

USING CHATGPT IN THE DIGITAL ERA: THE IMPACT ON LEARNING AND STUDENTS’ ENGAGEMENT

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Abstract

This journal investigates the utilization of ChatGPT in the digital era and its impact on learning and student engagement. The research aims to comprehend the students’ learning experience and engagement through the application of ChatGPT. Through a series of experiments and analyses, we evaluate the effectiveness of ChatGPT's use in supporting the learning process. Our findings indicate that integrating ChatGPT in the context of digital learning can improve communication efficiency and facilitate more dynamic interactions between students and learning materials. Moreover, increased student engagement is evident through positive responses to the use of this technology. The implications of this research open new opportunities in developing innovative and relevant learning methods aligned with the demands of the digital era. Thus this journal contributes to our understanding of the role of natural language technology in enhancing learning in the digital age.

Keywords: *ChatGPT, Digital era, Learning impact, Student engagement.*

Introduction

In the digital era, technology is advancing at a rapid and making many parts of life easier, including education. The use of technology is currently very important, because technology can make easier to access various learning resources. Technology, student development, and effective teaching are all important components of a successful educational experience. By incorporating technology into education, educators can improve the quality and effectiveness of the learning process (Ekkarat & Charoenkul, 2023; Fauzi et al., 2023; Gibson et al., 2023). The technology that can be used is AI. In November 2022, an artificial intelligence (AI) research laboratory called OpenAI in the United States released a chatbot application called ChatGPT (openai.com, 2022). OpenAI's ChatGPT is an artificial intelligence-based machine trained to mimic human conversation using a technology called NLP (Natural Language Processing).

ChatGPT is a technology engine that processes natural language (NLP) which is artificial intelligence using a conversation format where in general humans can ask questions to tools like AI which would automatically get answers in a short time. ChatGPT works by collecting various information from journals, articles, newspapers that have been published on the internet, then ChatGPT absorbs it all so that when someone or a user is looking for information about something they want to know, ChatGPT would conclude the answer based on information he had gathered in a short time, and answer human questions in the form of text (called a prompt) that is typed into the application.

The use of ChatGPT in education in the digital era has become a topic that has received significant attention recently (Rathore, 2023; Shahriar & Hayawi, 2023). As an AI-powered chatbot, ChatGPT has the potential to revolutionize the way students and educators interact and learn. However, to know the impact, it is important to study the benefits and drawbacks of using ChatGPT. Therefore, this paper aims to determine the impact of using ChatGPT in learning in digital era.

Method

This study employed a structured interview method with students as the primary approach for data collection. Interviews conducted by posing ten questions related to the impact of ChatGPT usage in learning in the digital era. These questions were designed to gain in-depth insights into students' learning experiences, perceptions of ChatGPT usage, and how this technology influences their engagement in the learning process.

The selection of students as research participants was is expected to provide a direct perspective from end-users of this technology in an educational context. Structured interview ensure consistency in data collection and allow for in-depth analysis of students' responses and perspectives regarding the use of ChatGPT.

Data analysis involved a detailed understanding of students' responses, common patterns, and key findings. With this approach, the research aimed to present a comprehensive overview of the impact of ChatGPT usage in learning, particularly from the perspective of students in the digital era.

Results

In this study, researchers distributed a questionnaire containing 10 questions about students' perceptions of the use of chtgpt in the learning process.

1. Students’ Frequency of ChatGPT Usage in Learning

Based on interviews with students, the majority of them are familiar with and use ChatGPT in the context of learning. Respondents' answers indicate that although some students do not use ChatGPT frequently, this technology has played a role in assisting with complex tasks and providing easy access to information.

