The Place of ChatGPT in Institutions of Higher Learning: A Resident Evil

2 authors:

Salmon Owidi

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Joanne Nabwire Lyanda

Masinde Muliro University of Science and Technology

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The Place of ChatGPT in Institutions of Higher Learning: A Resident Evil

Salmon Oliech Owidi[1*] & Joanne Nabwire Lyanda[2]

[1,2] Department of Curriculum and Instructional Technology Masinde Muliro University of Science and Technology (MMUST)

Corresponding author's email address: salmonowidi@gmail.com

Abstract

The Chat GPT (Generative Pre-trained Transformer) is a tool created by Open-AI which is trained using supervised and reinforcement learning methods like Natural Language Processing (NLP). This language model currently gaining popularity is believed to revolutionize the present research and academic practices. Since its inception in November 2022, the artificial intelligence application has attracted over 100 million users among them, students, educators, and researchers. However, there are reservations from researchers and scholars on its role in academics. This study investigated the moral, technological, and academic dilemmas that arise with the use of ChatGPT in education, with a focus on the situation in institutions of higher learning in Kenya. 256 respondents were sampled from five (5) universities in Kenya (Public and Private) via online survey questionnaire to determine their experiences with and motivations for using AI-powered conversational agents with a specific focus on ChatGPT. The findings revealed that there is a mixed reaction in adoption and use amongst lecturers and students. The study further showed that there is an acute difficulty in detection of assessment done by ChatGPT since most plagiarism detection software's are still unable to detect AI generated work. While some believe ChatGPT and related AI technologies will revolutionize education, others believe they pose a threat to the development of critical thinking, problem-solving skills, and emotional intelligence.

Keywords: Chat GPT, Learning Institutions, Academic Integrity.

INTRODUCTION AND BACKGROUND

Over the past few decades, the world has undergone significant technological changes, and this transformation continues. The emergence of Chat GPT has sparked considerable interest among various stakeholders in academia, particularly researchers and teaching staff (Biswas, 2023). Chat GPT, a Natural Language Processing (NLP) model developed by OpenAI, utilizes a vast dataset to generate text responses to student queries, feedback, and prompts (Gilson *et al.*, 2023). It is capable of simulating conversations with students to offer feedback, address inquiries, and provide support (OpenAI, 2023). The potential of Chat GPT extends to helping students stay engaged with course material and fostering a stronger connection to their learning experience. However, the swift implementation of such NLP models, exemplified by Chat GPT from OpenAI and Bard from Google, also presents several challenges. This article explores a spectrum of challenges and opportunities for higher education, concluding with implications intended to highlight gaps in the existing literature, inspire research initiatives, and ultimately advance the discourse on NLP in higher education.

Natural Language Processing (NLP) models are quickly gaining importance in higher education, presenting the opportunity to revolutionize teaching, and learning through features like personalized learning and on-demand support, as highlighted by Odden *et al.* (2021). Within the realm of higher education, NLP models play a crucial role in supporting student learning through various means. Their utility lies in the capacity to analyze and process extensive textual data, including academic papers, textbooks, and course materials. This enables the delivery of personalized recommendations to students based on their unique learning needs and preferences (Phil, 2023).

LITERATURE REVIEW

Personalized learning is an approach to education that aims to tailor instruction to the unique needs, interests, and abilities of individual learners. Individualized instruction holds significant potential for enhancing student outcomes. Studies have indicated that personalized learning contributes to increased academic achievement, heightened engagement, and improved self-efficacy (Wu, 2017).
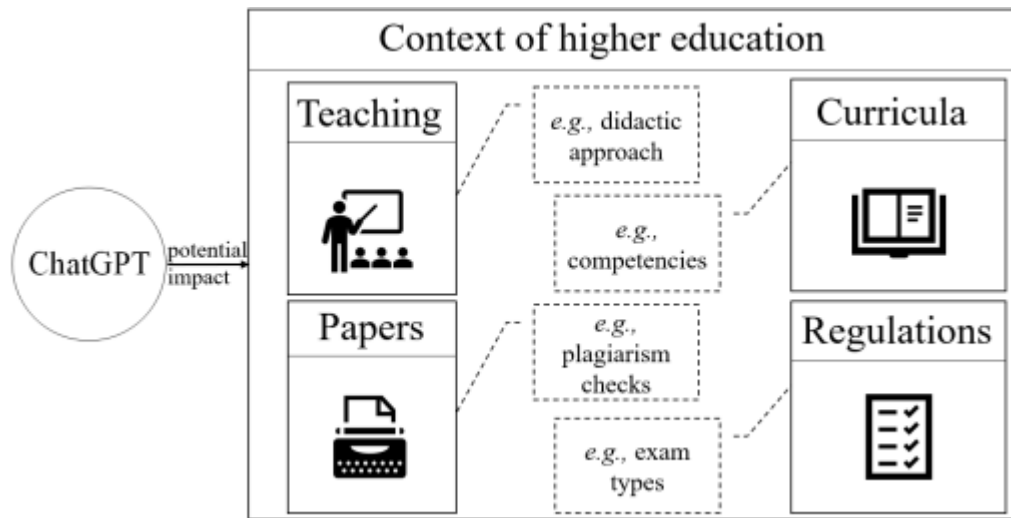

Figure 1: ChatGPT Adoption in Higher Education

By tailoring content to align with students' interests and proficiency levels, there is a greater likelihood of them actively engaging with the material and cultivating a more profound comprehension of the subject matter. The literature review was guided by the following objective questions.

