey sample.

4.2. Survey Results and Discussion

The research results from Question 1 show that the majority of students (n=106, accounting for the highest proportion of 47.3%) only knew about and used ChatGPT for less than 1 month. Along with this, a considerable number of students (n=62) have been aware of and interacted with this tool for 1-3 months. Meanwhile, only a small proportion (n=27 and n=29) used ChatGPT for 3-6 months and over 6 months. This suggests that the use of ChatGPT is still relatively new for most students at Thai Nguyen University of Education and this tool only began to gain popularity in the student community recently,

or there are other reasons affecting the students' usage that need to be explored through subsequent survey questions (Rudolph et al., 2023).

Based on data from Question 2, students use ChatGPT for various purposes. Among them, solving personal queries and practicing communication skills are the top priorities with almost equal choices, respectively at 218 and 210 (Figure 1). This shows that students not only consider ChatGPT as a reliable source of information but also an effective tool to improve their communication skills (Gill et al., 2024). Objectives like academic information search and entertainment or relaxation received fewer choices, only accounting for 66 and 102 respectively, suggesting that these may not be the primary purposes for using ChatGPT, but they still play a role in how students interact with this tool (Zhai, 2022; Jalil et al., 2023). The absence of the "Other" option suggests that the provided choices might have fully covered the students' needs for using ChatGPT.

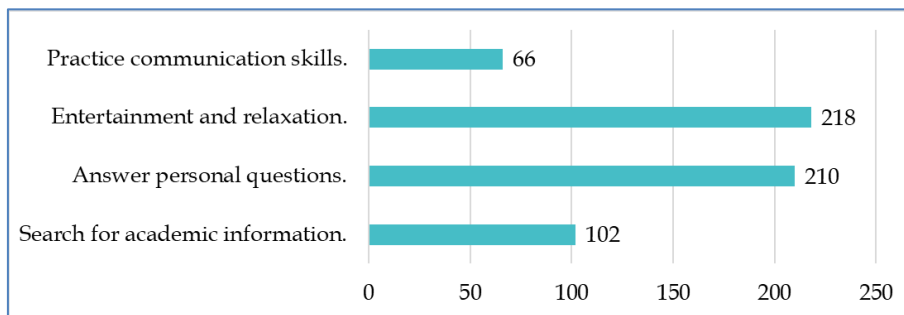


Figure 1: Survey results for Question 2

From the research results of Question 3, it can be deduced that although ChatGPT is known and used by some students, the usage frequency is not very high. A large number of students (n=108, accounting for the highest proportion of 48.2%) rarely use ChatGPT. Along with this, only a small number (n=14) use this tool daily. The rest use ChatGPT ranging from at least once a month to once a week. These results might reflect that, despite ChatGPT's potential as an educational support tool, its integration into daily learning faces various challenges (Sullivan et al., 2023).

From the results gathered from Question 4, a large number of students (n=134, 59.8%) don't have a specific location when using ChatGPT, suggesting that they use this tool flexibly, and neither space nor time is crucial. Additionally, the fact that 43 students often use ChatGPT at home also indicates that they seek information or solve queries in a personal setting. However, the dispersion in usage location might be related to students accessing technology in various circumstances and environments, as well as the integration of technology into daily life (Jalil et al., 2023).

