

PAPER

Critical Reflections on ChatGPT in UAE Education Navigating Equity and Governance for Safe and Effective Use

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ABSTRACT

Purpose: This study aims to critically review the new AI-based tool ChatGPT in UAE education and evaluate its impact on students and their learning. The study maintains a specific focus on the issues of equity and governance to allow educators in UAE to ensure that the AI-based tool is used ethically, and safely and does not restrict students' academic development. **Design/methodology/approach:** This paper is a conceptual paper presenting the critical reflection of authors working in the Emirates College of Advanced Education in UAE (Author 1: Dr. Othman Abu Khurma, Author 2: Dr. Nagla Ali, and Author 3: Dr. Reem Hashem). Consequently, the study reflects the authors' evaluation of the issues of equity and governance that maximize the potential benefit of how ChatGPT is used by students in UAE schools and higher education institutions and their thoughts on how it might be improved. **Findings:** The findings of this study indicate that there are both benefits and drawbacks associated with the use of ChatGPT. The authors made some recommendations to the educators in UAE regarding the ethical and fair use of ChatGPT which does not hinder student learning. **Practical implications:** The findings of this reflective study can raise educators' and policy-makers' awareness regarding the potential risks and benefits of the use of ChatGPT by students. Moreover, the study offers guidance to educators and policymakers in UAE to ensure ethical and effective learning and the safe adoption of this and similar AI-tools by students. **Originality/value:** The study is a critical reflection of the equity and governance issue related to the use of ChatGPT by students and offers new practical insights regarding how ChatGPT can be adopted safely by students in UAE. The reflection is based on a conceptual analysis of authors' personal and professional experiences and test usage and is thus different from previous studies.

KEYWORDS

ChatGPT, equity, governance, education, emerging technology

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1 NAVIGATING EMERGING TECHNOLOGIES

December 12–31, 2022, was the winter break in all schools in the United Arab Emirates (UAE) in Abu Dhabi. We teach at the Emirates College for Advanced Education in Abu Dhabi and work has been very hectic during the past few years due to the changes brought about by online and hybrid learning. Since travel restrictions were relaxed after the COVID pandemic, as expats, we traveled to our home countries to spend the holiday and meet with our families. One fine evening during this vacation, author 1 witnessed an intriguing incident as he observed his young cousins having a chat on their phones about a new AI-based chatbot called ChatGPT. This sparked a reflection on how everything evolves, including education and teaching, and how technology presents a chance to reconsider these aspects of our lives. Upon returning from the winter vacation, Author 1 met with authors 2 and 3 and discussed this new AI tool. However, they all doubted the credibility and reliability of ChatGPT and any potential for it to be used in education. The AI chatbot seemed hardly likely to affect our teaching and our students' learning.

We started Term 2 on January 2, 2023, with full enthusiasm and we totally forgot about ChatGPT. Everything seemed to be normal for around a month and a half. On Wednesday, February 16, we received the news that the Ministry of Education had allowed the use of ChatGPT in education by teachers as well as students. Dr. Ahmed Belhoul Al Falasi, Minister of Education for the UAE, said, "Don't demonize AI since it will be a part of our life" as he gave a speech developed by ChatGPT on the second day of the World Government Summit 2023. After this news, the three of us (the authors) met to discuss this matter. As educators, we realized that this novel AI tool can pose a threat to the way our assessments are currently structured and that we are currently facing increasing pressure to improve our assessment skills and systems. An interesting point raised during our discussion was that calculators including scientific ones have never rendered math or calculus obsolete. Yes, there was some objection to its use in the beginning. However, lately, educators have adapted the assessment design to best utilize its usefulness as stated in [1]. We agreed that we must be dedicated to enhancing our evaluation processes. The onus is currently on us, and we need to keep up with this emerging technology.