1. *Is it a learning resource or not?*

John (2023) claims that educators at all higher education institutions are concerned that students may use ChatGPT to cheat on homework and turn in home-based assignments done using AI applications. Turning back time to the 20th century, when students wrote exam essays by hand using pen and paper and no Internet-connected electronics, was one possible option. John goes on to state that.

> *"The University of California, Los Angeles, where I teach, is considering making it an honor code violation to use ChatGPT for taking an exam or writing a paper."* (Higgins, 2018)

Famous scientist Stephen Hawking stated that artificial intelligence (AI) "*will either be the best or the worst thing that's ever happened to humanity*" (Higgins, 2018). This claim highlights the potential polarizing impact of AI on society and stresses the need of carefully weighing the pros and cons of the technology while implementing it responsibly.

Susan (2023) further indicated that since its inception, educators, administrators, and students have been experiencing a tumultuous mix of exhilaration, apprehension, and anxiety. The AI bot composes articles, sonnets, and poetry among others. It is also a persuasive debate partner on an almost infinite range of topics. Considering that the natural language used by the application, many scholars are concerned that the technology could lead to widespread cheating in the academic field (Maria, 2023).

2. Is contributing to academic honesty or dishonesty (ethical consideration)?

The application of ChatGPT in academic settings, especially in higher education, is a controversial issue. There is a rising concern about academic integrity both in classroom learning, assessment, assignments, and research. Despite this happenings, scholarly communities and professional still lack clear principles on using this innovation in the academic arena (Saeed, *et. al*, 2023). Since ChatGPT has demonstrated the ability to produce articles, stories, and other types of believable and cohesive written content, it has been used for a variety of tasks, including content creation (Lo, 2023).

ChatGPT is proving to be a double-edged blade that has been causing waves in the academic community despite its extraordinary success in certain areas (Lo, 2023 & Hisan *et. al*, 2022). ChatGPT has two major potentials for scientists and researchers; first creating new content (Cotton, 2023) and secondly serving as a system to automate laborious and repetitive content production chores (Liu, 2023). Nonetheless, there are significant obstacles to employing it in academic settings, including the potential for plagiarism (Shiri, 2023). As a result, numerous universities across the world have outlawed the use of ChatGPT and other AI tools on campus (Tlili, 2023). However, some are still hesitant to do so (Huang, 2023) despite concerns about students turning in fake or perhaps plagiarized material. A study conducted by Saeed *et. al* (2023), indicated that the phrase "plagiarism" was ranked as the top related search topic, followed by "AI".

Several universities across the world have decided that the use of ChatGPT in examination to aid doing assessments and writing reports is examination offence (Castilo, 2023). Some of these universities includes Vanderbilt University, Michigan State University, University of Texas, Hong Kong University, Sejong University, Seoul National University, RV University in Bengaluru, Indian Institute of Technology (Leung & Niazi, 2023). In Kenya, JKUAT released a memo, referenced JKU/2/60/4, to totally criminalize the use of AI tools in writing tests and assessments (JKUAT, 2024).

3. Does ChatGPT enhance collaboration and interactivity with other learners, or does it lead to isolation of learners?

In every kind of learning environment, collaborative learning is essential. It describes the process by which students interact and collaborate to solve problems presented, complete assignments, or generate new ideas (Lo, 2023). This approach is based on the idea that learning is inherently social and that students learn best when they are actively involved in a task and creating new understanding through conversations and interacting with peers (Huang, 2023).

As a virtual study group member, ChatGPT can assist students in generating fruitful discussions, providing a variety of viewpoints, or breaking down difficult subjects (Saeed *et. al*, 2023). The AI can understand and respond to a broad range of academic topics due to its capacity to engage in natural language processing; this capability enables it to accommodate different subject areas at different educational levels. In addition, educators can use ChatGPT as a teaching assistant or co-teacher (Liang *et. al*, 2018). Teachers can concentrate more on creating interesting learning experiences and listening to the needs of individual students by automating some of the repetitive chores, such as responding to frequently requested questions or offering feedback on basic assignments (Kasneci *et. al*, 2023). This in essence means that the students are passive in their interaction with each other since the application is dominant in the learning activities. Additionally, the dangers of having the AI bots respond to frequently asked questions is that individual differences among learners is not catered for.

Instructors can use ChatGPT as a "virtual assistant" to lead and facilitate class conversations. Users can pose a topic or query to ChatGPT, and the AI model will produce a variety of intelligent answers that consider a wider view of the problem. This can facilitate a deep and thorough conversation by exposing students to a range of viewpoints (Mhlanga, 2023). However, it can only be effective when controlled by the teachers.

Additionally, ChatGPT can let student groups communicate and work together (Lu, 2023). Lu further explains that ChatGPT can assist with task delegation in group projects, allocate roles based on student feedback, monitor due dates, and even offer recommendations for streamlining the process. This could be especially helpful in virtual or remote partnerships, where it can be difficult to coordinate tasks and maintain communication. However, doubts may arise on the accuracy of this application since it relies on feedback from student responses to allocate duties etc.

