

ChatGPT: Investigating Academic Staff's Awareness and Utilization in Teaching and Learning Strategies

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Abstract

This study examines ChatGPT, an AI-based virtual communication platform developed using the Generative Pre-trained (GPT) tool, in Malaysia's higher education context. The study aims to investigate the understanding of academic staff regarding ChatGPT and its use in teaching and learning strategies. Using a quantitative research method, specifically an online questionnaire, the study collects data from 52 participants who are TVET lecturers in one of Malaysia's polytechnics. The findings suggest that academic staff generally need more exposure to the functions of ChatGPT, and lecturers do not emphasise to maximise the use of ChatGPT. Based on the findings, it appears that academic staff would benefit from more exposure to the various functions of ChatGPT. Additionally, it seems that lecturers may not be fully utilizing the potential of ChatGPT in their teaching and learning approaches. Age and teaching experiences is not a significant factor affecting the utilization of ChatGPT. The study finds that despite the popularity of ChatGPT, there are still academic staff that have low mastery of its general functions, and there is minimal utilization of ChatGPT in teaching and learning. The emergence of such sophisticated technology raises concerns about academic dishonesty, and

lecturers' lack of awareness may have severe implications for academic integrity. Therefore, educators must equip themselves with the necessary knowledge and skills to effectively monitor and prevent academic dishonesty. The research study suggests that additional investigation is necessary to fully investigate the potential benefits of ChatGPT in education. It is also important to address any ethical or practical concerns that may arise from its use. Despite its worldwide popularity, some academic community members still need to familiarise themselves with this built AI chatbot.

Keywords: ChatGPT, Higher Education, Teaching and Learning, Strategies

Introduction

The use of technology in education has become increasingly prominent in recent years, with the COVID-19 pandemic accelerating the transition to online learning and the adoption of new technologies and tools in teaching and learning. It has resulted in significant changes to the landscape of higher education, significantly impacting the teaching and learning styles required for 21st-century education. One example of this is the utilization of ChatGPT, which is an AI Chatbot tool that is increasingly being mentioned in the present time. This is a version of OpenAI's Generative Pretrained Transformer (GPT) language model. ChatGPT stands out from other chatbots as it can generate impressive prose instantly and engage in conversations with users in a natural and intuitive manner (Rudolph et al., 2023). What impresses many is that ChatGPT's responses appear well-structured, with coherent relationships between words or sentences and a high level of accuracy and ability to recall previous conversations. Using the appropriate prompts can produce a scientific article or book much more quickly than traditional methods. Lund and Wang (2021) identified that ChatGPT can be utilised in academic research, including enhancing literature reviews, generating research article summaries, and aiding in data analysis. These technologies could also be used to create virtual assistants for researchers and to help with the peer-review process (Arif et al., 2019; Lim et al., 2021; Nair & Yunus, 2021). Halaweh (2023) discussed the potential use of ChatGPT in educational settings and provide recommendations for its implementation. As a tool for generating text, it can be helpful in educational settings for improving students' writing and idea-generation skills. ChatGPT, as an AI chatbot tool, has emerged as a significant player in the changing landscape of higher education. Its potential to enhance teaching and learning strategies cannot be overlooked.

Malaysia's higher education system has evolved significantly and is undergoing a significant overhaul. The Malaysia Education Blueprint 2015-2025 (Higher Education) recognised digital literacy, critical thinking, and problem-solving as 21st-century learning abilities that will enable students to prosper in IR4.0. It also underlines the government's commitment to digitising education to make it available to all students through facilitating activities. Many local researchers conduct studies and develop applications to facilitate the learning process (Precintha et al., 2019; Yunus et al., 2014). The studies and research include the development of android-based mobile learning Setiawati et al (2023), Augmented Reality mobile application on English vocabulary Hashim et al (2022), and more new approaches and changes being identified. Among the changes in learning towards IR 4.0, a system has been developed based on the GPT (Generative Pre-trained Transformer). Its purpose is to assist users in answering questions, providing information, and carrying out various natural language processing tasks. This AI-based virtual communication platform is seen as opening a new dimension among students and lecturers in higher education. The use of ChatGPT in the