The authors' reaction was to immediately search for the ChatGPT online, register ourselves, and test it to see how it works and how it might be used and impact teaching and learning in the UAE. Furthermore, we started doing research on it to understand what it was and how it worked. We learned that ChatGPT is considered as the most technologically advanced AI-based chatbot till now as stated in [2]. Modern language models like ChatGPT, which is a variation of OpenAI's Generative Pretrained Transformer (GPT) language model, are created to produce writing that can be mistaken for text authored by humans [3]. Computer programs called chatbots mimic talks between users and real people [4]. Chatbots can be used for human-to-human communication, to respond to frequently asked queries, and to carry out certain activities for which they were designed. They engage with the user, acquire information, and process it [5]. It can converse with users in a way that seems natural and logical. ChatGPT is adaptable, despite the fact that a chatbot's primary purpose is to emulate human conversations. For instance, it can develop computer programs, produce music, stories and student essays, and provide answers to test questions [6]. In news outlets, reactions to its launch ranged from ecstatic to worrisome. The technology had humble beginnings in 2022 by OpenAI. The stated objective of OpenAI, an artificial intelligence (AI) research center, is to advance and build "friendly AI" in a way that benefits all of humanity [7]. OpenAI's estimated valuation increased to

US\$29 billion on November 30, 2022, when the company released a free preview of ChatGPT [8]. Only five days following its launch, ChatGPT had amassed one million subscribers as stated in [9].

Based on our brief experience of using ChatGPT, we anticipate ChatGPT can prove beneficial for students, teachers as well as college and university instructors. For instance, a teacher can ask ChatGPT to create a lesson plan for a particular grade and the AI tool will be able to answer with a variety of activities and provide any necessary materials. Students may utilize ChatGPT to compose an essay on a specific subject or provide written answers to homework questions. The software is able to generate remarkably comprehensive, well-organized solutions to difficult questions or subjects [10]. Despite these advantages, the technology also presents drawbacks. The possibility that it will be used for homework essays or plagiarism is a major worry for many in the educational field. This would definitely affect their learning since it is human nature to resort to an easy way out. Students might lose interest in learning since they know they can get help from ChatGPT.

Despite its popularity, we learned that many schools and colleges in USA, Europe and Australia have banned ChatGPT [11]. Banning AI tools would not be a long-term solution. Educational institutions have an obligation to teach students not only how to use AI, but also how to ensure its ethical usage and advancement [12]. Some are concerned about plagiarism, how this may alter writing training, and even how the job of the instructor may alter in the future as we learn how to utilize AI and how to include AI into our teaching processes.

2 A STORM OF CONFUSION

The widespread dissemination of the news regarding the approval of ChatGPT's utilization in education within the UAE, following the address delivered by Dr. Ahmed Belhoul Al Falasi, Minister of Education for the UAE, was remarkable and notable among our academic community. We also noticed a lot of excitement amongst our students regarding the use of ChatGPT in their studies. We had various previous experiences of using chatbots in our life such as in our online banking app and our telecom service provider chatbot. Despite positive experiences of using AI-based chatbots, we were skeptical about the use of ChatGPT in education because of various obvious reasons. For example, we had concerns about the accuracy and reliability of the information provided by the chatbot and the potential for overreliance on technology which can lead to students' intellectual laziness and disengagement.

As instructors, we held a thorough meeting to discuss the adoption of ChatGPT. During the meeting, we discussed various aspects related to the safe integration of ChatGPT in teaching and learning. This included identifying safe approaches to teach our students (K-12 in-service teachers) how to effectively use ChatGPT in their own teaching. We also tried to develop strategies to address any potential issues that the adoption of ChatGPT might bring to teaching and learning such as the potential negative impact that ChatGPT might have on students' creativity and writing skills [13].

During subsequent discussions, we (the three authors) conveyed our concern and confusion about the adoption of the technology without proper guidelines. We were all expecting that there would be some restrictions about its use, and there would be possible changes in assessment policies and procedures to decide whether to continue assigning the students the same tasks that ChatGPT can immediately complete, or to revise assessments to be more challenging and unique for students. Thus, there is a need for an ethical framework that governs the use of ChatGPT, as

noted by Shahriar and Hayawi [14]. Nevertheless, we agreed that despite the uncertainty about the adoption of ChatGPT, it will be an ongoing process that requires input from every one of us to ensure maintaining ethical and appropriate integration in education without any negative impacts on learning.

