Tamjeed Pup.Journal of AI Innovations in E-Learning and Education (AAITR)

Volume 1(2),2024, Page 66-73 ***Journal URL: https://tamjeedpub.com/index.php/TJAI-ELE***

Embracing The Future Of Chatgpt4 In The Classroom To Improve Levels Of Students In The Collage

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Submitted**:** 14th Sept 2024

Accepted: 10th Dec 2024

Published: 25th Dec 2024

DOI:https://doi.org/10.59785/9xsx4h18

Abstract: The advancements of language models in GPT-4 of chatbots and AI are evolving at an unparalleled rate than ever before. ChatGPT-4 is the latest iteration in the question answering, common-sense, open-domain, and patient layperson conversation model built upon GPT-3. It is 116 times larger than GPT-3, allowing for improved performance across a wide range of language problems and applications which are required for effectively embedding this advancement in the educational sector. Human academic experts are already embedding language chatbots for tutoring, augmentation support models, and in career guidance to streamline and improve the educational and career choices of students who are currently attending higher education, In this research paper, we has been highlighted on how to Embracing the future of chatGPT4 in the classroom to improve levels of students in the Collage, we found Most students encourage the use of artificial intelligence in the classroom because artificial intelligence helps increase the understanding of male and female students and also helps them obtain the required information in a short time.

Keywords: Embracing, ChatGPT4, Improve levels of students

1. Introduction

Artificial intelligence (AI) technology has seen rapid acceleration in the past decade in many domains, including natural language processing (NLP). NLP has matured in the educational sector as well, providing new learning experiences with advanced technologies, such as AI-based intelligent tutoring systems or intelligent question generation and answering systems. The next-generation language model GPT-4, which uses deep learning techniques, has further improved AI capabilities. GPT-based model ChatGPT is designed for topic-based conversations, traditional chitchat, therapy, and e-commerce (ordering food, booking a room, etc.) purposes. We study the use of this technology for the curriculum enhancement of courses in the computer science domain to help teaching staff

revamp their traditional methods of instruction and also to help the students understand complex concepts taught in theoretical subjects more effectively.

Especially in higher education, theoretical courses in the computer science domain, such as programming languages, microprocessors, operating systems, and computer networks, play a crucial role when preparing students to be industry-ready. Typically, these subjects require a substantial amount of effort from both students and teachers. The most popular methodologies employed by the teaching staff for better understanding of the concepts are interactive whiteboard sessions, storytelling, flipped classrooms, blended learning, peer-led team learning (PLTL), and peer instruction. These latest methods improve engagement, increase one-to-one interaction, and provide a real-time assessment for the teaching staff and students. However, the most important factor, the ease of learning complex concepts, the actual mission, is overlooked, leading students to review the videos of the learning session multiple times to obtain clarity on the complex areas.

Despite the increasing interest in integrating AI technologies like ChatGPT-4 into educational settings, there is limited empirical evidence on its effectiveness in improving student performance in college. While anecdotal reports suggest potential benefits, there is a need for rigorous research to understand the specific ways in which ChatGPT-4 can enhance learning outcomes, engagement, and motivation among college students. Additionally, it is crucial to identify the challenges and limitations of implementing such technology in diverse educational contexts.To achieve these multi-faceted objectives, the study poses the following research questions:

Q1: How does the use of ChatGPT-4 in the classroom impact student performance and understanding of course material?

Q2: How can these challenges be mitigated to maximize the benefits of using ChatGPT-4 in educational settings?

so this study will answer these research questions and collect data from both students and educators, this study aims to provide comprehensive insights into the role of ChatGPT-4 in enhancing college education. The findings will contribute to the growing body of knowledge on AI applications in education and offer practical recommendations for effectively integrating such technologies to improve student outcomes.

2. OBJECTIVES

This study aims to investigate the acceptance of a new advanced language model GPT-4, developed by Open AI, which is designed to generate human-like responses to text prompts. The study focuses on instructor and student acceptance of ChatGPT-4 in the experience of performance improvement needed for higher educational instruction. The objectives of the study are:

1. Investigate instructors' and students' acceptance of incorporating ChatGPT-4 in a classroom to improve student performance.