context of higher education learning in Malaysia is currently being discussed in parliamentary debates and at the ministry level. The Minister of Higher Education Malaysia announced that the ministry is working on guidelines for using the artificial intelligence-driven ChatGPT. The white paper, 'A New Horizon for Science, Technology and Innovation – A Strategy for Malaysia', has also been proposed to drive changes in the learning flow of the country. It also plays a role in researching the management of technology disruption issues in the country's education sector - to avoid plagiarism culture or disruption (Bernama, 2023).

In the context of Malaysian Polytechnic as one of the TVET institutions, the importance of staying up-to-date with the latest technology in the higher education sector cannot be overstated. With the rapid evolution towards Industry 4.0 (IR4.0), institutions are striving to achieve and preserve institutional sustainability by embracing emerging technologies in teaching and learning (Rajendran & Yunus, 2021; Said et al., 2013; Yunus & Salehi, 2012). As one of the TVET institutions, the Department of Polytechnics and Community Colleges in Malaysia is committed to providing quality technical and vocational education and training that meets the demands of the evolving industry. The Malaysia Education Blueprint (Higher Education) 2015-2025 outlines several surges, including Quality TVET Graduates, Global Online Learning, and Higher Education Delivery Transformation, that require a significant focus on technology-based teaching and learning processes to improve teaching quality and education delivery methods tailored to all students. Therefore, it is crucial for academic staff members in Malaysian Polytechnics to be aware of the latest technology developments, including ChatGPT, which has the potential to revolutionise teaching and learning strategies. By staying updated with the latest technology and incorporating it into their teaching and learning strategies, academic staff members can provide students with personalised and effective learning experiences that cater to their unique needs and preferences.

This study is significant given the increasing use of ChatGPT in teaching and learning. It is important to determine whether the claims about its advantages are well-known among academic staff members. This study is expected to have major implications for the development and implementation of technology-based teaching and learning strategies in Malaysian Polytechnics and other TVET institutions. By staying updated with the latest technology and providing adequate training and support to academic staff members, institutions can effectively integrate ChatGPT into their teaching and learning strategies to provide students with personalised and effective learning experiences that meet the demands of the evolving industry. Therefore, the main aim of this study is to examine the understanding of academic staff in the polytechnic regarding ChatGPT as one of the available chatbot tools and to investigate their use of it in their teaching and learning strategies. The main objective of this research was to address the following inquiries:

- 1) What is the level of understanding academic staff in the polytechnic have about ChatGPT?
- 2) To what extent do academic staff use ChatGPT in teaching and learning?.

Literature Review

ChatGPT

The language model known as ChatGPT, developed by OpenAI, is a cutting-edge advancement in Natural Language Processing (NLP). This technology has the potential to transform the way we communicate and interact with technology. Natural Language Processing (NLP) is a branch

of artificial intelligence (AI) that interacts with computers and human languages. One recent research paper in the field of NLP is "Language Models are Few-Shot Learners" by Tom B. Brown et al. and the paper presents a comprehensive analysis of the capabilities of GPT-3, one of the largest and most powerful language models currently available (Brown et. al., 2020). GPT models have seen significant development and adoption in recent years, with researchers and companies alike exploring their potential applications in various fields. Radford introduced the concept of pre-training large-scale language models on a massive amount of data in an unsupervised manner, followed by fine-tuning the model on a specific task. There have been notable advancements in language understanding tasks, establishing a solid groundwork for the creation of more advanced models (Radford et al., 2018).

