

Students' Demand for Accessing ChatGPT in Learning During the Digital Transformation Era

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ABSTRACT: Today, students are born and raised in a period when the country is deeply integrating into the world. They have access to various sources of information, knowledge, and rich experiences, as well as advanced and modern educational systems. Students nowadays possess creative thinking, dynamism, and a willingness to innovate. Furthermore, they are exposed to diverse cultures, which help shape unique and novel ideas. These factors contribute to the distinct characteristics of students currently.

ChatGPT was officially launched on OpenAI's homepage in November 2022. This model is developed based on GPT-3.5, a significant language model lineage of OpenAI. The chatbot is fine-tuned using both reinforcement learning and supervised learning techniques, enhancing its ability to generate human-like text and respond to complex user inquiries. The emergence of ChatGPT has created a significant impact on various domains of life, including education and training. While ChatGPT brings numerous benefits and positively impacts students' learning processes, it also presents limitations and unintended consequences during their learning process. This article focuses on understanding the current demand for using ChatGPT, its impact on students' learning processes, and their scientific research. Therefore, it aims to forecast students' trends in using ChatGPT in the future.

KEYWORDS: Demand, access, students, ChatGPT, Chatbot, learning.

1. INTRODUCTION

ChatGPT is a large language model (LLM) developed by OpenAI, capable of generating human-like text based on context and previous conversations. Built upon GPT-3.5, an extensive language model line from OpenAI, ChatGPT is refined through both reinforcement learning and supervised learning techniques. The chatbot is trained on a vast database comprising text and code, including books, articles, source code, and online conversations. This allows ChatGPT to generate contextually relevant responses. While ChatGPT is still in development, it has been utilized for various purposes, including:

Entertainment: ChatGPT can engage in conversations with friends and family or create interactive games and experiences.

Education: ChatGPT can provide lessons and guidance, and generate exercises, and quizzes.

Business: ChatGPT can offer customer service, and develop marketing campaigns, and advertisements.

Notably, in education, ChatGPT serves multiple purposes such as supporting teaching by providing feedback and guidance to learners, which can support students' learning efficiency; creating educational content such as lectures, exercises, and tests, and personalizing learning experiences for individual students. In the era of digital transformation, many experts believe that ChatGPT, as a new tool of artificial superintelligence AI, could usher in a new revolution in education. The question posed to the education institutions and universities today is: What are they doing? How can they leverage the advantages and benefits of this tool most effectively in students' learning and information-searching processes?

Research Methodology

This article applies several methods, including document analysis, opinion polls, and in-depth interviews to collect data from students regarding the current usage of ChatGPT and its impact on their learning activities. A survey was conducted with 381 students from various universities in Hanoi, including the University of Labor and Social Affairs, the University of Architecture, the University of Mining and Geology, the Vietnam Women's Academy, and the University of Social Sciences and Humanities. Furthermore, in-depth interviews were conducted with 15 students to explore their needs for using ChatGPT.

Research Overview

Studying the impact of ChatGPT on education is a highly significant topic. ChatGPT can be applied in various fields, in which education is one of the most potential areas.

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Regarding international research topics, the theme of ChatGPT in learning is a new and intriguing subject that has drawn the attention of numerous authors. According to Xiaoming Zhai's perspective, research conducted through experimenting with ChatGPT's impact on education indicates that ChatGPT can assist researchers in writing coherent, accurate, informative, and structured papers. Drawing from user experiences, the potential impacts of ChatGPT, as well as similar AI tools, on education have been identified.¹

In the article "ChatGPT Education Use Cases, Benefits & Challenges in 2023," Cem Dilmegani lists various uses, benefits, and challenges of ChatGPT in education, such as content creation, tutoring, feedback provision, testing, and academia. The article also offers recommendations for related parties to use ChatGPT effectively and safely.²

In the article "ChatGPT and its effective application for students," one of the benefits of ChatGPT in learning is the ability to search for information quickly and efficiently, saving time and effort compared to other sources. However, merely asking and reading answers from ChatGPT may not fully enhance students' self-learning skills. Students can continue to learn and repeat this process to upgrade themselves daily by mastering knowledge in multiple fields.³