4. Do higher institutions of learning need to rethink teaching, learning and assessment?

Based on research findings, using ChatGPT and other AI powered tools for instructional purposes may be detrimental to students' learning and development as well as to academic integrity (Opara *et. al*, 2023). However,

outlawing and banning ChatGPT would not be a proactive approach given the impact AI technologies have on students' daily lives (Elsen-Rooney, 2023).

To suitably modify pedagogical strategies and fortify examination criteria and regulations, educators ought to think about incorporating the tool into the educational system (Maria, 2024). As a result, institutional policies and assessment procedures should be created to take into consideration the risks AI tools present to academic integrity (Sok & Heng, 2023). For instance, by creating stimulating activities like oral presentations, interviews, class debates, and group discussions, educational institutions might invest in digital-free solutions for assignments.

Grassini (2023) suggests that educators should integrate AI-based plagiarism detection tools that can enable them to identify cases of academic dishonesty from assessments conducted using AI tools. Furthermore, he suggests that educational institutions can train educators to help them understand how to maximize and utilize the potential of AI tools such as Chat GPT in teaching and learning without compromising the quality of learning.

According to Baidoo-Anoo & Ansha (2023), banning ChatGPT may not be a feasible solution given its alleged benefits and growing impact on daily life. Rather, educators would be better served by investigating ChatGPT's effects on instruction and learning and by establishing guidelines for its use. Phil (2023) suggests that authentic assessment and self-evaluation using video and audio can help solve the assessment problem since they let students show their knowledge in a way that is more like how they would apply it in the real world or physical classroom. Audio and video presentations have the potential to be more authentic than other evaluation methods. Students can consider what and how they communicate, which can be helpful for their own personal growth, when they create a video or audio presentation. This can be a terrific approach to foster self-reflection.

5. What informed the creation of ChatGPT?

Comprehending the inception and progression of ChatGPT is imperative in acknowledging its significance in propelling scientific investigations. The goal of developing ChatGPT was to produce a very intelligent and adaptable AI language model that could help with a wide range of tasks, such as data analysis, translation, research, and text creation. The development of the Transformer architecture, first presented by Vaswani *et. al* (2017) is the basis of ChatGPT. It was created to get around some of the drawbacks of earlier sequence-to-sequence models, like convolutional neural networks (CNNs) and recurrent neural networks (RNNs), for natural language processing (Partha, 2023).

Since ChatGPT's inception, it has undergone significant development to become a highly effective instrument for scientific research. Various versions like GPT-2, GPT-3, GPT-3.5 and GPT-4.0 have emerged (Partha, 2023). Its influence can be observed in a multitude of domains, such as data processing, hypothesis generating, and teamwork (Partha, 2023). It can be anticipated that more advancements and developments in AI technology will influence scientific research going forward (Lu, 2023). The creation and study on ChatGPT have received extraordinary interest from the scientific and academic sectors in recent years both in developed and developing countries. According to Google Scholar, over 3000 articles, reports, and news items have been published in a variety of journals, conferences, newspapers, blogs, and media reports as of March 2023. Fig. 2 shows the various articles published on ChatGPT since 2017.
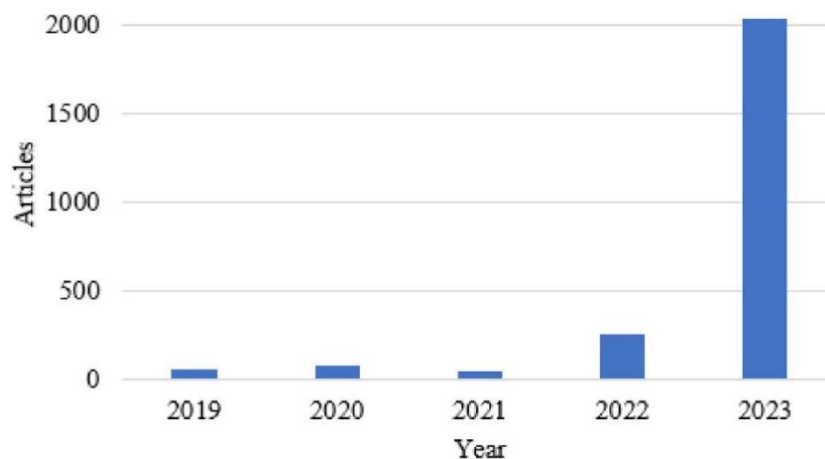
Figure 2: Articles Published on ChatGPT by year.

Source: Partha (2023)

The question that therefore remains, why is ChatGPT gaining popularity in institutions of higher learning? This is something worth investigating.

METHODOLOGY

This study adopted descriptive survey to collect and analyze the views of students and lectures in five (5) universities in Kenya; Masinde Muliro University of Science and Technology (MMUST), Tom Mboya University (TMU), Great Lakes University of Kisumu (GLUK), Kenyatta University (KU) and Jomo Kenyatta University of Agriculture and Technology (JKUAT). Online survey was developed to enable data collection on a variety of aspects about ChatGPT and learning. Electronic questionnaires served as the principal tool for collecting data among diverse student groups and lecturers in the various universities A total of 2200 online questionnaires were sent from which 256 were duly filled and submitted. The study therefore used 256 respondents randomly selected from which 68 were lecturers and 188 were students. From the 256, 34 respondents were interviewed. The students were picked from different academic levels to ensure diversity in representation. Data was analyzed qualitatively and quantitatively.