Later on, Zhang developed a large-scale generative dialogue response generation model trained on a massive amount of conversational data. The DialoGPT model outperformed previous models on several evaluation metrics and produced more coherent and contextually relevant responses (Zhang et. al., 2019). Another notable application of ChatGPT models is in the generation of engaging image captions that trained the model on a dataset of captions annotated with personality traits and showed that the resulting captions were more engaging and received higher ratings from human evaluators (Shuster et. al., 2019). However, its rapid development and increasing capabilities raise ethical concerns around privacy, security, and potential misuse, highlighting the need for responsible development and regulation of this technology. Researchers and educators must conduct a thorough evaluation of the ethical implications of AI systems and guarantee their responsible and transparent use (Kooli, 2023).

Integration in Teaching and Learning

According to recent research, ChatGPT holds promise as an effective educational tool. According to the exploratory study conducted by Tlili et al (2023); Kuhail et al (2023), chatbots can enhance the learning experience for students in several ways. Instant feedback and support, personalized learning experiences, and increased student engagement and motivation in learning can be provided by chatbots (Yunus et al., 2019; Zakaria et al., 2016). The chatbots can be used as a tool for facilitating communication between students and teachers, providing quick and convenient access to information, and creating a more engaging and interactive learning experience. Additionally, ChatGPT has been scored within the passing range for the United States Medical Licensing Exam (USMLE), which is a notable milestone in AI development (Kung et al., 2023). However, chatbots have limitations in understanding context and nuances in the same way humans do. Generating new ideas and being creative are crucial aspects of scientific and academic research. Unfortunately, individuals who lack these abilities often struggle to make progress in their work (Kooli, 2023).

Despite the potential benefits of ChatGPT in education, some educational institutions have banned its use. The Los Angeles Unified School District and the New York City Department of Education both blocked access to the OpenAI ChatGPT website on their network and devices in 2022 due to concerns about the technology's impact on problem-solving and critical thinking skills (Rosenzweig-Ziff, 2023). Similarly, RV University in India and Sciences Po University in France have banned students from using ChatGPT, with suspected users subjected to surprise checks by the institutions (Nolan, 2023). These bans aim to curb issues such as copying in learning, obtaining information directly from ChatGPT, and directly copying. As a result, educators should establish protocols for utilizing these tools and

contemplate the most effective ways to equip students for a future in which AI-driven digital tools are commonplace in everyday existence (Kohnke et al., 2023).

ChatGPT has shown potential as a useful tool in education, but its use must be considered carefully to ensure that it is used safely and with integrity. While some educational institutions have banned its use, educators must develop guidelines for its use and prepare students for a world where AI-driven digital tools are a normal part of daily life.

Academic Staff's Awareness

The effective implementation of ChatGPT technology in teaching and learning relies heavily on academic staff members' awareness and utilization. ChatGPT is a more advanced chatbot technology that uses natural language processing and machine learning algorithms to simulate human conversation. Previous studies have highlighted the importance of providing adequate training and support to academic staff to increase their awareness and utilisation of chatbots in education.

In the study on the use of ChatGPT in higher education, Yang and Evans (2019) found that academic staff's attitudes towards chatbots affect their adoption and use of the technology. The study also highlighted the importance of providing adequate training and support to academic staff to increase their awareness and utilisation of chatbots in education. According to Kooli (2023), academic institutions must adjust to the growing prevalence of AI systems and chatbots. It is essential to continuously adapt to their development, and failure to do so could result in an emergency situation. Emphasis must be placed on adopting appropriate legislation and reinforcing ethical values to safeguard research and educational systems. However, the effectiveness of ChatGPT depends on its design and the attitudes of academic staff towards its use. Therefore, it is essential to investigate the academic staff's awareness and utilisation of ChatGPT in teaching and learning strategies.

Methodology

Research Design

The research design for this study is a quantitative survey using a questionnaire to investigate the level of understanding and utilisation of ChatGPT in teaching and learning strategies among academic staff in higher education. The study used descriptive statistics to analyse the survey responses and to answer the research questions, which focused on the academic staff's level of understanding of ChatGPT and their utilisation of the tool in teaching and learning strategies. The descriptive statistics included mean scores and standard deviations for each survey item.