In the article "Should ChatGPT be applied to education?" the advantages of ChatGPT, such as answering all queries, have encouraged some students to use this technology to produce academic essays. However, there are also cases showing that ChatGPT responses are not entirely accurate.⁴

According to Adalikwu Mfon-Ette Theresa and Tolorunleke Caroline Aduke, the emergence of artificial intelligence in education is the result of using information and communication technology as a tool to improve teaching and learning. The article highlights that ChatGPT provides quick and immediate feedback for search queries and also produces automatic text responses to conversations. However, it also emphasizes some difficulties encountered, such as a lack of citations and references.

Thus, both domestic and international research has highlighted the impact of ChatGPT on the roles of teachers and learners. Today, the refinement process and widespread adoption of ChatGPT profoundly influence the education process, particularly in students' research and learning processes.

2. CURRENT SITUATION OF STUDENTS' CHATGPT USAGE

With the rapid development of mass media, information about global events is disseminated rapidly. Due to the remarkable benefits that ChatGPT currently offers, many people are now familiar with this application. According to survey data, the proportion of students aware of ChatGPT is 89.8%, while those unaware comprise 10.2%. This indicates that ChatGPT has gained wide recognition among students. The proportion of students aware of ChatGPT is higher than those unaware (69.6%). It's obvious that ChatGPT is attracting attention and is commonly used. The main reason for this is that today students tend to quickly and easily adopt new technologies.

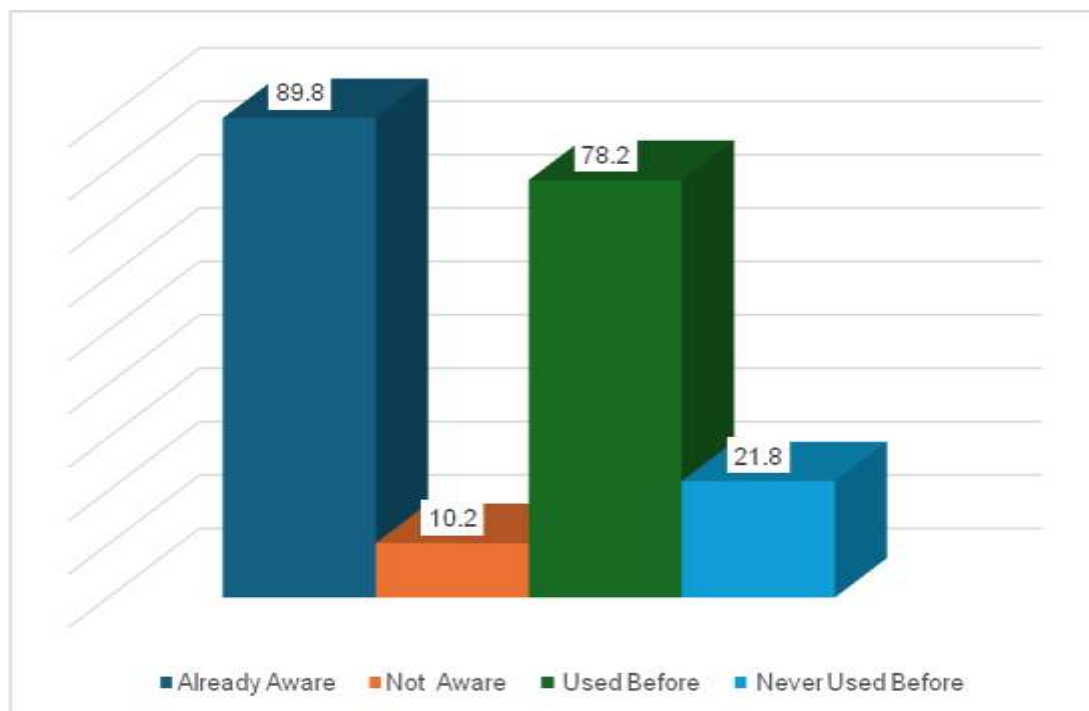


Chart 1. The proportion of students using ChatGPT

According to survey data, the percentage of students aware of ChatGPT is 89.8%, while the percentage of students unaware of ChatGPT is 10.2%. This indicates that ChatGPT is widely recognized among students. The proportion of students who

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are aware of ChatGPT is higher than the proportion of students who are unaware of ChatGPT (69.6%). ChatGPT is receiving considerable attention and usage. The main reason for this is that contemporary students tend to quickly and easily access and utilize new technologies.