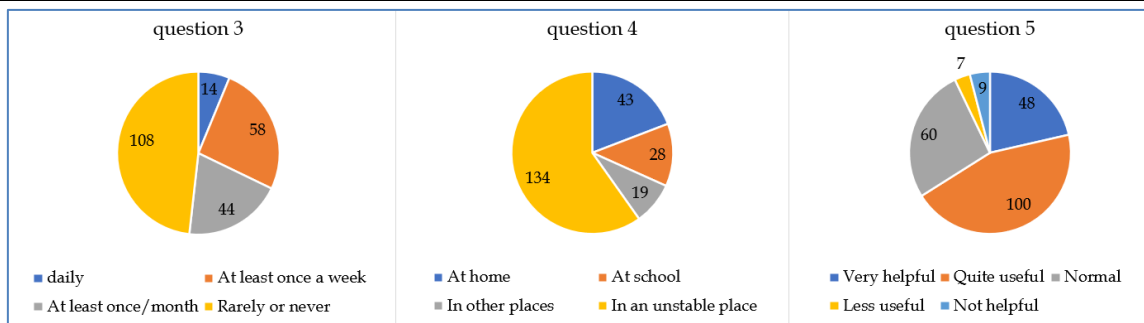


Figure 2: Survey results for Questions 3, 4, and 5

Survey results about ChatGPT's usefulness in learning from Question 5 show positive feedback from students about ChatGPT's role in the learning process. Specifically, 48 students rated ChatGPT as "Very Useful" and 100 students found it "Quite Useful". This accounts for nearly 2/3 of the survey responses, indicating that most students recognize ChatGPT's value in supporting their studies. However, a significant number (n=60) just found the tool "Average". This might reflect some limitations of the tool or students not knowing how to use it effectively. Very few students found ChatGPT "Slightly Useful" or "Not Useful" (n=9 and n=7), indicating that negative feedback about ChatGPT is quite rare. In general, this data provides a positive view of ChatGPT's value in the educational environment (Stokel-Walker, 2022).

Survey results on the trust in information that ChatGPT provides from question 6 show a positive trend in trusting information from ChatGPT. Especially, a large number of students (n=132) "Somewhat Trust" and 26 students "Fully Trust" the information provided by ChatGPT. However, 50 students still felt "Uncertain", suggesting that verifying and checking information remains an important factor. Very few students expressed a lack of confidence or disbelief in the information from ChatGPT (Trang, 2023; Stokel-Walker, 2022).

Regarding the complexity of using ChatGPT, the results from Question 7 show that most students find ChatGPT easy to use and understand. Notably, 150 students found it "Understandable" and another 15 students rated it as "Very Understandable" (i.e., over 80% of the responses) when interacting with ChatGPT. Conversely, a small number of students found ChatGPT "Very Difficult to Understand" or "Somewhat Difficult" (n=10 and n=25), suggesting that more training or instruction might be needed for this group (Wu et al., 2023).

The information gathered from the research provides a comprehensive understanding of how students at Thai Nguyen University of Education are acquainted with, use, and perceive ChatGPT. This will be valuable in further promoting and integrating this tool into educational practices at the university.

5. Recommendations

Based on the findings and the subsequent discussions, several recommendations emerge:

the school administration should consider investing in ChatGPT, particularly in the acquisition of paid accounts. Such a move would not only show responsiveness to the students' preferences but also reflect a commitment to integrating cutting-edge technological tools in the academic sphere.

There is a clear need for organized training sessions focusing on the effective use of ChatGPT. These sessions would help maximize the utility of this tool, ensuring that students use it in ways that truly augment their learning experience.

In light of the students' feedback, the school should explore and potentially survey other educational chatbots. Diversifying the technological tools available can cater to varied learning needs and styles among the student body.

Addressing the concerns raised by students regarding ChatGPT and similar tools is crucial. By engaging in an open dialogue, the school can foster an environment where technological integration in education is both beneficial and aligned with students' comfort and preferences.

6. Conclusion

This research has provided a comprehensive understanding of how students at the Thai Nguyen University of Education perceive and interact with ChatGPT. Their proclivity towards ChatGPT for academic information search, communication practice, and essay writing underscores the evolving role of AI chatbots in contemporary education. As education sectors globally grapple with the ever-evolving technological landscape, findings from this study underscore the importance of not just embracing these tools but also ensuring that their integration is done in a manner that prioritizes students' needs, challenges, and overall learning experience. With the right strategies, tools like ChatGPT can indeed pave the way for an enriched, modern, and dynamic educational environment.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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