Participants

The survey participants were TVET lecturers in one of the polytechnics in Malaysia. The learning in polytechnics generally focuses on technology and engineering. The survey was carried out in the Department of Civil Engineering at Politeknik Port Dickson, where the researcher took a sample of lecturers who teach the Diploma in Civil Engineering and the Diploma in Architecture programs. The population of academic staff in the Department of Civil Engineering was 60, and a sample of 52 respondents was obtained. Table 1 presents the demographic information of the survey participants, as per the results. The age group and teaching experience are essential factors as they will determine whether they affect the familiarity with using GPT and its results.

Table 1

Participant Demographics

	Frequency (n)	Percent (%)
Age Group (years)		
25-34	3	6
35-44	38	73
45-54	19	19
55-64	2	2
Teaching Experience (years)		
6-10	4	8
11-15	17	33
16-20	16	31
21-25	13	25
26-30	2	4

Note: Total of participants is 52

Instruments

A research instrument in the form of a structured questionnaire was created and utilized for gathering data. The academic staff was given a questionnaire with close-ended questions to answer. The questionnaire consisted of fifteen questions divided into three sections, which used a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The first section (Part 1) consists of 5 questions concerning the participants' demographic information. The second section (Part 2) contains six questions which seek to identify the understanding of the function of ChatGPT among academic staff. Finally, the third section (Part 3) includes 12 question which aims to identify the use of ChatGPT for teaching and learning purposes.

Survey

For this research, data was gathered from 52 respondents through an online survey. This method proved to be both cost-effective and efficient in collecting data from a significant sample size. The use of quantitative methods in this study allowed for a systematic and objective analysis of the data collected from the respondents. The questionnaire was developed according to the need of the target group. The data were collected within three days.

Reliability Analysis

The reliability analysis was conducted on 30 respondents from three departments: the Department of Electrical Engineering, the Department of Mechanical Engineering, and the Department of Commerce. The purpose of the analysis was to assess the survey instrument's internal consistency, which was utilized to examine the awareness and utilization of ChatGPT in teaching and learning strategies among academic staff. The Cronbach alpha values are provided in Table 2.

Table 2

Reliability test

N (Variables)	Cronbach's Alpha
23	0.94

The reliability statistic of 0.953 for the 21 items in this study indicates that the survey instrument used to investigate academic staff's awareness and utilisation of ChatGPT in teaching and learning strategies is highly reliable. For research purposes, a Cronbach's Alpha value of 0.7 or higher is generally deemed acceptable, while a value of 0.9 or higher is considered excellent (Taber, 2018). Therefore, the high Cronbach's Alpha value of 0.94 indicates that the survey instrument used in this study is highly consistent and dependable in measuring the constructs of interest.

Results and Findings

The results of the questionnaire are presented in Table 3, which shows the means and standard deviations for the sections aimed at identifying the understanding of the function of ChatGPT among academic staff.

Table 3

Familiarity with using ChatGPT

Variables	N	M	SD
Familiarity with AI Chatbot.	52	2.17	0.879
Familiarity with ChatGPT.	52	2.17	0.923
Familiarity with ChatGPT as a teaching and learning tool	52	2.08	0.837
The use of alternative technologies similar functions to ChatGPT.	52	2.08	0.813

The descriptive statistics show that the academic staff's level of understanding of ChatGPT is relatively low, with a mean score of 2.17 for familiarity with AI Chatbot and ChatGPT. The standard deviation for both variables indicates a moderate level of variability in responses among the participants. The mean score for familiarity with ChatGPT as a teaching and learning tool is slightly lower, at 2.08, indicating that fewer participants are aware of ChatGPT's potential as an educational tool. Similarly, the mean score for the use of alternative technologies or software that perform similar functions to ChatGPT is also 2.08, suggesting that few participants are using other tools that could enhance their teaching and learning strategies.