In the current student community, the usage of ChatGPT is quite prevalent. The proportion of students who have used ChatGPT stands at 78.2%, while those who haven't used it amount to 21.8%. This indicates that ChatGPT is increasingly being adopted within the student community. Additionally, the development of social networks contributes to bringing ChatGPT to various target groups, especially students.

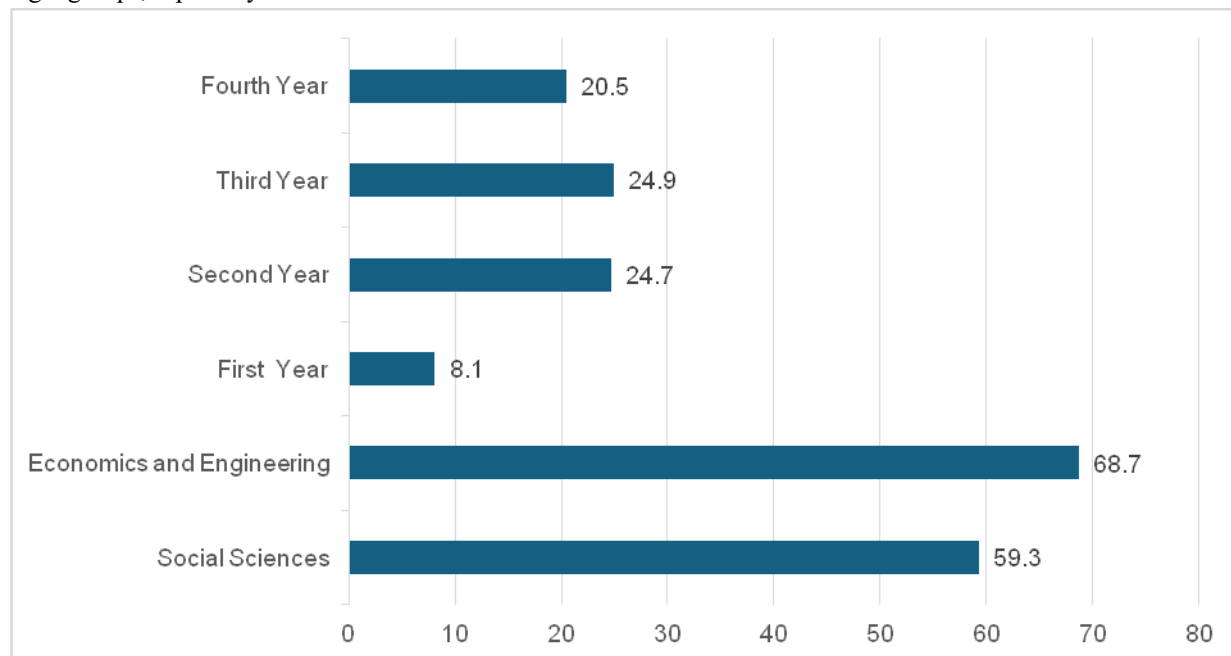


Chart 2: Student Usage of ChatGPT by Academic Year

According to the survey results, the proportion of students who have used ChatGPT varies across academic years, with the highest usage observed in the third year (24.9%), followed by the second year (24.7%), the fourth year (10.5%), and finally the first year (8.1%). It can be observed that second-year and third-year students tend to use ChatGPT more than first-year and fourth-year students. One possible reason may be that second-year and third-year students typically have more assignments and research tasks to fulfill their academic requirements compared to first-year and fourth-year students. Therefore, second-year and third-year students have more time to explore and utilize ChatGPT.