3 RIDING THE STORM

After the announcement made by the Minister of Education in the UAE encouraging ChatGPT integration in academic institutions, it was safe to start using ChatGPT with our students. However, this use by academics, policymakers, students, parents, and all of community professionals has to be governed by a framework to avoid negative consequences on learning, including ethical and moral consequences.

In our attempt to evaluate the uses of ChatGPT, we asked the chatbot itself the following question: “Who can use ChatGPT?” It replied that, “In theory, anyone with access to the internet can use ChatGPT. However, the most common users of ChatGPT are likely to be students, teachers, and instructors at various levels of education, as well as individuals seeking quick and reliable answers to their questions. The chatbot’s ability to provide accurate and reliable information on a wide range of topics makes it a valuable resource for individuals seeking to expand their knowledge and understanding in a convenient and accessible manner. However, the ethical use of ChatGPT should be considered, particularly in cases where its use may impact individuals’ privacy or data security.” The answer provided by ChatGPT contained honest information about the storm created by the technology and identified potential positive as well as negative aspects of using it.

We began to explore and experiment with ChatGPT to assess its potential applications in teaching and learning, specifically for the in-service K-12 teachers enrolled in our masters’ program who teach a range of subjects in schools. We identified the following possible areas that ChatGPT can assist with:

- **Research:** ChatGPT can assist students with a variety of research projects. Students can ask ChatGPT research-related queries, and the AI language model can respond with pertinent data and resources to assist them in finishing their projects [15].
- **Assignment and homework:** Students who are having trouble with their homework or assignments can get assistance through ChatGPT [16]. Students can use ChatGPT to ask questions about the content they are studying, and the AI language model can answer them by giving clarifications, examples, and other resources to help them comprehend the subject matter better [17].
- **Support for writing:** By offering comments and advice on students’ written work, ChatGPT can guide them in developing their writing abilities [18]. For assistance with grammar, structure, and other writing-related concerns, students can ask ChatGPT to check their essays or other written projects.
- **Exam preparation:** To assist students in getting ready for tests, ChatGPT can offer them study materials and drill questions. Students can ask ChatGPT to provide practice tests or study guides, and the AI language model can generate them based on the topic matter and degree of difficulty [19].

As we can see from the aforementioned list, ChatGPT can provide students with distinct resources to support them while learning. Educators in general embrace the notion of providing supplementary resources for students to use when they are

working on their research assignments. However, is there a possibility that some students may misuse ChatGPT? The answer is, potentially yes. Nevertheless, is such misuse akin to the misuse of Google, whereby students obtain answers or responses to queries without justification or explanations? The answer is, possibly no, given our impression that ChatGPT provides rationales and elucidations for the responses it generates [20]. Alternatively, the answer could be yes, and ChatGPT use may create a dependency or become a crutch. Nonetheless, the distinction between fair and unfair ChatGPT use is slim, and there could be disastrous ramifications if student use of the technology is not supervised. In light of the UAE Minister of Education's allowance of ChatGPT in educational settings, we conducted several ChatGPT tests, which I will present as examples.

Example One (author 1): To evaluate the use of ChatGPT among our students, as an instructor for the master's program science track, Author 1 tried to write a 500-word essay on volcano with the help of ChatGPT. He asked ChatGPT the same question five times, to get five different versions of the essay. Author 1 was surprised to see different variations of the written essay with some similarities in these versions. This experience made Author 1 question the plagiarism aspect of using ChatGPT assuming that these five essays could represent five assignments for five students. However, looking at the generated essays by ChatGPT, Author 1 realized that there are additional issues that need to be considered and monitored, such as copyright infringement and biases in writing. To elaborate on this point, the locations of the data that companies like OpenAI collect are notoriously secretive [21]. Yet, a majority of language model programs rely on enormous data sets of text that have been scraped from the internet without proper consent or authorization. Language models are intentionally or unintentionally taught to reflect dominant ideas, frequently at the expense of marginalized persons, because of the very loose manner in which these training datasets are gathered [19]. In simple terms, when you request ChatGPT to generate content, it combines text from various sources without obtaining permission from the original authors. Hence, this can reproduce biases that were present in the original source since the internet is not exactly a place known for being inclusive. Therefore, it is crucial to have a broader discussion about AI writing software beyond the issue of plagiarism. We can no longer calmly ignore the problem and act as though a software like ChatGPT develops in a remote, impactless bubble.

