HIGHER EDUCATION ASSESSMENT AT CROSSROADS ON THE USE OF CHATGPT

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Abstract: The use of artificial intelligence is a hot topic in the education field. Embracing chatGPT in higher education has the potential to offer a range of benefits, including increased student engagement, collaboration, and accessibility. However, chatGPT has raised a number of challenges and concerns, particularly in relation to academic honesty and plagiarism. The narrative literature review methodology was used for this conceptual paper on chatGPT which has limited published literature since its launch in November 2022. This paper examines the opportunities and challenges of using chatGPT in higher education, focusing on the potential risks and rewards of this innovation and how universities can address the challenges the tool poses. The paper is underpinned by the Transtheoretical Model which postulates that when people feel fearful, they are motivated to reduce the threat. The paper discusses the main features and capabilities of chatGPT and provides examples of its use in higher education. Furthermore, the paper considers the potential for chatGPT to be used for academic dishonesty and the difficulties of detecting and preventing such abuses. Finally, the paper suggests a range of strategies universities can adopt to ensure that chatGPT is used ethically and responsibly, including developing policies and procedures, providing training and support, and using various methods to detect and prevent cheating

Keywords - academic integrity, artificial intelligence, chatGPT, plagiarism, policies, universities

Introduction

One of the most visible implications of the large-scale adoption and use of artificial intelligence (AI) has been that education, and especially assessment has been challenged or revolutionalised, by the advancements of AI. The OpenAI's ChatGPT-3, was released in November 2022 without significant warning and has taken higher education (HE) by storm since. Bubeck et al., (2023) concur that the impact of ChatGPT on HE has been immediate and divisive. ChatGPT, a chatbot, is a large language model (LLM) that employs Generative Pre-trained Transformer technology and stands out as an exceedingly sophisticated and influential artificial conversational agent. Other similar LLMs include Google's products Bert, Meena, XLNet, and Bard; Microsoft's XiaoIce and Bing ChatGPT, and Facebook's Blender (Agomuoh 2023). The chatbot is powered by AI in natural language processing to learn from Internet data, providing users with AI-based written answers to questions or prompts. Many academics have anecdotally admitted worrying about students misusing AI tools to plagiarise assignments or use AI to misuse research data (Bockting et al., 2023). Other potential drawbacks discussed include the cost of innovative technology to monitor or investigate academic misconduct associated with AI (Crawford, Cowling & Allen, 2023). ChatGPT and the large suite of similar AI

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applications reveal the urgent need to rethink assessment and change the industrial, neoliberal models of education.

This paper pertains to the utilisation of ChatGPT within the context of HE institutions. The ethos and priorities of HE have slowly changed, and the idea of dissent and courage has been replaced by a culture of fear, uncertainty and compliance, hence the dilemma of which way to follow in HE assessment. In the HE context where the large-scale adoption of generative AI makes it highly plausible that students will ask AI to complete their assignments while lecturers use AI for assessments and marking, is a process devoid of any meaning or utility. A survey of 125 university librarians across the United States discovered wildly differing opinions on the use and morality of artificial intelligence (AI) tools such as Chat GPT in HE. Only 13% of surveyed academic libraries offer AI products to researchers, and 24% are considering this. Encouragingly, half of the surveyed librarians did not believe that students who used AI products were cheating, against 8% who believed that they were. Major concerns regarding AI in HE include; cheating, eliminating or reducing critical thinking and originality, and replacing human jobs, according to Helper Systems (2023), a software development company that conducted the survey. Therefore, librarians, professors, publishers, vendors and others need to ensure students gain the benefits of AI products while using them ethically and responsibly, in a manner that does not impede critical thinking or originality. Many institutions are embracing ChatGPT for education, while some academics are building free online courses to train academics in the use of ChatGPT (Eager, 2023). In contrast, the University of Hong Kong banned students from using the tool entirely (Yau & Chan, 2023), and Sciences Po (2023) in France listed significant sanctions including "exclusion from the institution, or even from French HE as a whole". Therefore, in HE, ChatGPT raised many questions about the authenticity of assessment and challenges in detecting plagiarism. However, Nikolic (2023) argues that there are potential opportunities in how ChatGPT could support learning.

Literature shows that there is an insufficient number of studies addressing the perspectives of scholars and students on the rapid use of ChatGPT. The findings of this narrative review focusing on discussions on the use of ChatGPT in HE will make a significant contribution to the existing body of literature. The objectives of this paper are:

- To examine the opportunities and challenges of using ChatGPT in HE assessment.

