

Students' Perception on the Use of ChatGPT as a Language Learning Tool

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ABSTRACT

Through the advancement of technology, specifically on Artificial Intelligence (AI), ChatGPT has emerged as one of the most significant tools of the 21st century in many areas, especially the education sector in many nations. The main objective of this study was to examine the perception of the students towards the usage of ChatGPT as a language learning tool. This study employs a quantitative study as its research design, involving 181 students from various faculties and campuses in Universiti Teknologi MARA (UiTM) across several states in Malaysia that were selected as respondents to collect the data. A descriptive analysis was implemented to analyze the data obtained. Based on the result, the finding shows that most of the students think that the use of ChatGPT helps to improve their ability specifically in writing and the students also think that the use of ChatGPT makes English Language learning more enjoyable and engaging.

Keywords: Technology, Education, ChatGPT, Artificial Intelligence, Language Learning.



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1. INTRODUCTION

As in the 21st century, technology has now become a crucial matter in many aspects, especially the education aspect for many countries due to its replacement of the traditional way of sharing knowledge (Ghavifekr & Rosdy, 2015). In fact, it is further elaborated that the integration of ICT within the learning setting is crucial as the students are now more exposed to the technology which has helped them to learn better. The advancement of technology itself has made a huge impression on the education field especially when learners are learning a new foreign language which is the English language because it is commonly used within language learning and teaching sessions for the past decades (Al Arif, 2019).

According to Liton (2015), it is possibly important to have more discussions on the student's perception of technology-enhanced language learning within the classroom setting and also the perception of the effectiveness of the technology usage in real-life situations because it will emphasize the importance of the urgency and necessity of integrating a technology-supported educational portfolio in the current digital world. Not just that, administrators, departments, students, and employers may also benefit significantly from research findings on how students perceive and use ICT in their educational setting (Charles & Issifu, 2015).

Although there were numerous discussions that have been made on the integration of technology in the classroom setting especially from the perception of the teachers themselves, there are fewer discussions that have been made on the student's perceptions of the usage of the ChatGPT as one of the technological language learning tools in their daily task. Hence, the researchers conducted a study to examine the perception of students in UiTM towards the usage of ChatGPT as language learning tool. In this study, the researcher focused on two different research questions: which are the students' perceptions of the effectiveness of ChatGPT in their learning and the use of ChatGPT in acquiring the English language.

2. LITERATURE REVIEW

2.1 Technology in Education

Nowadays, the usage of ICT has become a norm for all levels of education starting from elementary schools up to higher education (Al Arif, 2019). It is further added that Information and Communication Technology (ICT) is defined by UNESCO as “a form of technology used for creating, displaying, storing, manipulating and exchanging information (Al Arif, 2019, p. 134). The usage of ICT in education will benefit students the most as they are not constrained by the curriculum or available materials in which the hands-on activities in a technology-based course are intended to allow them to stimulate their comprehension of the subject better (Ghavifekr & Rosdy, 2015).

Moreover, in tertiary education, universities have now started to use ICT in their education system primarily for three main reasons which are to reflect new learning methods which to innate the students' adaptability to the technology, encourages new goals for the inclusion of the technology in education and lastly to encourage the new learning pathways which include the distance learning, self-learning and two-way communication system (Cabaleiro-Cerviño & Vera, 2020). With the introduction of ICT (Information Communication Technology) and the Internet, technology has progressed from static and one-way content delivery to interactive and collaborative mediums, enabling teaching and learning to be delivered over time and place synchronously and asynchronously and supporting multiple forms of interaction such as learner-learner, learner-group, learner-content, and learner-instructor (Dabbagh et al., 2019).

2.2 ChatGPT Large Language Model

The idea behind ChatGPT is straightforward as it can comprehend and produce language that is similar to that of a person who has been trained on the knowledge of a vast amount of text data which provides any individual with more information and it generally helps people with common tasks such as writing essays, job applications, or letters (ChatGPT: Will It Pass Its Probation?, 2023). A tech business called OpenAI conducts private artificial intelligence research in a for-profit environment and created ChatGPT, claiming that it is a “...highly autonomous systems that outperform humans at most economically valuable work” (Bednarski, 2023). With more than a million users in less than a week and a reputation for producing lengthy, intricate, and precise texts, ChatGPT was a huge success for OpenAI (Morrison, 2022). ChatGPT has outperformed prior benchmarks of AI capabilities and opened a new chapter in AI technologies and machine learning systems by being able to do anything between writing and interacting that mimic human intelligence (Paul, 2022).

