EXPLORING THE ADOPTION OF CHATGPT IN HIGHER EDUCATION: A CASE OF LECTURERS IN A UNIVERSITY OF TECHNOLOGY IN KWAZULU-NATAL, SOUTH AFRICA

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Abstract

ChatGPT has been regarded by many scholars as the innovation of the century since its inception in November 2022. This is mainly because of the things that are out of this world that ChatGPT is capable of doing and that has led to many heated arguments about using ChatGPT in higher education settings. As a result, this qualitative study sought to explore the adoption of ChatGPT in higher education by getting the views of eight (8) lecturers through semi-structured interviews. The data from the semi-structured interviews was analyzed using a thematic analysis to gauge the lecturer's view about the adoption of ChatGPT in higher education. This study adopted a convenience sampling technique to select the eight (8) lecturers that formed part of this study. This study responded to the objectives of this study through the aid of the Diffusion of Innovation Theory which underpinned this study. The findings from the semi-structured interviews indicated that ChatGPT is a tool that will promote laziness in students and take away the ability to think critically. Findings further revealed that most lectures have engaged with ChatGPT, and they were mesmerized by the ability ChatGPT has. Based on the findings, this study recommends that students should be taught how to use ChatGPT as a supporting tool for teaching and learning rather than taking ChatGPT as a tool to do everything for them which will impact the kind of graduates, they will be upon graduating in higher education.

Keywords: ChatGPT; lecturers; students; higher education; technology.

1 INTRODUCTION

Artificial intelligence (AI) has taken the world by a storm producing all kinds of innovations with an aim to make our lives better. The latest AI innovation that has taken the world by the is Chat Generative Pretrained Transformer (ChatGPT) which was established in November 2022. This innovation has the ability to follow instructions in a prompt and provide detailed responses [1]. It is further given that this chatbot is capable of providing real time responses as requested by the user within a short period of time [2, 3]. Based on the above is clear that ChatGPT has really changed the landscape of Chatbots across the globe as this chatbot is also capable of being prompt further as to engage with the user which is something chatbot of the past could only dream of. Due to its ability to execute tasks that are out of this world [2] termed it a state of the art innovation that can assist higher education in many ways. In support of the above assertion [3, 4] perceive ChatGPT at the innovation of the century in the history of all chatbots. As much as ChatGPT has been a marvel to the world since its inception however [5] posit that there has been controversial about ChatGPT in as far as it adoption in higher education context. Some scholars are arguing that ChatGPT will bring a new dimension to higher education and help students and lecturers achieve their academic goals with ease. However, some scholars have painted ChatGPT in bad light claiming that it is not good for higher education.

One of the reasons ChatGPT has been seen as not good for higher education is that there are copyright issues as ChatGPT sometimes fails to provide accurate references. This is supported by [6] who put forth that about 17 authors are suing the owners of ChatGPT for copyright infringement. Another concern with ChatGPT was voiced by [7], who advance that a certain professor was caught to have used ChatGPT to write a paper and this speaks to plagiarism which has been put forth by [8] as one of the ethical issues associated with ChatGPT. If professors are committing such academic errors, it is going to be worse for students who are always eager to get work done with ease. Furthermore, findings in a study by [9] indicate that lecturers interviewed were concerned about plagiarism in using ChatGPT. This is how one of the lecturers responded *"Ethical concern is that students copy the information as is without really giving thought to what they are writing and that results in plagiarism"* [9]. [10] concern emanates from that mentioned as he applauds the ability ChatGPT has but questions if in future are there any people who are going to write papers. Faloye (2023) in a LinkedIn post further mentioned that ChatGPT

is threatening academic integrity. Other concerns about ChatGPT being adopted in higher education were raised by [11], which are (1) the threat to ethical and equity considerations (2) hard to maintain academic integrity (3) difficult to evaluate graduate skill sets (4) difficult to assess students learning outcomes (5) potential bias and falsified information. [12] also mentioned that ChatGPT promotes laziness in students as they rely heavily on ChatGPT to do their work. [12] further advance that they are concerned about the future graduates who will go out knowing less of the content.