Participants were invited through email, WhatsApp, and SMS, which included a link to access the questionnaire. To boost participation rates, reminder emails were sent. The gathered data underwent analysis employing quantitative methods. Descriptive statistics, including frequencies and percentages, were employed to assess the closed-ended questions. Interviews were conducted and recorded later transcribed and thematically analyzed.

FINDINGS

The respondents were asked to give information about themselves with regard to Gender, Age, and Level of Education. The results are presented in Table 4.2.

Table 1: Respondents Demographic Data

VARIABLE		Frequency	Percent (%)
Gender	Male	160	62.6
	Female	96	37.4
Age	Below 30 Years	89	34.7
	31 - 40 Years	68	26.6
	41 – 50 Years	61	23.8
	51 – 60 Years	32	12.5
	Above 60 Years	6	2.3
Level of Education	Ph. D	24	9.4
	Masters	48	18.6

Degree		138	53.9	
Diploma		21	8.2	
Others		25	9.8	

From table 4.2, majority of the respondents were male 160 (62.6%) while female were 96 (37.4%). Most respondents were below 30 years represented by (89) 34.7% while minority were those above 60 years as represented by 6 (2.3%). Furthermore, most respondents were degree holders as represented by 138 (53.9%) while minority were Diploma holders 21 (8.2%).

Descriptive Statistics

A five-point Likert-type scale was used to evaluate the study participants' perceptions; one on the scale indicated "strongly disagree," and five on the scale indicated "strongly agree." Partial least squares structural equation modeling (PLS-SEM), a reliable technique for analyzing complex interrelationships among latent components, was used in the current investigation.

Table 2: Measurement Model Results

Var	Construct	Item	Loading	Cronbach's α	CR	AVE
RQ1	Learning Resource or Not?	LR1	0.732	0.823	0.894	0.617
		LR2	0.834			
		LR3	0.766			
		LR4	0.812			
RQ2	Contributes to Academic Dishonesty?	CAD1	0.893	0.814	0.866	0.626
		CAD2	0.802			
		CAD3	0.811			
		CAD4	0.786			
		CAD5	0.801			
		CAD6	0.786			
RQ3	Enhances Collaboration and Interactivity	EC1	0.938	0.835	0.871	0.723
		EC2	0.789			
		EC3	0.832			
		4EC	0.837			
		EC5	0.799			
RQ4	Need for rethinking teaching Learning and Assessment?	RTL1	0.765	0.795	0.802	0.765
		RTL2	0.769			
		RTL3	0.876			
		RTL4	0.748			
		RTL5	0.765			

All of the latent constructs in Table 2 have Cronbach's α values that are higher than the necessary threshold of 0.70, indicating great internal consistency in the measurements. Furthermore, each latent variable's composite reliability (CR) value was greater than 0.70, confirming the validity of the latent constructs. It is imperative to guarantee the validity and reliability of the variables in order to avoid inaccuracies in the research findings and make precise conclusions.

Table 3 shows the Structural Model Results obtained after the analysis of the various variables under every research question analyzed. The constructs of every variable are referred to as the Exogenous, which provides the paths for adoption while the outcome variable (Use of ChatGPT in academic institutions) is the endogenous variable. It shows the beta coefficients of the variables, standard error and the level of significance. It further shows whether the construct is supported or not based on the opinions of the respondents.

Table 3: Structural Model Results

Variables	Path	β	Std error	t- value	p-value	Supported
RQ1	Learning-> LR1 Learning-> LR2 Learning-> LR3 Learning-> LR4	0.233	0.038	5.918	0.000	yes
RQ2	AcademicDisho->CAD1 AcademicDisho->CAD2 AcademicDisho->CAD3 AcademicDisho->CAD4 AcademicDisho->CAD5 AcademicDisho->CAD6	-0.233	0.031	1.899	0.144	no
RQ3	Collaboration->EC1 Collaboration->EC2 Collaboration->EC3 Collaboration->4EC Collaboration->EC5	0.756	0.128	4.562	0.00	yes
RQ4	Assessment->RTL1 Assessment->RTL2 Assessment->RTL3 Assessment->RTL4 Assessment->RTL5	0.255	0.045	5.102	0.99	Yes

To determine how the exogenous constructs in the research questions affect the endogenous construct, which is the use of ChatGPT in academic, a structural model evaluation is conducted. Examining collinearity between constructs, assessing the importance of the proposed correlations. Furthermore, computing the explained variance (R^2), assessing the predictive relevance (Q^2) of the model, and calculating the effect size (f^2) forms part of the evaluation process Cotton *et. al* (2023). To assess the significance of the proposed correlations, 250 samples were drawn using a bootstrapping technique. Based on the one-tailed test, the statistical analysis revealed that all path associations were significant, with a bootstrap critical t-value more than ±1.65.