- To suggest strategies that HE institutions can adopt to ensure that chatGPT is used ethically and responsibly.

Methods

Narrative Review

The study employs a narrative literature review to appraise 36 publications. The articles were from peer-reviewed journals including online publications. Narrative Reviews are not as rigorous as a systematic review (Ferrari, 2015; Furley & Goldschmied, 2021). A comprehensive systematic review can take several months or years to conduct (Tricco et al., 2015), which is not ideal for catching up with the rapidly evolving ChatGPT landscape. Qualitative methods to synthesise interpretations across a range of studies were utilised. The search strategy was numerous academic articles from 2022-2023. The period covered articles that had been published about ChatGPT focusing mainly on HE assessment,

as it was released on 30 November 2022. For articles to be included in the narrative review, articles had to discuss ChatGPT in the field of higher education. Furthermore, English-language articles were included in this review. Table 1 summarises the inclusion and exclusion criteria for article selection.

Table 1: Inclusion and exclusion criteria for article selection.

Criterion	Inclusion	Exclusion
Article topic	Discuss ChatGPT on assessment in Higher Education	Do not discuss Chat GPT on assessment in Higher Education
Article type	Academic articles	Non-academic articles
Time period	2022-2023	Articles outside the time period
Language	English	Non-English

Transtheoretical Model (TTM)

The TTM accounts for gradual stages in an individual's alteration of his or her behaviour (Prochaska & DiClemente, 1984). The TTM) is used to understand and facilitate behaviour change. First, the stages of change identified in the latest model include pre-contemplation, Contemplation, Preparation, Action, and Maintenance. Individuals may move through these stages in a linear fashion, or move back and forth. In the context of this study, it should be acknowledged that both academics and students are at different levels of adopting ChatGPT. The pre-contemplation stage implies no intention or motivation to change. Individuals at this stage might be resistant to change, or they might not even think about the behaviour at all. Some individuals just lack information. A basic intention to change is the second stage in the model which is called contemplation. The third stage is referred to as preparation, which implies an intention to change with a concrete plan. Individuals who are thinking about making a change may be open to information about the benefits of the new behaviour and how they can apply change successfully. The fourth stage is the action stage in the model which indicates that the behaviour has changed. This stage requires commitment and energy for an individual to establish a new behaviour and make it work. Individuals are looking for reinforcement for their achievement and encouragement and social support from others as they work on establishing new habits. Maintenance which is the last stage is defined as engagement in the behaviour. The challenge of this stage is in sustaining a habit and overcoming all the barriers that can cause relapse (Prochaska & DiClemente, 1984). The stages in the model follow an individual's change of behaviour or decision process like the adoption of a technology, ChatGPT in this instance as a progression through several stages. The TTM adds significantly to previous models of behaviour change. The key feature is the stage approach, in that different strategies and interventions are used for individuals at different stages of readiness to change or adopt behaviour (Lach et al., 2004). The TTM was adapted to this study as shown in the discussion section. Help individuals transition from initial scepticism to acceptance of ChatGPT in assessment.

Results

Analysis of the results of studies included in this paper revealed four main themes: ***Benefits of ChatGPT*** in HE assessment; ***challenges in using ChatGPT*** for assessment; ***Enhancing academic integrity*** in HE assessment; ***addressing concerns and ethical*** considerations.

Benefits of ChatGPT in Higher Education Assessment

Most of the studies highlight that ChatGPT provides instant feedback and evaluation rubrics for students to evaluate their own work (Bockting et al., 2023; Deng & Lin, 2022). Integrating ChatGPT into these institutions' operations is poised to potentially revolutionise their pedagogical approach by means of affording individualised feedback mechanisms, redefining the pedagogical responsibilities of the educators involved, heightening access to course materials, and boosting levels of student participation (Adiguzel et al., 2023; Halaweh, 2023). ChatGPT has the capability to assess academic assignments submitted by students and offer expeditious feedback. The implementation of this strategy may lead to optimised utilisation of instructors' time and resources, whilst simultaneously offering expedient and constructive feedback to students (Chukwuere, 2023). ChatGPT has the capability to identify occurrences of plagiarism and furnish recommendations for originality. The implementation of this practice can potentially uphold the fundamental principles of academic integrity while fostering ethical conduct among students.