On the other hand, some scholars have indicated that ChatGPT is a tool that can be used to make things easier for both lecturers and students. In support of the above, findings in a study by [12] indicate that ChatGPT can make it easier for students to do some of their assignments as the information can be obtained very fast. In same the same vein [3, 11] put forth that ChatGPT has a benefit to help develop innovative assessments activities. The positives associated with adopting ChatGPT in higher education are also alluded to by [13, 14]. These authors advance that ChatGPT is a tool with positive impact in higher education as it can be used for adaptive learning and use the rewrite command prompt. [15], mentioned that ChatGPT has an ability to summarize and synthesize content which saves time, and which makes ChatGPT to be efficient and effective in saving time. Moreover, ChatGPT is capable of prompting it to suggest various topics which broadens the user's knowledge [15]. Another study revealed that the "Benefits of ChatGPT include but are not limited to promotion of personalized and interactive learning, generating prompts for formative assessment activities that provide ongoing feedback to inform teaching and learning" [16]. This basically shows that there are mixed views regarding the adoption of ChatGPT in higher education and it is for the reasons articulated above that this enquiry was necessary. Consequently, this study sought to explore the adoption of ChatGPT in higher education. This was achieved by getting the views of the lecturers as they have direct confrontation with ChatGPT.

1.1 Purpose of the study and research questions

The aim of this study was to explore the adoption of ChatGPT in higher education context through the lenses of the lecturers in a University of Technology situated in KwaZulu Natal. This aim of the study was guided by the following research questions:

- What are the key advantages and disadvantages of incorporating ChatGPT into educational settings?
- What are the effects of using ChatGPT on student engagement and learning outcomes in higher education contexts?
- What are lecturers' views on integrating ChatGPT in their teaching pedagogy?

1.2 Theoretical framework

This study revolves around the adoption of ChatGPT in higher education. As a result, this study adopted the Diffusion of Innovation by [17]. This framework has five constructs which are Relative Advantage, Compatibility, Complexity, Trialability and Observability as can be seen below in figure 1.
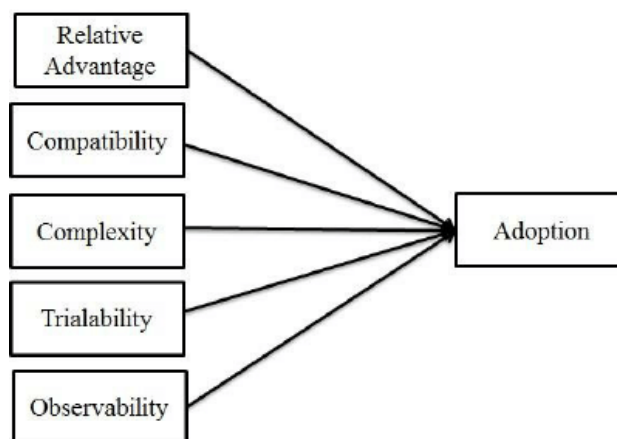

Figure 1. Diffusion of Innovation Theory [17]

Based on figure 1 above, the Diffusion of Innovation Theory has five (5) constructs but in the context of this study only three (3) constructs were used which are:

(1) Relative Advantage, which is the degree of an innovation been perceived as being far superior to the other innovations of the same kind [17, 18]. [17], adds that the greater the perceived advantage, the more likely people will adopt it. This construct was used to check lecturers' views about the advantages associated with integrating ChatGPT.

(2) Compatibility, this is the degree of an innovation being seen as being consistent with the set values of the adopters [17, 18]. In this study, this construct was used to get lecturers view pertaining values set by the university of academic teaching and learning and if ChatGPT will not contravene such values.

(3) Complexity, which is seen by [17] as the degree which an innovation is perceived to be difficult to use. In the context of this study, this construct was used to check if using ChatGPT by the lecturers is easy to use and understand. As stated by [18] "New ideas that are simpler to understand are adopted more rapidly than innovations that require the adopter to develop new skills and understandings".

2 METHODOLOGY

This study adopted the qualitative research approach. According to [19, 20], qualitative research involves collecting data that is non-numerical. [19], further put forth that qualitative research is done to gather the in-depth views of the participants about the issue under investigation. Based on the above, the researcher adopted qualitative research to gather lecturers' views about the adoption of ChatGPT in higher education and that was going to be possible through using qualitative research. Qualitative research studies rely heavily on collecting data through interviews, observations, document analysis and open-ended questionnaires. In the context of study, data was collected through semi-structured interviews. This method of data collection is used to gather first-hand information from the participants through engaging with them face to face which affords a researcher an opportunity to pose additional questions for clarity [21]. In addition, [22] argues that semi-structured interviews are favored because they are more relaxed than structured interviews which gives the participants an opportunity to be more relaxed and in turn gives a researcher an opportunity to ask for clarity and additional information. It is for that reason that a researcher used semi-structured interviews to gather participants' views about the adoption of ChatGPT in higher education.