The analysis outcome indicated a strong positive relationship between several constructs and how they affect the use of ChatGPT in learning. Specifically, Weather it is a learning resource or Not, Weather it enhances collaboration and interactivity, and weather it presents the need for rethinking assessment, were positively linked to the Use of ChatGPT in academic ($\beta = 0.233$, $p = 0.000$), ($\beta = 0.075$, $p = 0.000$), ($\beta = 0.146$, $p = 0.99$). However, whether it contributes to academic dishonesty or not was not positively associated with ChatGPT with the values ($\beta = -0.233$, $p = 0.144$).

As an AI-driven language model that offers a wide range of significant benefits, such as academic content creation, accessibility, collaboration, and evaluation, ChatGPT has gained a lot of attention in the academic community. However, this technological arms race is making academic integrity and plagiarism more of a problem, making it easier to break academic setting ethical standards. The goal of this study was to identify factors that are of concern in the academic arena and what motivates the learners to use ChatGPT in their work.

Analysis of the factors in relation to age and gender

Table 4: Cross tabulation of Responses by Age and Gender

Construct	Learning Resource or Not?	Contributes to Academic Dishonesty?	Enhances Collaboration and Interactivity?	Need for rethinking teaching Learning and Assessment?

		YES	NO	YES	NO	YES	NO	YES	NO
By Age	Below 30 Years	76(86%)	13(14%)	26(29%)	63(71%)	24(27%)	65(73%)	31(35%)	58(65%)
	31 - 40 Years	21(31%)	47(69%)	38(56%)	30(44%)	20(29%)	48(71%)	49(72%)	19(28%)
	41 - 50 Years	49(80%)	12(20%)	45(74%)	16(26%)	31(51%)	30(49%)	51(84%)	10(16%)
	51 - 60 Years	9(28%)	23(72%)	22(69%)	10(31%)	6(19%)	26(81%)	27(84%)	5(16%)
	Above 61 Years	2(33%)	4(67%)	5(83%)	1(17%)	2(33%)	4(67%)	0(0%)	6(100%)
	Totals	**157(61%)**	**99(39%)**	**136(53%)**	**120(47%)**	**83(32%)**	**173(68%)**	**158(62%)**	**98(38%)**
Gender	Male	99(63%)	61(62%)	122(90%)	38(32%)	62(75%)	98(57%)	104(66%)	56(57%)
	Female	58(37%)	38(38%)	14(10%)	82(68%)	21(25%)	75(43%)	54(34%)	42(43%)

From the table 4, it is evident that most 76(86%) respondents below 30 years view ChatGPT as a learning resource while only (13)14% do not view it as a learning resource. The same age group further indicated that it does not contribute to academic dishonesty 63(71%) and that there is no need to rethink teaching, learning and assessment 58(65%). To the contrary, respondents above 51 years do not view it as a learning resource, 23(72%). This category further indicated that this tool contributes to academic dishonesty, 22(69%); does not enhance collaboration and interactivity 26(81%); and furthermore, they indicated that there is need to rethink teaching, learning and assessment 27(84%). However, Huang (2023) and Lu (2023) found that ChatGPT can enhance interactivity and collaboration among learners which contradicts the results shown in table 4. Based on gender, most 99(63%) males agree that it is a learning resource, and it enhances academic dishonesty, 122(90%). Both males, 104(66%) and females, 54(34%) further agree that there is need to rethink teaching, learning and assessment. This implies that despite its popularity, ChatGPT is a resident evil that cannot be wished away.

Qualitative Analysis

ChatGPT and Learning

The purpose of this study was to look into how using ChatGPT affects learning. The study participants offered diverse perspectives on the effects of ChatGPT on the educational system, highlighting both favorable and unfavorable elements. In general, participants thought ChatGPT was a good tool for learning. As an illustration, one participant said that:

> "ChatGPT might serve as a starting point for ideas or a way to get started on their assignment, which would enhance the learning process overall."

Another participant indicated that despite the challenges that it might come with, it is still a good thing. For instance, ChatGPT can be used to automate certain duties, such as grading, freeing up more time for teachers to have more individualized interactions with their students. Additionally, students can use ChatGPT to verify their work for errors, which will save them time while editing and proofreading. One of the participants said the following:

> "Using these AI tools will enhance the talents that we already have. That's the whole idea behind using a word processor or writing code, you know? It's almost like you're expanding your skills. Thus, this will increase people's potential."

Most respondents indicated that depending too much on ChatGPT would lessen the need for analytical and critical thinking skills, which are essential for lifelong learning. This is because ChatGPT can provide straightforward answers to challenging circumstances, which lessens the requirement for original thought. A lecture stated that:

> "For instance, if a student turns in a well-written essay and you question them about it, you go into details about specific parts of the writing. And you ask, "Well, could you elaborate on this a bit?" And for that reason—among many others—I believe that pupils will find it difficult to study since they will

only receive surface-level knowledge. That seems like a problem to me. That might be a problem. However, let's face it—students these days want it. They have no interest in learning anything in-depth."

Students search for the quick and simple ways because that is what they want. And that's all that this artificial intelligence software is now giving them, and this could be a great problem in the career sector since professionals' knowledge and skills in various fields will be compromised.