Table 4

ChatGPT in teaching and learning strategies

Variables	N	Mean	Std. Deviation
Generating ideas for lesson plan	52	1.52	0.918
Answering frequently asked questions	52	1.87	1.121
Preparing teaching activities	52	1.63	1.048
Create assessments	52	1.56	0.938
Grading assessment	52	1.56	0.938
As an interactive learning experiences during classes	52	1.56	0.916
Customized learning experiences	52	1.60	0.955
Provide resources such as articles and videos related to the topic	52	1.67	1.043
Optimized student's learning outcomes	52	1.62	1.032
Helps student with writing skills	52	1.98	1.229
Helps students with problem-solving skills	52	1.77	1.113
Helps students with presentation skills	52	1.87	1.085

Table 1 presents descriptive statistics for 12 variables pertaining to the utilisation of ChatGPT in teaching and learning strategies among academic staff in higher education. The sample consists of 52 respondents, and the variables are measured on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The descriptive statistics include the mean and standard deviation for each variable. The mean values for the variables range from 1.52 to 1.98, indicating a general consensus among academic staff that ChatGPT can be useful in various aspects of teaching and learning. The variable "Generating ideas for lesson plan" has the lowest mean value ($M=1.52$, $SD=0.918$), suggesting that academic staff may not consider ChatGPT particularly useful for this task. On the other hand, the variable "Helps students with writing skills" has the highest mean value ($M=1.98$, $SD=1.229$), indicating that academic staff perceive ChatGPT as particularly helpful in improving students' writing skills. The standard deviation values range from 0.916 to 1.229, indicating some variability in the responses for each variable. The variables "As an interactive learning experience during classes" ($SD=0.916$) and "Grading assessment" ($SD=0.938$) have the lowest standard deviation values, suggesting a consistent view among academic staff regarding these variables. Conversely, the variables "Helps student with writing skills" ($SD=1.229$) and "Answering frequently asked questions" ($SD=1.121$) exhibit the highest standard deviation values, indicating greater variability in the responses.

Variables such as "Answering frequently asked questions" ($M=1.87$, $SD=1.121$), "Helps students with problem-solving skills" ($M=1.77$, $SD=1.113$), and "Helps students with presentation skills" ($M=1.87$, $SD=1.085$) demonstrate high mean values, suggesting that academic staff view ChatGPT as a potentially valuable tool for supporting students in these areas. The variable "Optimized student's learning outcomes" also has a relatively high mean value ($M=1.62$, $SD=1.032$), indicating that academic staff perceive ChatGPT as capable of improving student learning outcomes. The variable "Customized learning experiences" has a mean value of 1.60 ($SD=0.955$), suggesting that academic staff consider ChatGPT potentially

useful in providing personalised learning experiences for students. Similarly, the variable "Provide resources such as articles and videos related to the topic" has a mean value of 1.67 (SD=1.043), indicating that academic staff view ChatGPT as a potentially useful tool for offering additional resources and materials related to the course content.

Overall, the descriptive statistics indicate that academic staff perceive ChatGPT as a potentially valuable tool for supporting various aspects of teaching and learning. However, the variability in responses for each variable suggests differing views among academic staff regarding the usefulness of ChatGPT in different areas. These findings underscore the need for further research to explore the potential benefits and challenges of integrating ChatGPT into teaching and learning strategies in higher education. In this study, the researcher also investigated the extent to which academic staff are willing to seek and attend training related to ChatGPT. Table 5 displays the presented results.

Table 5
The willingness of academic staff

	N	Minimum	Maximum	Mean	Std. Deviation
Willing to seek training or more information about ChatGPT	52	1	5	3.90	0.955
Willing to attend training sessions to increase my proficiency in using ChatGPT	52	3	5	4.10	0.693

The findings of this study reveal that academic staff members in higher education display a moderate to the high level of understanding and willingness to utilise ChatGPT in teaching and learning strategies. The results indicate that these staff members are open to seeking training or acquiring more information about ChatGPT if it is made available, demonstrating a positive attitude towards learning and exploring this technology (mean = 3.90). Additionally, academic staff members exhibit a notable extent of willingness to attend training sessions aimed at improving their proficiency in using ChatGPT (mean = 4.10). This indicates their recognition of the importance of enhancing their skills with ChatGPT to effectively integrate it into their teaching practices.