The survey data also indicates that the proportion of students who have used ChatGPT is higher in the Economics and Engineering majors (68.7%) compared to the Social Sciences major (59.3%). This may be attributed to the fact that students in the Economics and Engineering majors often need to search for information and address queries related to economics, finance, and banking. Hence, they are inclined to use ChatGPT for information retrieval and query resolution. In addition, students in the Economics and Engineering majors tend to utilize technological tools to support their learning and research endeavors.

Furthermore, there are significant differences in the number of students utilizing ChatGPT within the academic majors. Among the Economics and Engineering majors, the highest number of students are observed to be using ChatGPT.

3. STUDENT DEMAND FOR CHATGPT USAGE IN LEARNING AND RESEARCH

ChatGPT emerges as a valuable tool aiding students across various academic, professional, and recreational spheres, particularly in the domains of learning and research.

Table 1: Current Student Demand for ChatGPT Usage

Demand	Percentage
Getting university program regulations, procedures, or support services	21.5
Advising on study schedules, course registration, or related academic concerns	17.8
Addressing common issues like schedule adjustments, personal information updates, or seeking assistance from administrative offices	18.9
Supporting research and thesis	24.4

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Demand	Percentage
Clarifying academic queries including lessons, assignments, and research topics	55.6
Creating content: generating written pieces, articles, presentations, etc.	28.3
Practicing English	17.3

Source: Survey data collected from September to December 2023

Generally, students' demands for ChatGPT usage are diverse, including learning, research, entertainment, and relaxation. The highest demand lies in clarifying academic queries such as lessons, assignments, and research (55.6%). ChatGPT proves its capacity to promptly address these inquiries, signifying a substantial portion of students seeking support in their academic pursuits and research endeavors through this artificial intelligence medium. Subsequently, content creation, including generating written material, articles, and presentations (28.3%), as well as support for research and thesis (24.4%). Many students believe ChatGPT effectively assists in searching documents, summarizing information, creating outlines, and even writing a thesis more quickly and efficiently which attracts readers.

Nowadays, several universities have integrated Chat Bot AI and ChatGPT into their student management and support software on university websites. Demand for resolving common issues such as schedule alterations, personal information updates, or administrative support is steadily rising (18.9%), as well as requests for consulting learning schedules, course registration, or related academic matters (17.8%).

During the ChatGPT research process, students highly evaluate its searching capabilities and creative content creation, significantly enhancing their learning process. Most academic courses receive positive evaluations from students regarding the effective application of the ChatGPT tool in their studies.

Table 2: Student Evaluation of ChatGPT Effectiveness in Learning

Evaluation	Average Score
Political theory courses	3.2
General courses	3.3
Specialized courses	3.3

Source: Survey data from September to December 2023

Students rate the application of ChatGPT most effectively in general and specialized courses, with an average score of 3.3 out of 5. The tool facilitates efficient learning, document searching, and effective completion of assignments and tasks. Political theory courses, rated at 3.2 out of 5 for effective application in the learning process are in succession.

Thus, it can be concluded that students extensively apply ChatGPT in their learning process, notably in general and specialized courses, and evaluate its effectiveness in facilitating learning, document searching, as well as efficient completion of assigned tasks. The majority of students primarily use ChatGPT to address queries related to their studies, assignments, and research, followed by support in research and thesis writing. Content creation, including generating texts, articles, and presentations, is also a popular usage. Students prioritize using ChatGPT to gain insights into their academic programs, regulations, procedures, or support services offered by their institution.