ChatGPT and Teaching

Overall, participants thought that using ChatGPT to plan and organize tutorials and lectures was a good idea. Regardless of whether the procedure was carried out in person or virtually, this was the situation. It proved to be a useful tool for both teachers and students, saving them time and enabling them to focus on other equally important aspects of the educational process. "It saves time and enables them to concentrate on more important areas of the educational experience," was repeated by a few participants. This is advantageous for educators as well as students.

The study results further show that when artificial intelligence (AI) tools are used in educational settings, the traditional way of teaching needs to be changed. A participant noted that:

"This calls for a complete overhaul of the educational system, an emphasis on training teachers to use AI tools effectively, and the implementation of active learning practices that generate new information for the future."

Furthermore, even though ChatGPT's utility in generating new ideas was viewed as both positive and bad, it might be a useful tool in rethinking the curriculum. One participant mentioned the following, for instance:

"To maximize the advantages that AI technology may offer to the learning process, assignments need to be redesigned to be more engaging and hands-on."

ChatGPT and other AI tools can help create a more inclusive learning environment where all students are able to perform at the same level. Teachers and students with disabilities, such blindness or other conditions that make it difficult for them to learn new things, will find this very beneficial. A respondent stated that:

"I believe that ChatGPT is beneficial for many students who could have difficulties because of linguistic barriers. Having something that could assist them would be really advantageous."

ChatGPT and Assessment

The study further interrogated the ability of the AI in giving student an upper hand in assessments. With this technology in the hands of learners, there is an urgent need for institutions of higher learning to rethink learning, teaching, and assessment. Given that the students can no longer be trusted to give their honest opinions on individualized home-based assessment without consulting the internet, there is need to use more one-on-one interaction with the learners to help assess their knowledge and skills. One responded indicated that:

"Asking conservative questions like "How can we minimize negative impacts of AI tools in writing courses?" is not a good idea. Go large instead. In what ways may these technologies help us accomplish our goals more effectively and differently? How can they encourage access and equity? Improved reasoning and reasoning skills? How does learning occur in ways that are unfamiliar to us?"

Another participant suggested other approaches that can be used to improve on ensuring authenticity of student assessment and works:

"There should be more oral assessments given in class that are focused on case studies or problems, as well as assessments given in the context of the subject matter. These tactics might seek to promote authentic learning as a teaching method and enhance alignment between the learning and assessment processes. One participant said the following."

One particular participant indicated that;

... "I think that we're going to need to rethink the curriculum and we're gonna have to stop and do a lot of educating with teachers."

"We'll have to be less lazy in our evaluation procedures," said a different lecturer. We would probably encourage tasks and assignments to be evaluated in a way that is more ongoing and specific.

The findings also indicate that before teachers can effectively utilize ChatGPT in the classroom, they must be trained on how to incorporate the platform into their teaching and assessment strategies. The research participants underscored the significance of educating educators on the reorganization of grading systems, the utilization of AI to generate more appropriate and efficient assignments, and the differentiation between work produced by AI and work produced by humans.

Teachers must be aware of ChatGPT's ability to enhance the learning process while reducing the risks associated with academic dishonesty and plagiarism in order to carry out their duties in an efficient manner. By integrating teacher training into their operations, educational institutions may make sure that ChatGPT is used ethically and successfully in accordance with their learning objectives.

ChatGPT and Research

During the interviews, participants talked about a variety of topics related to using ChatGPT for academic reasons. Use of ChatGPT can have both positive and negative consequences on one's writing abilities. ChatGPT has the potential to expedite the writing process and reduce the amount of time that teachers and students must spend on it. The research participants concurred that ChatGPT can improve content creation by offering feedback and recommendations for future enhancements.

Discussion topics included how ChatGPT might provide different research ideas, frequently referred to as "seeding ideas," and assist in formulating study questions and abstracts.

Furthermore, ChatGPT can be used to generate extra variables and conceptualizations that need be taken into account. But there are limitations on ChatGPT's capability. A number of participants expressed worries about the small pool of ideas available in the existing tool and the potential for it to impede their ability to think creatively. For instance, a worried user mentioned that ChatGPT might lead to negative effect on writing skills. The user stated:

"a negative effect on writing skills since it would lessen the need for practice and encourage text dumping, both of which can result in writing of a poorer caliber."

Given that ChatGPT has the ability to suppress human thought and constrain analysis, participants expressed concerns about the impact the technology will have on research-related critical and analytical thinking. Simplifying previously difficult issues runs the danger of losing creativity. Furthermore, the participants expressed concern that ChatGPT may impede the advancement of significant research because it promotes a cursory understanding of study themes and techniques.