However, it is important to note that while academic staff members demonstrate enthusiasm towards ChatGPT, they may require additional support and training to effectively utilise this technology. Therefore, it is crucial to provide comprehensive training and support programs to enable academic staff members to develop their proficiency and confidently leverage ChatGPT for teaching and learning strategies. These findings emphasise the significance of investing in professional development opportunities that empower academic staff members to harness the full potential of ChatGPT in educational contexts.

Discussion and Suggestions

ChatGPT is a promising technology for teaching and learning purposes. It is a relatively new technology, and most of the academic staff may find it challenging to grasp the technical aspects of ChatGPT, mainly if they have limited exposure to natural language processing (NLP) or machine learning.

Understanding of ChatGPT

The findings of this study suggest that the level of mastery in using ChatGPT among academic staff members in the Department of Civil Engineering is still at a low level of exploration. This may be attributed to various factors, including the lack of awareness and knowledge, perceived complexity, and a preference for traditional teaching methods. Some academic staff members may find it challenging to grasp the technical aspects of ChatGPT, mainly if they have limited exposure to natural language processing (NLP) or machine learning. According to Qadir (2022), it is crucial for engineering educators to comprehend the implications of generative AI technology. They should study and devise strategies to adapt the engineering education system to enable the upcoming engineers to reap the benefits of this technology while minimizing any adverse effects. Therefore, academics in technical fields, in particular, need to emphasise technology development.

Apart from that, institutions and stakeholders need to provide support and resources to encourage exploring and adopting alternative technologies in education. This may include training programs, workshops, and collaboration opportunities to foster a culture of innovation and experimentation in education. This is probably because some may not be familiar with its capabilities or how it can be integrated into teaching and learning. Academic staff may struggle to incorporate it into their existing pedagogical. The slow uptake of alternative technologies may be attributed to various factors, including the lack of awareness and knowledge, perceived complexity, and a preference for traditional teaching methods. However, as education continues to evolve and adapt to learners' changing needs and demands, educators must stay abreast of emerging technologies and explore their potential impact on the teaching and learning process. By embracing alternative technologies, educators can leverage their potential benefits and enhance the quality and effectiveness of teaching and learning to benefit all stakeholders involved. Although there have been no studies on using ChatGPT among students, the polytechnic institution is responsible for providing exposure to current issues and challenges through the scientific sharing of tools created to facilitate learning sessions. The technology in question holds great promise for education, as it offers customized and adaptable learning opportunities. It has the potential to transform the way we learn, making it more personalised and flexible.

ChatGPT in Teaching and Learning

This study has obtained significant outcomes regarding the application of ChatGPT in teaching and learning strategies. The relatively low percentage of lecturers who reported using ChatGPT in optimising students' learning outcomes and problem-solving skills may suggest a potential for ChatGPT to be further utilised in these areas. As education continues to evolve, educators must explore and adopt emerging technologies to enhance the quality and effectiveness of teaching and learning for all stakeholders involved. Although ChatGPT is a promising technology for teaching and learning purposes, it must be cautiously approached to ensure its effective and ethical use. Academic staff and students must be aware of its potential and risks and take appropriate measures to ensure its effective and ethical use in the classroom. Recently, the MQA agency issued an advisory note (MQA, 2023), stating that there are potentials and risks in the quality of using AI in teaching and learning. Among them are the potential to facilitate and optimise learning outcomes and enhance competitiveness, creativity, and innovation. However, it is emphasised that high dependence or uncontrolled

use may invite risks. There are several recommendations to Higher Institution Education (HIE), academic staff and students regarding using Chat GPT by MQA in Table 6.