Table 1: Frequency of ChatGPT Usage in Learning

No	Student	Experience with ChatGPT	Usage Frequency	ChatGPT Role in Tasks
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1	Informant 1	Already used	Not too Often	Assists in complex tasks
2	Informant 2	Yes, Already used	Rarely	Provides easy acces
3	Informant 3	Uses every day	Very often	Assists in brainstorming
4	Informant 4	Used Frequently	Very often	Support in work tasks
5	Informant 5	Has Used	Rarely	Facilitates tasks
6	Informant 6	Yes, Already used	Not too often	Provides alternative views
7	Informant 7	Used Frequently	Very often	Provides information
8	Informant 8	Yes, I use it often	Regularly	Offers solutions
9	Informant 9	Yes, has used	Very Often	Task completion
10	Informant 10	Yes, has used	Very Often	Handling difficult tasks alone

From the table above it can be concluded that all 10 students’ interviewed have used ChatGPT in a learning context. This phenomenon reflects the widespread adoption of ChatGPT technology among students, indicating that they are generally familiar with and utilize it in their learning experiences. Most students (30%) use ChatGPT every day, 30% of students’ stated that they did not use ChatGPT too often, As many as 20% of students’ admit that they rarely use ChatGPT, On the other hand, 40% of students’ use ChatGPT very often.

Overall, the analysis shows that there is variation in the frequency of ChatGPT use among students’. However, the majority of students reported that using ChatGPT had added value to their learning context. Although the experiences are different, this reflects the potential of ChatGPT as a tool that can support student learning in a variety of ways.

2. The Purpose of Students Using ChatGPT

Table 2 : Purpose of ChatGPT Using ChatGPT

No	Students’	ChatGPT Usage Purpose	Usage Frequency	Purpose of Usage
1	Informant 1	As a tool in daily routines and brainstorming.	Not very often (rarely)	Integrating ChatGPT into daily routines and creative processes like brainstorming.
2	Informant 2	As an additional reference, especially in situations of non-understanding answers.	Not very often (only in specific situations)	Using ChatGPT as a "second opinion" or when needing more in-depth information.
3	Informant 3	As a tool to organize activities and brainstorming.	Very often (every day)	Using ChatGPT to organize activities and brainstorming in daily routines.

4	Informant 4	As a tool in work, especially in data collection tasks.	Very often (every day)	Usage of ChatGPT primarily for tasks and reports in data collection.
5	Informant 5	As a source of information and ideas in working on specific tasks.	Not very often (rarely)	Using ChatGPT to obtain information and ideas when working on specific tasks.
6	Informant 6	As a "second opinion" in certain situations.	Not very often (rarely)	Selective use of ChatGPT, especially as a "second opinion" on specific topics.
7	Informant 7	As a reference source, highlighting the need for improvement in ChatGPT responses.	Very often (every day)	Using ChatGPT as a reference source, highlighting the need for improvement in sometimes ambiguous responses.
8	Informant 8	As a tool for tasks and reports, emphasizing the need for updates.	Often (multiple times)	Usage of ChatGPT for tasks and reports, emphasizing the need for updates, especially in appearance and accessibility.
9	Informant 9	As a source of information and an assistant in completing tasks.	Very often (every day)	Using ChatGPT as a source of information and an assistant in completing daily tasks
10	Informant 10	As a tool for tasks difficult to do alone.	Very often	Using ChatGPT for tasks difficult to do alone, noting the need for additional features like image and audio input.

Based on the table above, we can see that 30% of the total respondents use ChatGPT as a tool in their daily routine, 30% use ChatGPT primarily in specific situations as an additional reference, while 40% of students’ use it every day to organize activities and exchange ideas. 40% of students’ use this technology every day. In contrast, 10% of students’ use ChatGPT rarely as a source of information and ideas in working on certain assignments. The use of ChatGPT as a “second opinion” in certain situations was made by 10% of students. While another 10% of students’ use ChatGPT as a reference source on a daily basis, often highlighting the need for improvement in sometimes ambiguous responses. The use of ChatGPT as a tool for assignments and reports, with an emphasis

on the need for updates, is carried out by 10% of students with frequent use (many times). Meanwhile, 30% of students’ use ChatGPT every day as a source of information and helper in completing daily tasks. Finally, 10% of students use ChatGPT very often for tasks that are difficult to do alone, given the need for additional features such as image and audio input.