The sample of this study included eight (8) lecturers from a university of technology in KwaZulu-Natal. These lecturers were selected using a convenience sampling technique which falls under non-probability sampling. [23], defines non-probability sampling as a sampling that does not guarantee every member of the population equal chances of being selected for the study. [23], further mentions that convenience sampling is used in studies because of its ability to gather data from readily available participants which makes it to be affordable among other reasons. The researcher used this sampling technique because the participants were in close proximity since they are working together in a university of technology in KwaZulu-Natal. Data collected from the participants was analyzed using thematic analysis which is concerned with finding patterns before creating themes [24]. This analysis conformed with [25] six steps of data analysis.

3 RESULTS

This study was guided by the following research questions: (1) What are the key advantages and disadvantages of incorporating ChatGPT into educational settings? (2) What are the effects of using ChatGPT on student engagement and learning outcomes in higher education contexts? (3) What are lecturers' views on integrating ChatGPT in their teaching pedagogy? The data collected through semi-structured interviews was aimed at assisting in providing responses to the above questions. Through data analysis only four (4) themes emerged which can be seen in Table 1 below.

Table 1. Themes emerged from the findings

Themes emerged from the findings
Theme 1: ChatGPT user friendly
Theme 2: Concerns with Plagiarism
Theme 3: Time efficient and Easy access
Theme 4: Potential to promote laziness

Table 1 above shows the four (4) themes that were identified from the findings. These four themes will be used to present and discuss the findings of this study as to how they relate to the research questions and the theoretical framework that underpinned this study.

3.1   Theme 1. ChatGPT user friendly

During the interview lecturers were asked the following question: Have you personally integrated or considered integrating ChatGPT into your teaching methods or educational materials? If yes, how easy it was to navigate through it? If no, explain why you haven't. Below is how they responded:

Lecturer A said the following:

"I have managed to use it in curriculum planning to see a range of possible activities and themes one can incorporate to improve the module and planning. It has been easy for me to use it"

In the same vein, Lecturer B said the following:

"Yes. It is very easy. Just give it instructions, such as "Provide a ten-basis model/ framework on African business model based on Ubuntu Philosophy and Africanization agenda." I used it to provide a process of a cabbage business for teaching business planning (BSST101) and Charlotte Danielson Teaching Framework (DSPE101). I use it to develop a question bank, (questions and answers) by feeding it with relevant instructions. Both multiple-choice and essay questions. I also encourage my students to use it, during brainstorming, but not during write-up. If it is consulted, my students know that it should be rephrased and be backed-up by authoritative sources [article/ official document]."

On the other hand, Lecturer C went as far as involving the students and below is how he responded:

"Yes, I've asked my students to look up information there and it was quite easy"

ChatGPT being easy to use was further voiced by Lecturer E and Lecturer G:

"Yes, I have found ChatGPT to be very user friendly" – Lecturer E

"I have navigated through it, and surprisingly, the information is good. It does save you a lot of time" – Lecturer G

Lecturers indicated that ChatGPT is a friendly user platform which assist in many academic related activities and very easy to navigate through it. As it is easy to navigate through it, they are more likely to adopt it. Lecturers views are in line with [12] who posit that ChatGPT is a tool that very easy to use and can assist students and lecturers to accomplish their academic tasks.

3.2   Theme 2. Concerns with Plagiarism

The second question the lecturers were asked was: Are there any ethical concerns or issues related to ChatGPT's use in academia that you would like to highlight?

Lecturer A said the following:

"Yes, not acknowledging sources of information is a form of plagiarism"

The issue of plagiarism was also voiced out by Lecturer C:

"Not really an ethical issue but the concern is of plagiarism"

Lecturer D voiced out the following concern with ChatGPT:

"Passing off work generated by ChatGPT and AI as being one's own rather than doing the work results in plagiarism. As we speak there are already issues with theses and dissertations not being a person's own work"

The above indicate that there are concerns associated with ChatGPT which put threat to academic future. These concerns with ChatGPT are voiced by [6, 8, 10] who advance that ethical issues like plagiarism and falsified information are all ethical issues associated with ChatGPT. The same is echoed in the findings of a study done by [9], as most lecturers argued that with ChatGPT it is easy for students to plagiarise.