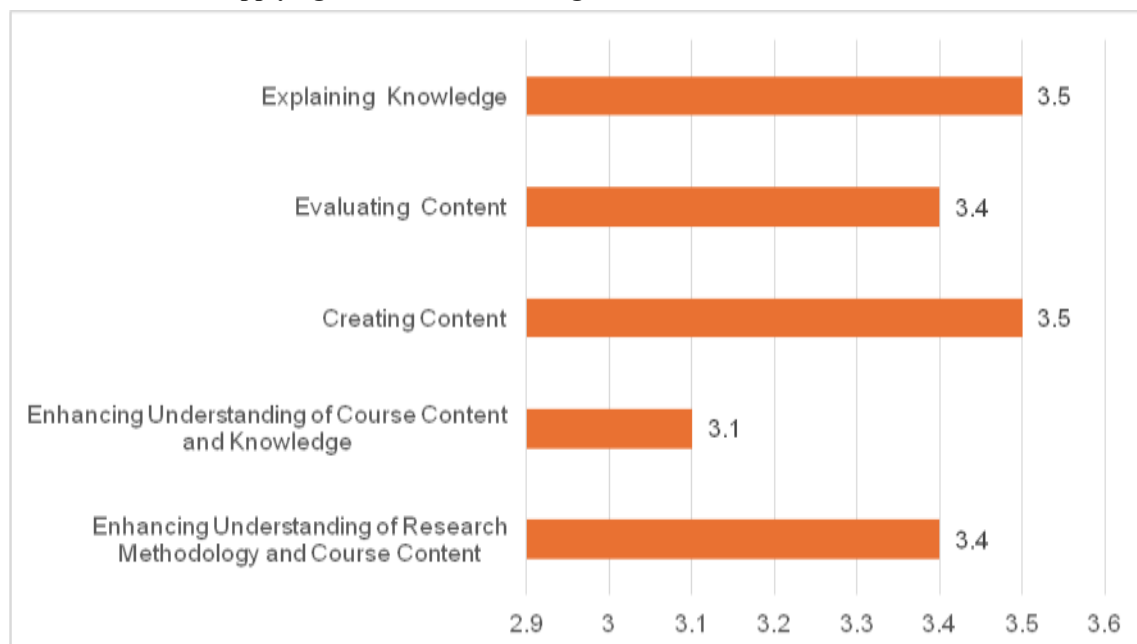
4. IMPACT OF CHATGPT ON STUDENTS' LEARNING PROCESS

4.1. Positive Impact on Students' Learning Process

Survey results indicate that the majority of students are aware of and actively utilize ChatGPT, especially in the learning process. Thanks to its robust search and analysis functions, ChatGPT has become a valuable aid for students, enhancing creativity and facilitating knowledge acquisition.

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Table 3: Student Evaluation of Applying ChatGPT in Learning



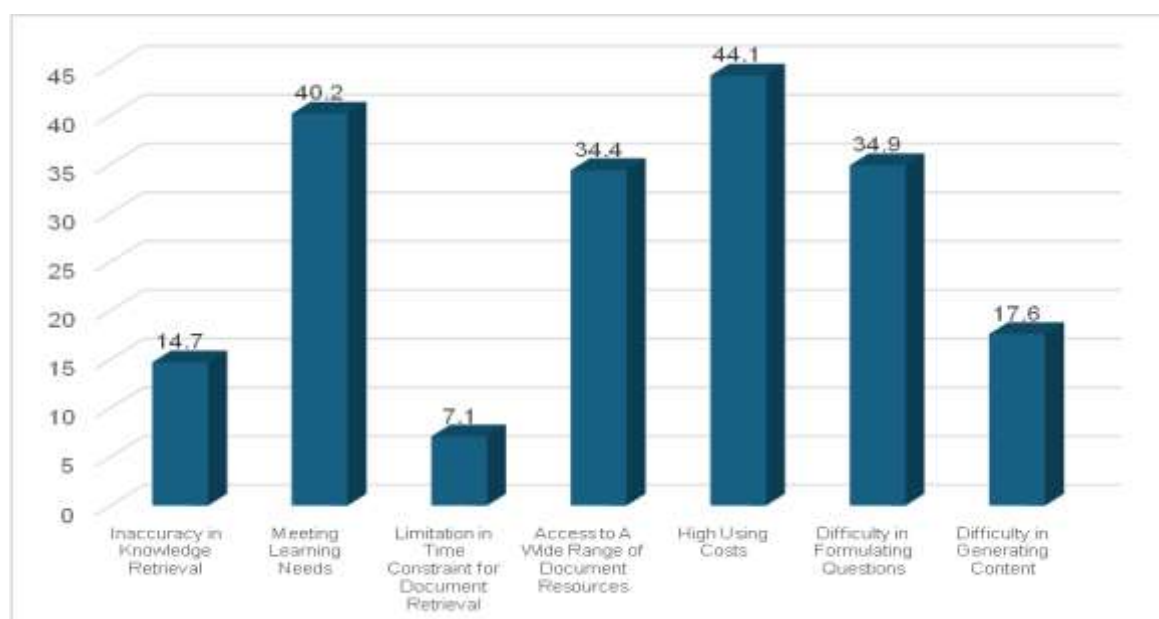
Source: Survey data from September to December 2023