Additionally, the quality and originality of the research may be further compromised by the carelessness with which the data generated by ChatGPT is evaluated and verified. As a result, clear policies controlling the use of ChatGPT and other AI tools in educational settings must be developed. This entails acknowledging its use and giving credit for its study findings in order to promote openness and academic integrity. Samoye (2023) pointed out that, however much students may think they are safe with ChatGPT, there are AI pointers to the fact the text generated by ChatGPT may finally be detected. In an interview, he stated that:

*"As things stand right now, ChatGPT might be detectable by your university to a smaller percentage. Even though the concept is relatively young, certain AI detection programs have already advanced. Probably the most often used detecting tool available, **GPTZero** has excellent accuracy. There are GPT detectors available that are both paid and free, such **Originality AI**."*

When the AI bot "ChatGPT" was asked *"What is the best?"*, the figure below points out its response in which it stated that it might not be able to provide accurate and updated information. It further stated that it is a machine and may not have the perspective in which human beings view things. This shows that its perspective on research

findings and analysis may not depict the true picture of what human beings could have otherwise found out and documented from research data.
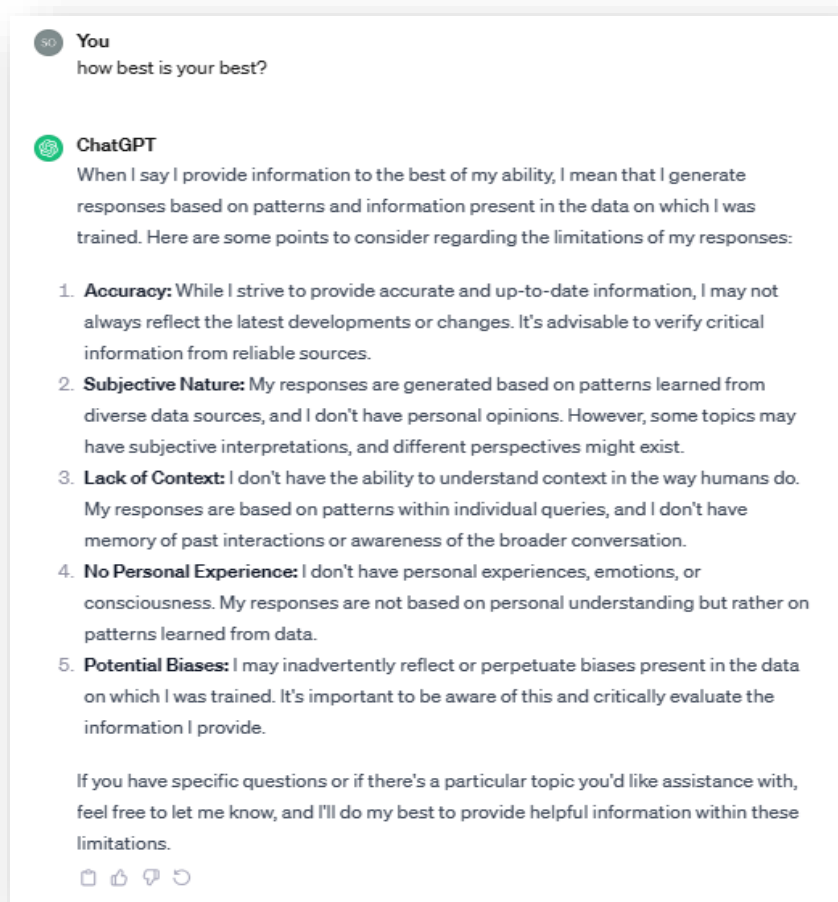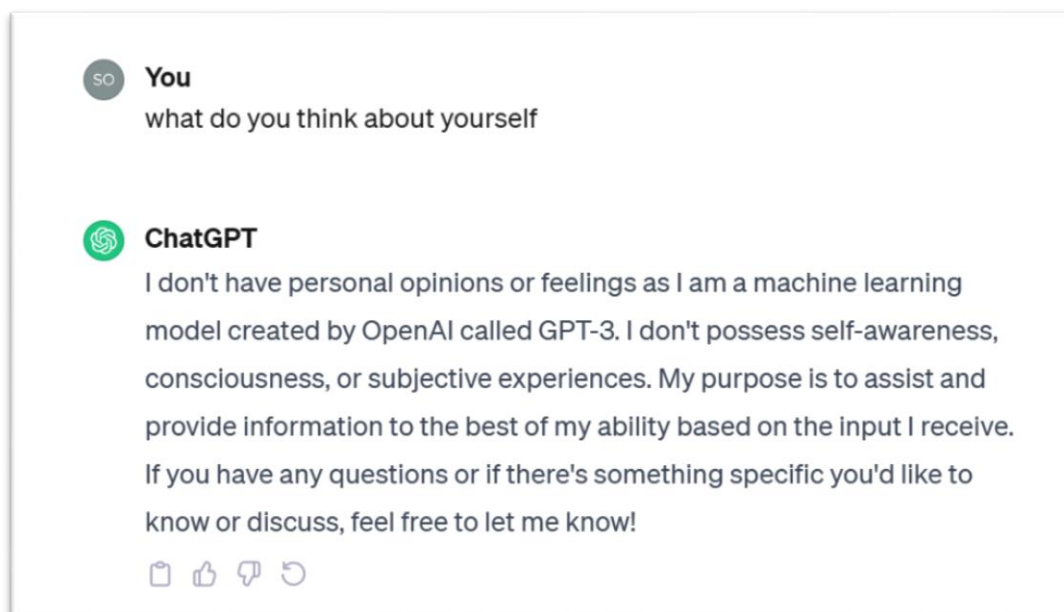

Figure 3: ChatGPT's response on "What is your best?"