Example two: Author 2 raised another concern based on an assumption (an expected scenario that she felt she needed to be ready for in order to warrant a fair and credible evaluation of students work). The assumption related to one of the assignments in her courses, which requires good writing skills about the use of digital learning tools. Author 2 believed that some of her students would improve their notes by using ChatGPT, which was allowed due to the speech by the Minister of Education. Author 2 decided that she would not say a word to them but concurrently felt she was facing an ethical dilemma. On the one hand, she was clueless about how to grade her students if the chatbot was able to write accurately.

Considering what students will need to accomplish with science in the actual world, it may be time to reconsider how we test students. Resources, tools, the internet, and the assistance of others are all available to today's students. This means that students can seek help with their work from a variety of sources, making it more challenging to assess their genuine level of knowledge and skills. It may be required to incorporate more human interaction into evaluations in order to help students build their own autonomy and critical thinking skills. We risk judging what robots can accomplish rather than helping children develop their own unique skills if we merely test their mastery of science content. Author 2 suggested that faculty

members should think about redesigning their questions, tasks, and comments to include elements that better assess students' abilities.

Example three: One of Author 3's students missed several crucial classes that were necessary for building the knowledge required to complete an assignment. This was assumed to hinder the student's ability to complete her assignment. Nevertheless, the student was still able to complete the assignment on time. This raised a number of concerns: will students feel that chatbots can replace teachers? And if this is the case, what would motivate them to attend classes? Does this mean that class time would be a waste? The author felt the need to investigate what ChatGPT can achieve for students and how they can use it more effectively to maximize both their learning and communication abilities inside and outside the class time.

After encountering various experiences and scenarios similar to the aforementioned examples, we identified two significant problems regarding the use of ChatGPT in education: equity and governance. First, with regard to the issue of equity, all students should have an equal chance to gain important skills and knowledge that will enable them to lead fulfilling lives and make positive contributions to society, according to the principles of equity in education. The use of ChatGPT by some students might make them more vulnerable to negative impacts although they can also gain from the use of the advanced technology which is not experienced by students who do not use ChatGPT. The concern of equity is also applicable in the use of ChatGPT when it comes to the assurance that the data generated by the technology has equal representation of all groups in the world. As for the governance, the education institution's academic activities (teaching, learning, and scholarship, as well as research and research training, if applicable) are collectively led and overseen by academic governance, which is the framework made up of policies, structures, relationships, systems, and processes. The presence of relevant policies and rules is considered important for adopting ChatGPT in the education sector. To address the issues of equity and governance in our college's adoption of ChatGPT, we conducted further testing and confirmed our hypotheses while also verifying these needs through external sources. In the following sections, we will examine these two issues in greater depth.

4 THE ROLE OF EQUITY

According to a statement from OpenAI, the language model they developed for ChatGPT includes 175 billion parameters, making it the largest ever made [22]. It is a potent AI tool with many applications and has recently generated the most discussion in the field. Anyone who has used ChatGPT, asked for assistance with a question, or engaged in conversation with it knows that this tool can truly be referred to as smart because it empowers you to have sentient conversations with the bot [23]. Not only does the tool answer your question, but it also acts sympathetically and likely provides you with more information than you were capable of asking because it is actually built to predict.

In light of the above, it's plausible to think that this tool is capable of handling any subject. It is untrue, though. The language model can produce objective commentary, dialogue, and reliable facts with limitations—as ultimately it depends on the data it was trained on. The data itself holds its own biases due to the overrepresentation of some groups and the underrepresentation of others. In this sense, ChatGPT's functioning and capacity to promote fairness in the globe continue to be hampered by the same biases that we observe elsewhere [24]. Nevertheless, as educators, we did not believe we could do much about this aspect of equity since the source of data and the

inherent biases were not in our hands. We were more concerned about the equity in terms of provision of equal opportunities to students and the extent to which students leverage these opportunities. According to the principles of equity in education, all students should have an equal chance to gain important skills and knowledge that will enable them to lead fulfilling lives and make positive contributions to society.