ChatGPT is currently applied in all aspects of life, with the most significant impact observed in education. This chatbot influences learners and the learning process. Research indicates that students rate ChatGPT higher in explaining concepts and creating content, while lower in content evaluation. However, ChatGPT still faces limitations in objectively and comprehensively evaluating content.

Thus, students highly rate ChatGPT and find it effective in explaining concepts and creating content (average score: 3.5 out of 5). This illustrates that ChatGPT can be a useful tool for students during their learning process.

Furthermore, students evaluate the quality of ChatGPT in research and learning services as fairly good. Specifically, ChatGPT efficiently explains research topics and specialized subjects. This indicates that students highly regard ChatGPT's ability to support learning and research methods, meeting the increasing demands of digital transformation in education today. By providing students with the necessary information and documents for learning, ChatGPT helps save time and effort in information searching. In addition, its ability to access a variety of rich resources enables students to access a wide range of knowledge and materials.

Table 4. Evaluation of ChatGPT Quality for Research and Learning



Source: Survey data from September to December 2023

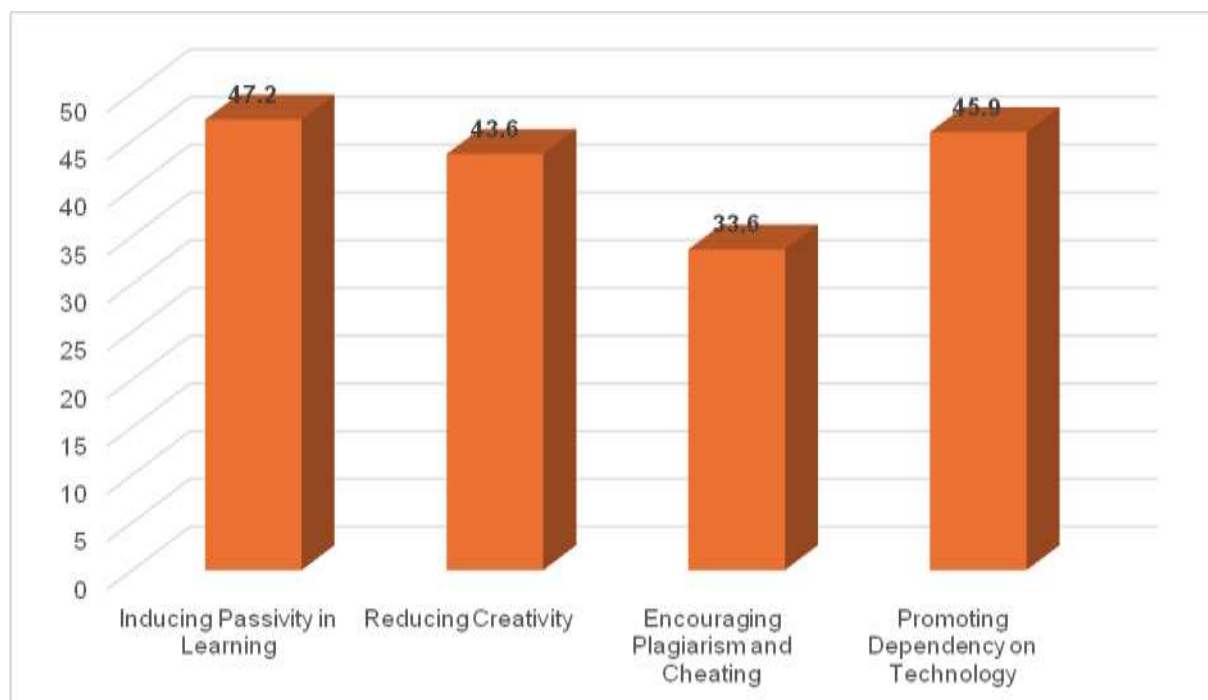
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The survey results indicate that Chat GPT is evaluated by students as meeting learning needs (40.2%), while also serving as a resource for accessing a rich array of materials (34.4%). With its advantage as a tool for quickly searching and analyzing synthesized documents, Chat GPT has become a valuable tool for students not only to support the learning process but also in the research process.