3.3 Theme 3. Time efficient and Easy access

Another question asked was the following: In your opinion, what are the potential benefits and advantages of integrating ChatGPT into higher education settings? This is how they responded:

Lecturer B said the following:

"1. Use digital tools at our disposal- ChatGPT is one of the advancements in educational technologies; and educational practitioners better embrace it, rather than dismiss or reject it. 2. Ease of lecturers' jobs, by searching and taking time to plan for course content and teaching material. The material development process is easy. 3. Promote students thinking beyond the box; promote engagement and attainment of higher-level outcomes. 4. It makes research an easy activity. 5. Lectures can access more information- comprehensive information to advance their pedagogies"

Lecturer G went on to say:

"ChatGPT is extremely time saving as it gets you your work within seconds. It self-edited to give correct grammar and correct language usage"

Lecturer H ran along the lines of lecturer G:

"Access to data is instant and assists the process of teaching and learning to be smooth and easy"

In the same vein, lecturer E said the following:

"It will save a lot of time especially when you are trying to teach complex content"

Based on the findings above, the lecturers indicated that ChatGPT is a very efficient tool which aid in getting information very easy. The same assertion is voiced in the literature by [15] that ChatGPT summarizes and synthesize content which saves a lot of time. Put simply, ChatGPT is efficient and effective to be used in higher education.

3.4 Theme 4. Potential to promote laziness

The last question asked to the lecturers was: In your opinion, how might ChatGPT affect student engagement and learning outcomes in a higher education context? Below is how they responded:

Lecturer B said the following when asked about students' engagement:

"I think this tool will promote high academic achievement if it is used carefully. It promotes quality teaching where information is easily accessible to lecturers and students, and planning becomes easy"

On the contrary, some lecturers saw ChatGPT as a tool that will promote laziness among students as they tend to use it unethically. Below is how they voiced their concerns:

"The students will use it to generate assignments rather than doing the work themselves. It only becomes apparent that the students are not able to think for themselves during exams that are written under supervision" – Lecturer D

"It can been seen as if learning outcomes are successfully achieved but the mere fact will remain that students will have a knowledge gap and not be properly developed in content knowledge" – Lecturer F

"Chat GPT has a potential to produce students work which is non authentic. And during presentations they struggle since during an oral presentation Chat GPT does not have a voice, but the student has a voice" – Lecturer G

Based on the above responses, lecturers view ChatGPT as a tool that will promote laziness in students as most students just consult ChatGPT and submit the information as easy. This takes away the creative skill and engaging critically from the students. Lecturers' voices are in line with [12] who said ChatGPT promotes laziness in students.

4   CONCLUSION

Findings above revealed that lecturers are of the opinion that ChatGPT is very friendly to interact with as they mentioned that it was very easy to use ChatGPT. This basically means that view ChatGPT as a useful in higher education. The lecturers further put forth that ChatGPT is a very useful tool which is easy to navigate and time efficient as reliable data can be retrieved within a second. The findings further revealed that as much as ChatGPT is a useful tool, but students should be taught on how to use it ethically so that they can take full advantage of this tool.

Based on the findings, lecturers were vocal about ethical concerns involving the adoption of ChatGPT in higher education. The lecturers' concerns were about students taking information from ChatGPT as is which contribute to plagiarism. Plagiarism is an academic offence that all universities across the globe are against, so ChatGPT create students who will plagiarise throughout their academic careers.

Lecturers further raised concerns about ChatGPT that it will promote laziness among students as it has already been established that students take information from ChatGPT, which means they do not apply themselves when doing assessment. If they do not apply themselves, the universities will produce students who lack academic creativity of which is one of the crucial skills students should exit higher education having acquired.

5   RECOMMENDATONS

Based on the findings of the study it was evident that most lecturers are not happy about how students are over-reliant on ChatGPT. Lecturers indicated that students are using ChatGPT unethically which results in plagiarism. Therefore, this study recommends that students should be taught on how to use ChatGPT as a supporting tool for teaching and learning rather than taking ChatGPT as a tool to do everything for them which will impact the kind of graduates they will turn out to be.

ACKNOWLEGDEMENTS

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