2. Determine instructors' and students' acceptance of using ChatGPT-4 as a real-time content expert group leader.

3. Explore the use of ChatGPT-4 in higher education institutions to enrich the E-learning experience.

4. Examine the use of ChatGPT-4 as a content expert group leader in higher education business courses.

3. UNDERSTANDING CHATGPT-4

Open AI's ChatGPT-4 is a state-of-the-art artificial intelligence chatbot that utilizes a conversational language model, an architecture that measures and predicts different occurrences of a language in conversation, to communicate by text. With hundreds of billions of parameters, this enormous multitalented model can extract information, evaluate complex sentences, compose meaningful responses, and leverage the impressive conversation skill. (Alto, 2023)(Nazir & Wang, 2023), As a result, it can answer a variety of questions about the student's coursework, clarify concepts and reading materials, explain complex subjects, assist the student in problem sets and lab work, link past concepts to the student's current coursework, and help guide students to success in the classroom. With deep knowledge, ChatGPT-4 can enhance the experience of all students, educate learners at differentiated levels, extend learning with hope, and empower diverse learners in these tough economic times. (Chauncey and McKenna: 2023).

4. APPLICATIONS OF CHATGPT-4 IN EDUCATION

The following section illustrates a myriad of different uses for ChatGPT-4. It also explains the implications of predefined guidelines used in ChatGPT-4, with an emphasis put on curbing misinformation. The focus of the second aim is on the use of chatbots and the prevalence of deeply customized AI programs in education, and where a seamlessly integrated, efficient ChatGPT-4 in the classroom can lead. Teachers and students can better deal with the huge amount of information they cope with daily. Data visualization and how to transform the Information Age into an understanding age, along with Deep Maths, a call to action to redefine the future of teaching, are also discussed .(Azaria et al., 2024)

Although many articles and blog posts have shown the benefits of artificial intelligence (AI) chatbots in education, it seems that we have not yet realized or first tackled their potential uses. Not only can we help teachers to be more efficient and better at their work, but we can also provide students with a never-ending, ever-patient partner for their development. The idea of having someone by your side, either inside or outside the classroom, has been articulated by many teachers, either consciously or not. Imagine having such a partner that is integrated seamlessly, without creating bottlenecks for teachers and students, interacting in a natural way, and allowing students and teachers to concentrate on the core learning tasks: teaching, learning, and problem-solving .(Chiu et al.2023)

5. ADVANTAGES OF AI IN EDUCATION

1. There are various advantages in the use of AI in the education sector. Leveraging the provision of data-driven learning adaptations, personalized learning, adaptive tutoring, which utilizes student data to alter the instructional methods to meet each student's needs, real-time feedback from automated grading of students' homework and quiz scores and development of educational materials, and the use of chatbots to support students in understanding taught topics, AI presents diverse opportunities to change the approach to teaching in higher education. This will encourage more engaged learning as piquing student interest provides effective learning. The flaws in traditional class lectures were highlighted by surveys that were conducted among numerous universities' administrations and faculty members including attention and focus issues that students face.

(Bhutoria, 2022) Research has shown evidence that students prefer self-paced learning, which many have the opportunity of through recorded university lectures. This method has been shown to offer students a moment to think through what they

learned, ask questions, and process the information at their own pace, resulting in a beneficial impact on student learning speed and performance.

2. Nonetheless, the challenges that AI faces in the education sector have not been completely addressed. We focus in this paper on the chatbots and educational material production and selection that are embedded in the discussion environments as such AI technologies can be easily implemented in current online platforms In order to obtain reliable results, an attempt was made to reproduce an accident scenario in simulation (Asaad, 2022)(Ramesh et al.2024). Lessons provided through chatbots can make the class a lot more engaging. It promotes learning by doing and immediate feedback. Such lessons require minimal development to implement and can be easily integrated into popular online teaching platform forums. In real classroom discussions, a chatbot chat window maintains a class attendance list. (Sun et al.2021) (Haleem et al.2022). The NGSS initiative was led by the American Association for the Advancement of Science (AAAS). (Kadhim et.al.2023). Furthermore, the chatbot encourages classroom participation, thus increasing students' comfort and interest in participating in higher education. These classes encourage more interaction, understanding, and therefore greater knowledge through providing a natural mechanism of questioning. This process increases the chances of a student directing a question to the lecturer, which is beneficial for creating a classroom discussion that results in a better learning environment and knowledge retention (R. Singh et al.2022) (Kadhim et al:2024).