The studies also revealed that ChatGPT also promotes personalised learning support for students. In addition, ChatGPT may be utilised to aid students who possess disabilities or encounter difficulties with learning. ChatGPT possesses the capacity for natural language processing, rendering it capable of offering instantaneous aid to students who are visually or audibly challenged (Gilson et al. 2023). The provisioning of audio feedback, assistive technology, and personalised learning has the potential to positively impact students who experience dyslexia (Chukwuere, 2023).

While AI can help students learn, it does not substitute learning. It does, however, provide an alternative pathway to learning. For academics seeking to support their students to transition, soft forms of encouraged support through ChatGPT may be appropriate. Early assessment could receive feedback from ChatGPT, with the quality of the student prompts assessable. It can help students to identify areas they have missed, provide light guidance on where they might read more, and foster a sense of connection (albeit a human-robot connection) to supplement existing peer and teacher connections (Crawford et al., 2023). Nevertheless, the implementation of ChatGPT within the realm of higher education institutions prompts apprehensions concerning the safeguarding of sensitive data and the maintenance of adequate levels of security (Lo, 2023). It is imperative for educational establishments to safeguard student information and ensure that ChatGPT adheres to pertinent data protection statutes.

Challenges in Using ChatGPT for Assessment

It can be easy to exercise fear with the advent of new tools that challenge us. And, for many universities, a fear-based ban response is an example of this. Instead, and perhaps unlike papermills, ChatGPT can be encouraged in the same way software tools like Grammarly can be used to support learning (Thi & Nikolov, 2022). The use of the tool requires a change in the way students are assessed, however. Instead of asking students to regurgitate the theories in a textbook, ask them to demonstrate their

comprehension by applying that knowledge to complex and fictitious cases. However, integrating AI in education also raises concerns about assessment and evaluation, as traditional methods may become obsolete in the face of AI-generated answers (Rudolph et al., 2023). Other recent studies have explored the opportunities and challenges of using large language models like ChatGPT in education. For example, Kasneci et al. (2023) examined the potential benefits and risks of ChatGPT for education, while Susnjak (2022) discussed the wider ethical implications of using such models in universities. Malinka et al. (2023) explored the educational impact of ChatGPT and questioned whether artificial intelligence is ready to obtain a university degree.

Rudolph et al. (2023) critically looked at ChatGPT and its potential impact on traditional assessments in higher education. Halaweh (2023) focused on the responsible implementation of ChatGPT in education and proposed strategies for ensuring that the technology is used ethically and effectively. Finally, Crawford et al. (2023) argued that leadership is needed to ensure the ethical use of ChatGPT in education, with a particular focus on character, assessment, and learning using artificial intelligence. The employment of ChatGPT, a conversational artificial intelligence system, might result in a depreciation of the standard of education in the event that educators rely excessively on the mechanism, according to some contentions. The potential implications pertaining to privacy and data protection may arise concomitantly with ChatGPT since its optimal functioning necessitates commanding access to copious amounts of student data (Chukwuere, 2023). Benuyenah (2023) highlights the difficulty in assessing creativity and originality in Chat GPT.

Some authors (Swiecki et al., 2022) believe that some epistemic implications exist for the utility of ChatGPT in assessments; nonetheless, potential threats would not mean the end of our resolve. So far, we know that some university programmes have a higher risk (for example, Management Studies and Information Technology), yet educators are not new to academic cheating – they just do not fully understand ChatGPT yet. Despite its unavoidable use in some academic scenarios, I see no compelling reason to endorse its use in assessments. Students are not taught to "copy and paste" but to "think and write critically". It, therefore, should be of concern that ChatGPT has passed medical school exams (Purtill, 2023) and MBA assessments. Sardana et al., (2023) note that some HE institutions have challenges with the integration of ChatGPT into existing learning management systems