4.2. Negative Impacts on Students' Learning Process

In addition to the positive impacts of ChatGPT on students' learning processes, this Chatbot also generates several negative effects on specific aspects of studying, as follows:

Table 5: Assessment of Negative Impacts of ChatGPT on Student Learning Process



Source: Survey data from September to December 2023

Students consider the greatest limitation of Chat GPT to be fostering passivity in learning (47.2%), diminishing creativity (43.6%), and creating dependence on technology (45.9%). The overuse of Chat GPT leads to passivity in learning, which is the most significant negative impact. Chat GPT can provide quick and accurate answers to students' questions. This tendency makes students lazy in thinking and exploring less, resulting in passivity in learning. Simultaneously, it diminishes creativity; although Chat GPT is trained on a large amount of data, this data still has many limitations. Therefore, Chat GPT can generate creative products but lacks breakthroughs, leading students to tend to replicate Chat GPT's creative products, thus reducing their creativity. *"In my opinion, everything has two sides, and the use of Chat GPT has negative impacts on teaching certain subjects. Although Chat GPT can provide information and answers, it lacks creativity and the ability to evaluate the correctness or logic of viewpoints and arguments. This requires both lecturers and students to be able to analyze and evaluate information from Chat GPT fully and appropriately. Additionally, Chat GPT cannot replace the learning process and creative thinking of students. Teaching theoretical political subjects still requires lecturers and students to have the ability to grasp basic knowledge, analyze the complexity of political issues, and develop creative thinking in applying knowledge to practice."* (Excerpt from an in-depth interview, with a female Business Administration student, year 3)

Furthermore, Chat GPT lacks accuracy in knowledge (14.7%). This Chatbot can provide inaccurate information or present biased viewpoints. This is a significant limitation that may affect students' learning outcomes. The limitation of time frames in searching for documents is another constraint; Chat GPT can only access and process information from available sources on the internet (Chart 4). Therefore, Chat GPT may not be able to provide information on the latest issues or in-depth issues. This is also a notable limitation that may prevent students from accessing the latest and most accurate information. *"When using Chat GPT, I find it difficult to ask questions. You need to ask questions accurately and clearly because even vague language in questions can lead Chat GPT to provide misleading answers, not as desired, even inaccurate information."* (Excerpt from an in-depth interview, a third-year Sociology student)

High costs are the most significant limitation of Chat GPT. Nowadays, Chat GPT is provided as a paid service. The cost of using Chat GPT ranges from tens of thousands to millions of VND per month, depending on the service package. Therefore, this makes Chatbot expensive for many users, especially students. Besides, difficulty in asking questions is the main reason

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because Chat GPT is trained on a large amount of data and information, but this data still has many limitations. Therefore, Chat GPT may misunderstand users' intentions or cannot answer complex questions. The difficulty in using Chat GPT is the third limitation. Since Chatbot is a complex tool, it requires users to have certain knowledge and skills to use it effectively. Therefore, new users may encounter difficulties in getting used to and using Chat GPT.

In summary, Chat GPT is a powerful AI tool that can be used to support learning and scientific research. However, this Chatbot has only been put into use for a short period, so many limitations may lead to adverse effects on students' learning processes in general. Therefore, it is necessary to be aware of the limitations of Chat GPT in order to use this tool effectively.