Table 6

MQA's recommendation

Higher Education Institutions	<ul style="list-style-type: none"> a) Establish clear guidelines for academic staff and students b) Maintain and strengthen academic integrity c) Take into account the development of Generative AI skills d) Monitor and review policies, guidelines, and practices of Generative AI technology usage
Academic staff	<ul style="list-style-type: none"> a) Be aware and proactive in adapting teaching methods b) Utilize Generative AI technology in flexible and personalised learning implementation c) Cultivate the use of ChatGPT with integrity d) Adapt teaching, learning, and assessment approaches based on learning outcomes e) Academic staff must ensure that students can demonstrate mastery of learning outcomes f) Academic staff should guide students in the use of AI technology
Students	<ul style="list-style-type: none"> a) Provide continuous understanding and awareness to students b) Verify the validity of the information.

Source: Advisory note (MQA, 2023)

Although there have been many writings on the widespread use of ChatGPT in education, it cannot be determined whether educators use ChatGPT to assist in teaching and learning. Therefore, further research and exploration into the potential benefits and drawbacks of using ChatGPT as a teaching tool may be necessary to facilitate its integration into pedagogical practices. With guidance and skills from the lecturers, students can improve their skills and subsequently benefit their future careers by optimised. These findings highlight the importance of further research to explore the potential benefits and challenges of incorporating ChatGPT into teaching and learning strategies in higher education. Future research should investigate the effectiveness of ChatGPT in improving student's learning outcomes and explore lecturers' perceptions of ChatGPT as a teaching and learning tool. Additionally, research should focus on the ethical implications of using ChatGPT in education, including data privacy and security concerns.

There were several limitations to this study, one of which was the short timeframe for data collection. Next, this study did not consider the academic staff's psychological state, perhaps influences and motivations for implementing ChatGPT in teaching and learning. The limited studies on using ChatGPT in education across many institutions have resulted in a lack of comprehensive comparisons between higher education institutions in Malaysia.

Conclusion

In conclusion, ChatGPT is one of the benefits and challenges that educators at both the school and higher education levels must accept in their efforts to provide the best education for future generations of the country. The advancement of artificial intelligence, specifically

generative language models, has the capability to transform the method of delivering education. The use of ChatGPT in education can potentially revolutionise teaching and learning experiences. When considering chatbots as learning aids, student mentors, or facilitators, it's important to evaluate their effects on cognitive and emotional levels (Wollny, 2021). ChatGPT can generate human-like text based on a given prompt, which can assist in answering student inquiries, providing feedback on assignments, and generating educational materials, which can facilitate and optimise learning outcomes and enhance competitiveness, creativity, and innovation. However, the use of this AI chatbot tool must be approached with caution to ensure its effective and ethical use in the classroom. Using generative language models raises questions about academic integrity, plagiarism, and the role of educators in the learning process. Therefore, clear guidelines and policies must be established for the ethical and practical use of ChatGPT in education. Educators and policymakers must recognise that while it has the potential to enhance teaching and learning experiences, it also presents ethical and practical challenges. According to Baidoo-anu (2023), it is essential for educational institutions to reconsider their policies and practices to effectively guide and assist their students in using ChatGPT in a secure and productive manner.

This study can be concluded that despite the popularity of ChatGPT worldwide, some of the academic community are still unfamiliar with this built AI chatbot. In order to produce graduates who are well-prepared for the workforce in accordance with the Malaysian Higher Education framework 4.0, it is crucial for academic staff to consistently enhance their teaching and learning delivery methods. In the advisory notes issued by MQA, it states and recommends that HEIs need to maintain and strengthen academic integrity by Providing training and exposure sessions on the practical, professional, and integrity-driven use of Generative AI applications, emphasising the use of alternative and authentic assessments in measuring student achievement to support teaching and learning, conducting a review of academic regulations and analysing the use of AI technology according to the suitability of the discipline. To improve the quality of education and adequately prepare future generations for an increasingly digitized and automated world, it's essential to conduct extensive research into ChatGPT's potential within the education sector. Additionally, it's crucial to address any ethical and practical concerns associated with its use.

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