However, will equal access to technology guarantee equity? And where could we position the notion of autonomy and choice within this new educational trend? To clarify these questions, let's assume the following scenario: "Sameera (a biology teacher) wanted to test how effective ChatGPT was for high school students studying the human digestive system. She assigned her students a project on this topic. Sameera gave her students the option to use ChatGPT or write the assignment themselves, but requested that they specify which method they chose, taking into consideration that the assignment will be graded, which might create academic pressure on students. Upon grading the assignments, and because of the academic pressure, it is expected that the majority of students would use ChatGPT to complete the project [25], while the minority would write the assignment themselves to test their understanding of the topic, assuming that ChatGPT was available and easily accessible and students were able to use it for their assignments."

This instance led us to one important question: Although ChatGPT can alleviate concerns of equity in the classroom given its open access, does it really promote educational equity? We believe that knowing the potential of this technology as well as how it affects the learning of the students is more important than merely having access to ChatGPT. The equity issue might appear on the surface as a result of two processes that affected the assessment, which are the validity and credibility points of assessing the assignments using current assessment rubrics that capture an incomplete picture of the actual performance of students. For example, students who were given the option to use ChatGPT and those who chose to do the assignment manually. Those who chose to use ChatGPT might get similar points—or even more—as those who didn't use it, which means ultimately that their final grades don't provide accurate information about their progress regardless of their freedom of using or not using the ChatGPT, which would affect the equity negatively from the academic reporting aspect.

5 THE ROLE OF GOVERNANCE

The governance of educational institutions by establishing and regulating interactions within educational institutions including schools and between schools and outside agencies has a significant impact on the outcomes of both students and teachers. Institutional rules and policies dictate how educators are hired, work, and ultimately, how students learn. An educational institution's academic activities (teaching, learning, and scholarship, as well as research and research training, if applicable) are collectively led and overseen by academic governance, which is the framework made up of policies, structures, relationships, systems, and processes. The presence of relevant policies and rules is considered important for adopting ChatGPT in the education sector as per our thoughts and experience.

There is a growing concerns about ChatGPT despite the fact that the technology has only been available for a few months [26]. As time passes, more individuals, including parents and students, will become aware of what the ChatGPT software is, its capabilities, and the challenges teachers may face in using it in classrooms. In the short period of using ChatGPT, we recognized the importance of having robust governance in place for its use. Unlike Google, ChatGPT is not a search engine. It functions

according to a wholly different logic, and if the youngsters do not get how it really works or where these essays and comments originate from, they are going to have problems. We believe that as educators, we have a responsibility to equip young people with the skills they need to survive and thrive in a society increasingly dominated by technology [27]. This indicates to us that instead of prohibiting these technologies from being used in our classrooms, we should work much harder to figure out how to teach our children what these technologies seem to be, what we can accomplish with them, and how to use them securely [28, 40]. We will not be able to keep that promise if we impose external limits on these tools in schools; in fact, doing so frequently makes matters worse, particularly for individuals who already face a number of disadvantages.

The UAE is considered a forward-thinking country in large part because it has embraced technology and has demonstrated the ability to keep pace with advancements in this field. The UAE is aware of the benefits and inevitable advancements that come with adopting new technologies that enhance modern life. They also recognize the futility of remaining stagnant while progress is made. The nation's ability to keep up with rapid developments in specialized fields is attributed to the forward-thinking government [29]. It makes sense that schools in the UAE would feel compelled to integrate ChatGPT in teaching and learning while simultaneously acknowledging the associated challenges. Furthermore, they must address the concerns of educators and parents regarding the use of generative AI [30]. These worries can be associated with the potential issues of academic honesty and integrity regarding how students complete their assignments and take their exams.