ChatGPT and Ethics

There are both advantages and disadvantages to ChatGPT's adoption in educational settings in terms of knowledge sharing and moral behavior. Among the advantages of using this tool is that it can expedite work and simplify the process of gathering essential knowledge. However, using pre-made templates increases the risk of unethical issues like plagiarism and academic dishonesty. There are a few crucial ethical issues that must be resolved before implementing ChatGPT in educational environments.

The assessment process must be changed in order to accommodate ChatGPT's integration into the educational system and the changing needs of the learning environment. Participant ideas for restructuring the assessment process to include ChatGPT include in-class assessments, oral assessments, problem-based or case study assessments, artificial intelligence-based assessments, and context-based assessments. The use of ChatGPT in educational contexts calls into question the institution's commitment to academic honesty.

The main ethical issue posed by ChatGPT's use in educational settings is the possibility that students will abuse it and create content that infringes on copyright and intellectual property rights. Participants voiced their concerns about the possibility of dishonesty and plagiarism via ChatGPT. This poses concerns about the submitted work's originality and authorship, which could have legal ramifications. Institutions of higher learning should establish policies and procedures to ensure that ChatGPT is used in an ethical and legal manner that complies with copyright and intellectual property regulations.

Concerns regarding ChatGPT's credibility have been raised in a number of educational settings. The participants were informed that while utilizing ChatGPT, information is not always clear about where it came from and that the work that is created is not always cited. Because of this, not all of the data that AI produces is empirically sound or accurate, which could cause issues with the reliability and authenticity of the information supplied. When asked it thought about itself, it gave the following response:

You
what do you think about yourself

ChatGPT
I don't have personal opinions or feelings as I am a machine learning model created by OpenAI called GPT-3. I don't possess self-awareness, consciousness, or subjective experiences. My purpose is to assist and provide information to the best of my ability based on the input I receive. If you have any questions or if there's something specific you'd like to know or discuss, feel free to let me know!

Figure 2: What ChatGPT thinks about itself

Two other issues with using ChatGPT are the potential for algorithmic bias and a limited scope for information retrieval. It is possible for errors and biases to appear in the findings because the information is produced using a trained algorithm and available data sources. AI-based algorithms have the potential to generate biased content, including content that is Islamophobic or anti-Islamic. Institutions of higher learning must create rules that support inclusivity and diversity while using AI tools. Having a thorough understanding of how AI tools work is crucial for developing policies and improving transparency.

The interview data is also revealing other concerns, such as artificial intelligence (AI) watermarking and regulation. There have been worries raised over the potential misuse of ChatGPT, which could jeopardize research and academic integrity. The implementation of clear guidelines and limitations is necessary to ensure that ChatGPT is used in an ethical and legally compliant manner. The work that ChatGPT produces can be watermarked, which can help to protect the piece's legitimacy and ownership.

Practical Implications of this study

The results of this study have a number of ramifications for academic institutions, publishers, researchers, educators, and students. The information gleaned from the interviews indicates that there are a number of intricate and divergent problems related to the use of ChatGPT in higher education. There are a number of advantages and disadvantages of using ChatGPT in educational contexts. Consequently, a number of suggestions and policy implications regarding the platform's potential for successful academic application can be made. We provide the following important suggestions:

a) Learning Institutions should provide teachers with the guidance and support they need to successfully implement ChatGPT and other AI tools in the classroom. This would enable educators to provide better care for their pupils. Research has indicated that in order to make the most use of the internet's resources, one has to have access to it, be motivated, and possess the necessary abilities to use it (Khan et al., 2020). Students should also receive AI training so they can use the technology as ethically and as efficiently as possible.

b) In order to ensure that best practices are being followed, academic institutions should monitor the innovative advances of AI tools in educational contexts, like ChatGPT, with caution as they attempt to integrate these technologies. This will help organizations stay up to date with the latest findings and make sure that their policies and procedures are still relevant and helpful years from now. Academic institutions should collaborate with AI developers and researchers to encourage the ethical and beneficial use of AI tools in learning environments.

c) To ensure that ChatGPT is used in a way that is both acceptable and ethical, educational institutions should establish policies and procedures for its ethical use. The usage of ChatGPT in assessments must be regulated by clear regulations and guidelines. Policy documents should specify the boundaries of use, the sanctions for abuse, and the importance of academic integrity.

d) Exam papers, projects, and assignments will all be created in class using assistive AI technologies. Nonetheless, ChatGPT use in assessments needs to be limited to situations where it promotes real-world learning and aligns with the learning objectives.

Conclusions

Without a doubt, ChatGPT and related technologies may make it simpler for students to turn in written assignments that seem to be of a high caliber. It is crucial to remember that merely producing text does not suggest that a student has assimilated the subject matter. Going beyond only assessing a student's written work is required to determine whether or not they have actually understood a subject. Instructors might employ an array of evaluation methods, including tests, quizzes, presentations, and group projects, to ascertain that the students comprehend the subject matter.

RECOMMENDATIONS

The study adopted STL theory as the explanation for the way academics use ChatGPT in academic settings. Since this research is just in its early stages of ChatGPT, it may be possible for future studies to expand on this theoretical framework and incorporate more pertinent theories of technology usage, including TAM and UTAUT, which can better capture the more key details of this important subject. To gain a deeper understanding of the factors influencing the adoption of AI language models, researchers may choose to broaden their target group other than lecturers and students alone.

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