Large Language models (LLM) have become widely used in a variety of applications, including writing equipment, code completion, and chatbots and the quality of LLM-written datasets is comparable to and occasionally even exceeds what humans have written (Perez et al., 2022). ChatGPT is also considered one of the large language models that have disadvantages in that it frequently gives

inaccurate information and has many limitations (Azaria, 2022). Nevertheless, it is further elaborated that it is a need to understand the constraints and output biases of large language models in order to maximize the benefits of ChatGPT because even though ChatGPT has a very large language model, it is similar to other languages in that it has trouble, especially with the complicated mathematical equation.

2.3 ChatGPT in Education

ChatGPT is deemed to have a wide array of potential applications in many sectors and has become the fastest growing app of all time reaching one million users in its first five days and 100 million active users in just two months after its launch, according to an analysis by Swiss Bank UBS (Hu, 2023). Despite that, there were huge concerns and controversies by many parties over the issues that ChatGPT would bring when it comes to education. Several academics and institutions have banned and slammed the utilization of ChatGPT in their organizations, including University of Hong Kong (Yau & Chan, 2023; Zaveria, 2023). Several countries have already blocked and disabled ChatGPT, including China, Iran, North Korea, Russia and Italy over serious concerns on how AI chatbots may “...deceive and manipulate people” (McCallum, 2023).

Nevertheless, numerous parties have welcomed ChatGPT with open arms. As highlighted by Ramlie et.al (2023), the Industrial Revolution 4.0 (IR4.0) is not only limited to the use of computers alone. In the education sector, educators should explore additional tools that can be employed to create a more dynamic and efficient teaching and learning system to better understand the learning needs of students. Universiti Teknologi MARA (UiTM) Malaysia, for instance, has always been supportive towards the utilization of ChatGPT application in its organization to align with the implementation of Education5.0@UiTM policy that encourages the use of latest technology in the teaching and learning within the university (*Pekeliling Akademik UiTM Bilangan 5 Tahun 2023*, 2023).

2.4 Previous Studies

Based on a study done by Ghavifekr and Rosdy (2015) entitled ‘Teaching and Learning with Technology: Effectiveness of ICT Integration in Schools’ found that ICT integration is quite effective for both instructors and students and not just, it has also found that one of the key elements in the success of technology-based teaching and learning is teachers who are well-prepared with ICT tools and resources. The purpose of this study is to examine teachers' perspectives on how well ICT integration improves teaching and learning in the classroom.

Contrary to what Al Arif (2019) had found, the results showed that the students used ICT more frequently for non-English learning reasons than for English language instruction although they showed positive sentiments towards the use of ICT when learning English. This study attempts to understand how often and for what objectives ICT is used by EFL university students. Additionally, it looks at how students perceive and recognize using ICT when studying English as a foreign language.

However, based on what Liton (2015) found, stated that the results of the study showed that although students actively and enthusiastically participated in their education, many were still unaware of how to use technology effectively for their learning. As a result, it implies that teacher trainers should set up training for EFL students on how to incorporate technology into their learning practices and that a technology-facilitated EFL text curriculum needs to be proposed in order to ensure the technology is fully used.

Based on the discussions above, it could be seen that there was a lack of discussions on the perception of students specifically on the usage of the ChatGPT in language learning and limited studies on the integration of ChatGPT in language learning context. Hence, in this study, the researchers conducted a study to examine the perception of students in UiTM towards the use of ChatGPT as a language learning tool.

3. METHODOLOGY

3.1 Research Design

In this study, a quantitative study was a method to obtain the data. Since this type of methodology allows generalization towards the population by using scientific techniques for data collecting and analysis and not just that, the interactions with the sample also can be generalized (Daniel, 2016). However, for this study, a survey or a questionnaire was formed as a tool to collect the data using Google Form. This survey method was chosen because by analyzing a sample from a group, a survey aims to reach conclusions about that population (Young, 2016). It is further added that, in contrast to spoken data, which must be recorded and transcribed before analysis, the data they collect can be processed and analyzed comparatively fast.

3.2 Instruments

For the purpose of this research, three sections were included in the Google Form questionnaire which are Section A, Section B and Section C. In Section A, the students need to fill in the details about their demographic background information which includes their gender, faculties and campuses. In section B, the students were asked about their perceptions on the effectiveness of ChatGPT integration for student learning which consists of ten items. In section C, students were requested to give their perception towards the use of ChatGPT in English Language learning consisting of ten items. The questionnaires were adopted and adapted from two different researches which were from Al Arif (2019) and Ghavifekr and Rosdy (2015).

3.3 Participants/Sample

To collect the data, 181 students from various programs, faculties, and campuses in Universiti Teknologi MARA (UiTM) across Malaysia were selected as respondents for this study using convenience sampling method. The students were in their first and second year of their studies undertaking English Language courses as one of their subjects. In this study, both male and female students were included.