Enhancing Academic Integrity in Higher Education Assessment

Analysing the various issues related to academic integrity that LLMs raise for both Higher Education Institutions (HEIs) and students, we conclude that it is not the student use of any AI tools that defines whether plagiarism or a breach of academic integrity has occurred, but whether any use is made clear by the student (Cotton et al., 2023). Sullivan et al. (2023) found that ChatGPT has raised both academic integrity concerns and the potential for enhanced learning in higher education. Their content analysis of 100 news articles revealed mixed responses, with an emphasis on academic integrity and innovative assessment design. Although the reasons for the increase in plagiarism and academic misconduct are complex and multifaceted, some researchers have suggested that the increased pressure on students to succeed academically, paired with the availability of technology, makes academic breaches far easier (Surahman & Wang, 2022). While once contract cheating was considered a concern to those students who could afford it (Firat, M. (2023) from 2023 onwards, scholars are already worried about the effects that new AI and large language models (LLMs) will have on academic integrity issues for universities (Perkins, 2023; Susnjak, 2022). Some studies (Adiguzel et al., 2023; Akinwalere, & Ivanov, 2022

Cotton, et al., 2023; Nikolic et al., 2023) suggested the following measures to enhance academic integrity

- Defining clear assessment criteria

- Balancing automated feedback with human evaluation

- For summative assessments-Robust invigilated assessments

- Online assignments and assessment-Use Turnitin, proctoring tools

The formidableness of the academic community is a significant reassurance as organisations such as Turnitin have already released AI and ChatGPT detection tools to deal with potential malpractices (Benuyenah, 2023).

Authentic assessments enable students to apply their knowledge to new situations (Hew et al. 2023). The use of these tools may not necessarily be considered plagiarism if students are transparent in how they have been used in any submission, however, it may be a breach of the academic integrity policies of any given Higher Education Institution (HEI) (Perkins, 2023).

Addressing Concerns and Ethical Considerations

Nonetheless, the utilisation of ChatGPT in higher education gives rise to numerous ethical and

privacy quandaries, among which are compilation, academic dishonesty, and handling of student

information (Al-Worafi et al., 2023). Moreover, the implementation of ChatGPT engenders ethical and privacy quandaries which demand prompt resolution (Trust, Whalen & Mouza, 2023). Institutions are advised to guarantee the transparency of their policies and guidelines that govern the usage of ChatGPT, while also addressing the aforementioned concerns.

It is imperative that institutions take measures to ensure that their policies and guidelines for the utilisation of ChatGPT exhibit lucidity and transparency, and comprehensively tackle ethical and privacy concerns (Ragheb et al., 2022). The themes related to digital literacy, ethical and social considerations, and the importance of human-specific features are also evident and strongly emphasized in the related literature. Halaweh (2023) and Crawford et al. (2023) emphasised the need for responsible implementation and leadership to ensure the ethical use of AI in education. Similarly, Baidoo-Anu and Owusu Ansah (2023) highlighted ChatGPT's problems of misinformation generation, bias and privacy, while Thorp (2023) stressed the serious consequences of using ChatGPT in education and science.

Following the increased interest from the general public and academics alike in AI-assisted writing after the release of ChatGPT in November 2022, individuals and organisations have either released or have announced the imminent release of tools which claim to have the ability to detect AI-generated text. These tools include GPTZero, Crossplag AI detect and Turnitin and do show promise in being able to detect the use of AI-generated text (Benuyenah, 2023). However, further study is required to identify the accuracy of these tools, as well as their suitability for use in academic settings to avoid inadvertently accusing students of potential breaches of academic misconduct. Any tools used to

support the machine detection of LLM output must be continually re-evaluated as new LLMs emerge, as well as methods to avoid detection of any tools are developed, resulting in an ongoing 'arms race' scenario (Roe & Perkins, 2022). Some studies suggest that lecturers should give students personal reflection essays that make it difficult to use ChatGPT to cheat because this needs comprehension of a large volume of subject material. Enhanced critical thinking and problem-solving skills. The utilisation of this approach can facilitate the enhancement of students' critical thinking abilities and foster the dissemination of knowledge.

Discussion

Recent advancements in AI, such as GPT-3.5 and GPT-4, have further implications for higher education as these models become increasingly capable of understanding and generating human-like text (Adiguzel et al., 2023). This development supports the theme of "AI as an extension of the human brain" and the potential for transformative changes in the learning process. For students and universities, this research highlights the transformative potential of AI technologies such as ChatGPT (Firat, 2023). Education is among the most talked about. While some consider that this AI's pioneering application will create a paradigm shift in various fields, including education (Bozkurt, 2023; Sallam, 2023), others emphasize the possible ethical challenges of ChatGPT and consider it a disruptive technology (Haque et al., 2023; Sardana et al., 2023). García-Peñalvo (2023) argues that the criticisms of ChatGPT stem from the resistance to change against its innovative and transformative potential rather than the disruptive nature of this technology. This has required academics to rethink their courses with innovative methods and assign assessments that are not easily solved by AI.