This percentage analysis provides a more detailed picture of the extent to which students allocate their ChatGPT usage according to various learning goals and needs. Although there are variations, it appears that the majority of students involve ChatGPT in their daily activities, indicating the positive impact of this technology in supporting the learning process.

3. Student Perceptions of ChatGPT Appearance and Accessibility

Table 3 : Students’ Perceptions of ChatGPT Appearance and Accessibility

No	Students’	View on Appearance	Accessibility Feedback
1	Informant 1	Simple and clear	Suggests improvements for typing ease
2	Informant 2	Good	Emphasizes accessibility through web
3	Informant 3	Very good	Recommends updates for easier typing
4	Informant 4	Minimalistic and effective	Encourages regular updates
5	Informant 5	Very good	Urges improvements for the website
6	Informant 6	Marking a new era	Calls for updates for user convenience
7	Informant 7	Simple and understandable	Highlights the need for clarity
8	Informant 8	Minimalistic and functional	Advocates for easy typing
9	Informant 9	Very good	Recommends enhancement for typing ease
10	Informant 10	Effective	Suggests adding features like images and audio

From the table of students' perceptions of the appearance and accessibility of ChatGPT, it can be observed that 30% of students consider the appearance of ChatGPT to be simple and clear. As many as 20% of students thought that the display was good, while 10% said that the display was very good. However, around 40% of students gave a minimalist and effective view of ChatGPT's appearance. In terms of accessibility, 30% of students highlighted the need for improvements to typing ease, while 20% emphasized accessibility over the web. As many as 20% of students’ recommended updates to make typing easier, and 10% of students’ urged improvements to the ChatGPT website. In addition, 10% of students’ requested updates for user convenience, such as adding image and audio features. It is important to note that no students’ expressed no views on the

appearance or accessibility of ChatGPT. Most students' gave a positive view, but there were also a small number who provided recommendations for improvement.

This percentage analysis provides an idea of how well ChatGPT meets students' expectations in terms of appearance and accessibility.

Discussion

The results of this research indicate that students have diverse understandings regarding the use of ChatGPT in the context of learning. While the majority of students are familiar with and use ChatGPT, the frequency of usage varies among respondents. Some students actively use it every day, while others only use it selectively or rarely.

It can be observed that the roles of ChatGPT also vary, including support in complex tasks, providing alternative perspectives, and assisting in brainstorming and information provision. These results highlight the flexibility of ChatGPT in meeting the diverse needs of students in the learning context.

It is essential to note that, despite variations in user experiences, most students report that the use of ChatGPT has added value to their learning contexts. Thus, although there are differences in the frequency and roles of ChatGPT usage, the added value provided by this technology appears consistently.

Regarding the appearance and accessibility of ChatGPT, students' generally appreciate the platform's simple and clear design. However, feedback highlights the desire for updates that could improve typing ease and the addition of features such as image and audio input.

In conclusion, these findings offer valuable insights into how students' integrate ChatGPT into their learning. While the technology has positively contributed, users' challenges and expectations must be acknowledged. Ongoing efforts to enhance responsiveness, consistency, and adaptation to user needs are crucial to ensuring that ChatGPT remains an effective and relevant tool in supporting students' learning.

Conclusion

Based on the interview results with 10 informants regarding ChatGPT, several conclusions can be drawn. First, the students generally consider ChatGPT to have a simple and easily understandable interface. They also acknowledge the ease of access through the web interface. However, some students provide feedback for updates to the website, especially concerning the ease of typing questions.

Furthermore, students express the hope for higher-quality content from ChatGPT, seeking more detailed explanations and supporting references for the given answers. This indicates that students are not only looking for instant answers but also substantial information to support their understanding.

Additionally, there are ethical concerns related to the use of ChatGPT. One informant raises ethical concerns regarding the accuracy of information provided by ChatGPT and its impact on the learning process. This shows that students are not only

considering user convenience but also thinking about the ethical implications of this technology.

In terms of accessibility, most informants state that the ChatGPT interface is easily accessible, both through the web and dedicated applications. However, there are recommendations for updates to enhance the user experience and efficiency in typing questions.

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