3.4 Procedure of Data Collection

During the initial stage, the students were gathered in their respective English Language classes or language laboratories and were explained on how to use ChatGPT in order to seek information regarding the subject matter. Ethics and guidelines to avoid plagiarism when using this learning tool were also clarified and emphasized to these students. They were then asked to use ChatGPT on their own, inside or outside their classrooms to complete tasks, exercises or assignments over the course of two months during the academic semester. By the end of the course, the students were given a short link to Google Form directed to the online questionnaire for the study. They were asked to fill in the form and gave their own perception of the usage of the ChatGPT based on what they understood from the explanation.

3.5 Data Analysis

After all respondents have answered the questionnaires, the recorded data was downloaded from the Google Form and put into the Statistical Package for the Social Sciences (SPSS) for further analysis. The data were then analyzed using descriptive statistical analysis.

4. FINDINGS AND DISCUSSIONS

There were two primary findings that were examined to determine how people perceived ChatGPT's value in education and how people perceived its application to the study of the English language. Below are the outcomes:

Table 1.1 Minimum and maximum value for ChatGPT effectiveness

	N	Minimum	Maximum	Mean	Std. Deviation
ChatGPT Effectiveness	181	1.90	5.00	4.0669	.79422
Valid N (listwise)	181				

Table 1.1 shows the minimum value for ChatGPT effectiveness is 1.90 and the maximum value is 5.00. As it can be observed, the descriptive statistic for the perception of the effectiveness of ChatGPT in learning reveals an overall mean score of 4.067 and a standard deviation of 0.794.

Table 1.2 Descriptive statistics for perception towards the effectiveness of ChatGPT in learning

	N	Minimum	Maximum	Mean	Std. Deviation
A1	181	1	5	4.02	.980
A2	181	2	5	4.02	.778
A3	181	1	5	4.08	1.027
A4	181	1	5	4.07	1.078
A5	181	2	5	4.12	.750
A6	181	2	5	4.12	.839
A7	181	1	5	4.16	.990
A8	181	2	5	4.10	.870
A9	181	1	5	4.11	.971
A10	181	1	5	3.88	.947
Valid N (listwise)	181				

Nevertheless, based on Table 1.2 on the descriptive statistics for perception towards the effectiveness of ChatGPT in learning, it is shown that item A7 which is the statement 'I think the use of ChatGPT helps to improve my ability specifically in writing', has the highest mean value compared to the other nine statements. This result is contradictory to what Liton (2015) had found, which the study showed that although students actively and enthusiastically participated in their education, many were still unaware of how to use technology effectively for their learning. Hence, it could be said that students regard the technology or in this study the ChatGPT as one of the methods to improve their learning, especially in writing.

In addition, the least number of students from this university regard A10 or 'The use of ChatGPT promotes active and engaging lessons for my best learning experience'. This statement proves that although the usage of ChatGPT improves their writing skills, it still does not promote or engage the students actively in having their best learning experiences. This result supports what Al Arif (2019) found, that the students prefer to use ICT more frequently for non-English learning reasons than for English language instruction although they showed positive sentiments towards the use of ICT when learning English.

Table 1.3 Minimum and maximum value on the usage of ChatGPT in English language learning

	N	Minimum	Maximum	Mean	Std. Deviation
ChatGPT Usage	181	1.90	5.00	4.0442	.77526
Valid N (listwise)	181				

Table 1.3 shows the minimum value for ChatGPT usage is 1.90 and the maximum value is 5.00. Thus, as shown, the descriptive statistic for perception towards the usage of ChatGPT in English Language Learning reveals an overall mean score of 4.044 (SD= 0.775).

Table 1.4 Descriptive statistics for perception towards the usage of ChatGPT in English language learning

	N	Minimum	Maximum	Mean	Std. Deviation
B1	181	2	5	4.12	.892
B2	181	1	5	3.29	1.108
B3	181	1	5	4.09	.945
B4	181	2	5	4.20	.911
B5	181	2	5	3.95	.740
B6	181	1	5	4.01	.975
B7	181	2	5	4.12	.805
B8	181	1	5	4.27	1.073
B9	181	1	5	4.18	.978
B10	181	2	5	4.23	.829
Valid N (listwise)	181				

Meanwhile, Table 1.4 shows the descriptive statistics for perception towards the usage of ChatGPT in English language, and item B8 or the statement 'The use of ChatGPT makes English learning more enjoyable' has the highest mean value indicating that the students had perceived this statement as strongly agreeing compared to other statements. This is similar to what has been found in a study done by Ghavifekr and Rosdy (2015), that ICT integration is one of the key elements in the success of technology-based teaching and learning as the teachers were well-prepared with ICT tools and resources.

5. CONCLUSION

In conclusion, technology has become one of the most important components of the 21st century in many sectors, including the education sector for many nations, as a result of its replacement of the traditional ways of knowledge exchange. Technology has been rapidly transforming various aspects of modern society, including the education sector. The traditional ways of knowledge exchange have been replaced with innovative digital technologies that have made education more accessible, engaging, and effective. With the advent of artificial intelligence, Chatbots have emerged as a new way of providing students with a personalized and interactive learning experience.