Application of Transtheoretical Model

The advent of ChatGPT and its impact on HE has been brought to the fore and along with it, considerable uncertainty about how it will affect academic assessment and integrity. Institutions of HE need to urgently review ChatGPT and its implications on assessment, formulate relevant policies for its use, train staff and students and more importantly, reform the assessment system used in their courses (Halaweh, 2023). In line with the TTM, leaders of HE institutions should understand that individuals are at different stages of adopting ChatGPT and should be given the necessary support to embrace it. The alignment of the support required with the TTM stages is discussed in the following section.

Precontemplation

To address scepticism among faculty and students, institutions of HE should provide information about the benefits and potential uses of ChatGPT. Nonetheless, the implementation of ChatGPT in HE assessment yields ethical and privacy dilemmas that demand resolution. The implementation of ChatGPT requires institutions to diligently deliberate upon the potential implications of this technology and establish pertinent policies and guidelines to guarantee its judicious utilisation.

Contemplation

Whilst some HE institutions are contemplating banning ChatGPT, the studies under review reveal that they should engage individuals in doubt about the use of ChatGPT. Students worldwide would find a way around assessments if given the option, and so there are concerns that despite the benefits of ChatGPT, some students might abuse it. Although academia is far from being engulfed in an assessment

integrity crisis, the emergence of formidable AI tools such as ChatGPT that could aid cheating cannot be ignored. Extant literature laments that HE institutions must discuss potential barriers of ChatGPT and ways of overcoming them.

Preparation

It is imperative that educators are appropriately trained and provided with the necessary support to effectively incorporate ChatGPT into their pedagogical approaches. Individuals need to be assisted in preparing to use ChatGPT. By requiring students to carefully construct their prompts and evaluate their results, potentially with the guidance of a lecturer in the form of formative feedback, ChatGPT can be used to support students and build their confidence.

Action

As ChatGPT continues to receive attention and is increasingly used by students there is a pressing need to take immediate action in response to its possible threats. HE institutions should encourage individuals to actively engage with ChatGPT (Yau & Chan, 2023). Furthermore, there is a need to promote the exploration of the capabilities of ChaGPT, Google's BARD and Microsoft's BING, and other AI tools. In the realm of assessment ChatGPT, and similar AI chatbots, provide an opportunity for students to seek feedback on their assignments, and to have their beliefs questioned and challenged. Students may be asked to write a reflection and then ask ChatGPT to challenge the assumptions they have made during the reflection.

Maintenance

Providing ongoing support, updates and improvements is critical. Users of ChatGPT should be encouraged to provide feedback and suggestions. It is recommended that institutions engage in perpetual evaluations of ChatGPT's efficacy towards enhancing student outcomes, while simultaneously modifying their implementation strategies in response. OpenAI (2023) states that there are several education-related risks to using ChatGPT, including plagiarism, harmful and biased content, equity and access, the trustworthiness of the AI-generated content, and overreliance on the tool for assessment purposes. As educational institutions and policymakers grapple with how best to handle the moral and ethical concerns regarding the use of ChatGPT and its competitors, Trust, Whalen & Mouza, (2023) maintain that the best approach to combating the improper use of such technology is one of inclusion rather than exclusion. Educators can model best practices for students by incorporating AI tools into classwork and curriculum.

Conclusion

In conclusion, integrating AI in education offers numerous opportunities to enhance learning experiences, personalise instruction, and transform the role of educators. However, this shift brings about challenges in assessment, digital literacy, and ethical considerations. Ensuring academic integrity in the age of advanced technologies, such as generative artificial intelligence, requires careful planning and clear communication. To maximise the benefits of ChatGPT in HE assessment, it is crucial to address these challenges and develop strategies to ensure responsible and equitable implementation. Whilst this paper is a narrative review, there is a need for empirical research on the use of ChatGPT in

HE assessment since technology is evolving at a fast pace. At the same time, HE institutions also have divergent views over embracing ChatGPT and it is imperative to gather their perceptions in order to promote innovative assessment approaches. In building the ChatGPT argument, the author acknowledges the existing literature on plagiarism and academic integrity and considers leadership as a root support mechanism, character development as an antidote, and authentic assessment as an enabler in HE assessment.

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