CONCLUSION

Students, being youthful, dynamic, enthusiastic, and harboring significant aspirations and dreams, undergo systematic training in their respective fields, acquiring the necessary knowledge and skills to become highly skilled workers contributing to the nation's construction and development. Students are always sharp in creative thinking, dynamic, and determined to think and do. Proficient in soft skills such as communication, teamwork, and problem-solving, they effortlessly integrate into both professional and social environments, exposed to diverse sources of information, knowledge, and experiences during the digital transformation era.

Generally, a considerable proportion of students utilize ChatGPT. Awareness and usage of Chatbot technology within the economic and technical sectors tend to surpass those within the social sciences. ChatGPT emerges as a potential learning aid, offering positive impacts on students' educational processes. Particularly robust in aiding scientific research, ChatGPT promises numerous benefits for students. With the advancement of artificial intelligence, ChatGPT could evolve into a valuable research support tool for students in the future. It can automate various research tasks, such as information searching, document creation, data analysis, and generating new research ideas by connecting disparate concepts. Additionally, it assists students in practical research tasks like data collection and analysis. Consequently, students save time and effort, concentrating on more creative and complex tasks, thereby enhancing research efficiency and achieving better outcomes.

However, ChatGPT also possesses limitations that could potentially hinder students' learning processes if not utilized appropriately. Therefore, students must carefully consider the usage of ChatGPT for educational and scientific research purposes.

Trends in students' access to ChatGPT in the future

The development of ChatGPT in the future

The number of students utilizing ChatGPT is expected to continue increasing. This is an inevitable trend as AI technology progressively advances and becomes more widespread. ChatGPT is a powerful AI tool that can assist students in various academic areas, from research and writing to exam preparation.

The features of ChatGPT will be enhanced and expanded, potentially being used to generate creative content, solve complex problems, or even provide psychological support to students.

Expanding the scope of application: ChatGPT can be applied in various academic fields, from research and academia to practical applications, catering to the diverse learning needs of students.

ChatGPT will become a valuable tool for students to study more efficiently, address challenging problems, and develop their own skills. The ChatGPT technology has the potential to be applied in learning activities.

ChatGPT can be used to create lectures, exercises, tests, and other learning materials, helping teachers save time and generate more personalized learning materials for each student. ChatGPT can also be used to provide legal assistance to students.

Trends in students' use of ChatGPT

Students will use ChatGPT for research and academic purposes to search for information, collect data, and create research papers. In the future, ChatGPT will be increasingly used in research and academic fields.

Students will use ChatGPT to learn and practice skills and knowledge they have acquired. In the future, ChatGPT will be used in practical learning models to help students improve their skills and knowledge.

ChatGPT provides lectures, exercises, tests, and other learning materials to help students learn more effectively. Applications can be used to assist students, such as answering questions in practical exercises.

ChatGPT will be used to analyze data, such as scientific papers, to improve and enhance analytical and scientific skills.

Recommendations for solutions

First:

Knowledge of ChatGPT needs to be included in the educational curriculum to help students understand more about the impact of ChatGPT on the learning process as well as integrating ChatGPT into learning activities.

Schools need to consult with experts to understand the advantages, disadvantages, and effective use of ChatGPT.

Schools need to train teachers on how to use ChatGPT in teaching. This will help teachers use ChatGPT effectively and safely.

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Second:

Participate in ChatGPT training courses: Teachers need to participate in ChatGPT training courses to master the knowledge and skills needed to use ChatGPT effectively.

Learn about ChatGPT applications in teaching: Teachers need to learn about ChatGPT applications in teaching to be able to apply ChatGPT effectively.

Experiment and evaluate ChatGPT applications in teaching: Teachers need to experiment and evaluate ChatGPT applications in teaching to ensure effectiveness.

Third:

Students need to be aware of the impact of Chat GPT on the learning process and use Chat GPT properly.

Only use ChatGPT to search for information and answer questions. Do not use Chat GPT to replace traditional learning.

Check the accuracy of the information provided by ChatGPT. Do not rely entirely on information provided by ChatGPT.

Students should participate in learning activities supported by ChatGPT to have the opportunity to experience and evaluate the effectiveness of ChatGPT.

Simultaneously, students should provide feedback on the applications of ChatGPT to assist teachers in actively adapting their teaching methods.

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