The primary goal of this study was to investigate how UiTM students felt about using ChatGPT as a learning algorithm. According to the results, most students believe that using ChatGPT will help them improve their writing skills. They also believe that using ChatGPT will make learning English more interesting. As writing is an essential aspect of education and a critical skill in the workforce, this finding is significant. ChatGPT's ability to provide personalized feedback, suggest new vocabulary, and correct grammatical errors can help students improve their writing skills and increase their confidence in expressing themselves through writing. Learning a new language can be a challenging and tedious process. However, with the use of a Chatbot, students can interact with an AI-powered tool that offers a personalized and interactive learning experience. The ChatGPT can engage the students with real-life scenarios and help them improve their language skills in a fun and engaging way. The use of technology, specifically Chatbots like ChatGPT, can have a significant impact on the education sector. The study has shown that UiTM students perceive ChatGPT as a helpful learning algorithm that can improve their writing skills and make learning English more interesting. With the ongoing advancements in AI, Chatbots are expected to become more sophisticated and capable of providing even more personalized and interactive learning experiences for students.

The results of a study on students' opinions of Open AI utilizing ChatGPT as a learning algorithm have a wide range of consequences that can change based on the research topic and techniques chosen. Yet, the following are some probable implications of such a study such as to understand the student attitudes towards AI and examine the possibility for individual learners. First and foremost, research on how students feel about OpenAI may give insight into how students feel about AI in general and understanding how AI might be implemented into education in the future or how to explain AI to students could both benefit from this. Understanding student attitudes towards AI is critical in shaping the future of education, where AI is poised to play an increasingly significant role. This research can also help identify potential barriers to the adoption of AI in education, as well as opportunities for integrating AI into the learning process. For instance, by understanding how students feel about AI and their perceptions of its capabilities, educators can develop strategies for using AI in ways that are most beneficial to students. Moreover, by exploring how AI can be used to personalize learning experiences, educators can create more effective and engaging learning environments that cater to the individual needs of each student.

Next, examining the possibility for individual learners in which utilizing ChatGPT as a language model might enable more focused instruction for students as researchers could discover areas where students need more assistance or modify the model's answers to best fit individual learning needs by seeing how students engage with it. The use of ChatGPT as a language model can allow for more personalized and focused instruction for individual learners. By utilizing the model's capabilities to provide instant feedback and suggestions for improvement, educators can gain insights into areas where students may need more assistance or guidance. With the help of machine learning algorithms, ChatGPT can analyze students' responses and provide targeted feedback and resources to improve their language skills. By collecting data on students' interactions with ChatGPT, researchers can identify patterns and trends in their learning and adjust the model's responses to better fit individual learning needs.

Moreover, the model's ability to generate responses based on the context of the conversation can provide a more natural and engaging learning experience for students. For instance, if a student struggles with a particular aspect of grammar, ChatGPT can provide targeted examples and explanations that are tailored to the student's individual learning needs. By using ChatGPT as a language model, educators can create a more dynamic and personalized learning environment that caters to the unique needs and preferences of each student. Moreover, the model's instant feedback and suggestions can help students identify areas where they need more practice and guidance, leading to improved language skills and greater overall learning outcomes.

There are several limitations to this study that should be acknowledged. Firstly, the sample size of 181 students from only one university in Malaysia may not be representative of the wider population of students across other universities or regions. Therefore, the generalizability of the findings may be limited. Secondly, a convenience sampling method was used which may result in a biased sample that is not representative of the population. Students who volunteered to participate in the study may have different attitudes towards ChatGPT compared to those who did not participate. This may result in a lack of diversity and bias in the sample. Thirdly, the study only focused on the students' perceptions and attitudes towards the use of ChatGPT as a language learning tool. Therefore, it is not clear whether the use of ChatGPT actually led to improved writing skills or better engagement in learning English. The study did not include any objective measures of language proficiency or writing skills, which could provide a more comprehensive understanding of the effectiveness of ChatGPT as a language learning tool. Lastly, the study did not investigate the potential ethical concerns that may arise from the use of AI-based language learning tools like ChatGPT. For example, the study did not address issues related to data privacy, bias in the model's responses, or the impact of AI on the role of teachers in language learning. Future studies could explore these issues to ensure that the use of ChatGPT and other AI-based language learning tools is ethical and equitable.

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AUTHOR CONTRIBUTIONS

All authors contributed equally to this research paper.

CONFLICT OF INTEREST

The authors of this paper declare that they have no affiliations with or involvement in any organization or entity with any financial interest or personal relationships in the subject matter or materials discussed in this manuscript.

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