Educators face a novel challenge, no one can doubt that. Yet they also possess a benefit. They now have more tools at their disposal than ever before to combat problems like plagiarism, with tools and apps like ZeroGPT to determine if students finished tasks independently or chose the easier route of using an AI tool [31]. As technology advances and as we gain a better understanding of how text-generating software functions, we also learn about protections and how to stop these tools from being abused. Even without knowing how vastly different the future will be from the present, progress can still be achieved through a balance of prudence and responsible use, as well as an acceptance of new technologies.

While many fear that the emergence of these sophisticated AI technologies will usher in a new era of plagiarism and cheating, these technologies also present teachers with the opportunity to reconsider assessment practices and support students in more in-depth and meaningful learning that can foster critical thinking skills [32]. We think the introduction of ChatGPT presents a chance for educational institutions, particularly those in secondary and post-secondary settings, to rethink the traditional methods of evaluating students, which heavily rely on written assignments and tests that assess students' recall, comprehension, and basic synthesis of material. Although ChatGPT can be avoided during written exams, its use in online exams as well as assignment and homework preparation requires significant governance on the part of the educational institutions to ensure that the use remains ethical and fair and does not restrict student learning.

6 2023: FLYING AWAY WITH THE TECHNOLOGY

This was one breakthrough for us, from dreading ChatGPT to accepting it as a useful tool for education while identifying the aspects important for its fair and ethical use as also recommended in [33]. The role of equity and governance was confirmed by our initial experiments, test usages of ChatGPT and student observations. After reflecting

on our experiences, we came up with some strategies and tactics to ensure the effective use of ChatGPT by students and educators in UAE. These strategies would lead to enhanced equity as well as enhanced governance to support the ethical use of ChatGPT.

One of the key strategies is to survey the students about their needs for using ChatGPT. The educators in the UAE schools should gather data from the students to identify what are the areas in which they need ChatGPT's support. They should be asked to identify why they need ChatGPT's support in writing their assignments. They need to identify if they need support because of their lack of writing skills or if they need support to learn concepts and topics. Other uses of ChatGPT should also be assessed such as guiding students to learn more ideas for the projects, proofreading their work, or using ChatGPT for acquiring references [34]. From our perspective, the most harmful consequence of using ChatGPT would be if students used the technology to evade difficult tasks, as this would impede their academic growth. Copying and pasting content from ChatGPT would make students lazy and inattentive in class and they would not be interested in learning during class time [35]. Thus, determining students' need for using ChatGPT would allow educators to know the major reasons and then devise rules for the students.

Another approach is to ask students to cite and acknowledge the use of ChatGPT in their assignments. Failure to do so would be considered plagiarism, just as failing to cite others' work would be. Moreover, educators should start using AI-content detectors such as ZeroGPT [36]. Similar to how students are required to check and attach plagiarism reports with their assignments, they also should be required to check for AI-content and attach the report with their assignments [37]. Teachers should also be trained on how to detect AI-generated content in their students' work and to evaluate their work more critically as a result.

We would also suggest the use of verbal and viva-based assessment along with assignment submission from the students. The actual learning of the students can be assessed by asking them topic-related questions [38]. If students are found to have clear concepts and understanding of the topic, their use of ChatGPT can be ignored. The assessment should thus be made from a combination of various methods such as viva and in-class quizzes rather than solely based on assignments [39].

As we reflect on our experiences with ChatGPT, we acknowledge that its adoption in the UAE schools must be accompanied by a strong focus on equity and governance. While we identified strategies to ensure its effective use, such as surveying students' needs, using AI-content detectors, and training teachers to evaluate work more critically, we also recognize that these efforts must be guided by the principles of equity and fairness. This means ensuring that all students, regardless of their background, have access to and benefit from the use of ChatGPT. It also means establishing clear guidelines and standards for its use to prevent any unfair advantage or negative impact on students' learning outcomes. By promoting equity and governance in the adoption of ChatGPT, we can ensure that this tool is used effectively and ethically to enhance learning opportunities for all students in the UAE.

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