6. METHODOLOGY

The researcher followed the descriptive method as it aligns with the research objectives. It is one of the forms of systematic scientific analysis and interpretation used to describe a particular phenomenon or problem. This method aims to describe phenomena or problems as they exist in reality by collecting information and data about them, classifying and analyzing this data to reach conclusions.

7. SAMPLING METHODS

The research sample consisted of 60 students, who were divided into 30 males and 30 females.

8. INSTRUMENTS

A researcher Created the artificial intelligence scale for the purpose of knowing whether the student is able to develop and raise his motivation when using Artificial intelligence (ChatGPT4) in the classroom. This scale consists of 30 items divided on the research sample.

9. VALIDITY OF THE SCALE

To demonstrate the indicators of apparent validity of the artificial intelligence scale, the researcher presented the artificial intelligence scale to a number of experts specializing in education, psychology, and psychological measurement, numbering (14) experts. The researcher relied on the paragraphs that obtained an agreement rate greater than (80%), while the paragraphs that obtained rates less than that were excluded from the scale.

10. Reliability

The researcher extracted the stability coefficient of the artificial intelligence scale, which consisted of 30 items, where the correlation coefficient value reached 0.89, which is considered a good indicator.

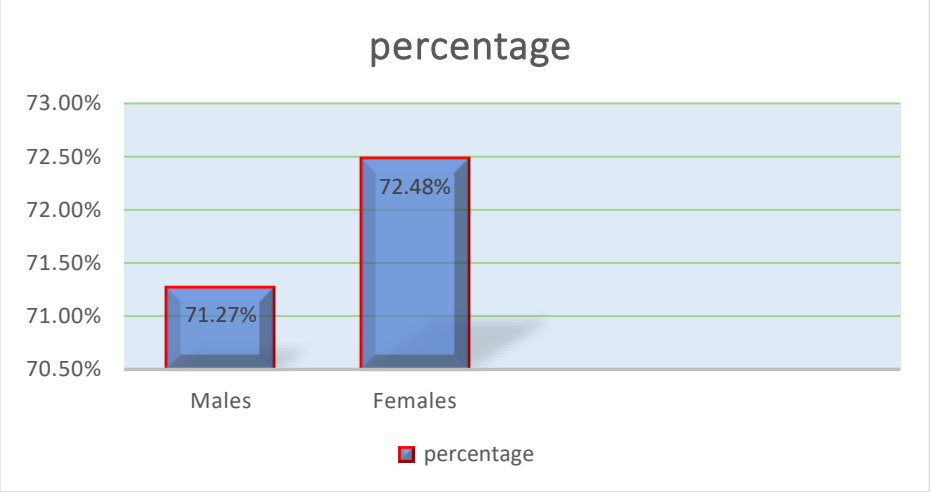
11. Scale application

The researcher applied the research tool, the artificial intelligence scale, to the research sample consisting of 40 students, After applying the Likert scale to the sample, the researcher noticed that males got (35.41) and a percentage of (71.27%), while females got (34.36) and a percentage of (72.48%). It is clear from these results that there is no significant difference between males and females in the use of artificial intelligence. This indicates that students benefit from the use of artificial intelligence and it helps them obtain information easily and in a short time.

Table 1: Scale application

No	SD	M	N	100%
Male	35.41	14.27	20	71.27%
Female	34.36	13.05	20	72.48%

Chart 1: The percentage of Users



12. FINDING AND DISCUSSION

The purpose of this practice-based research was to see if a new GPT-4 language generation model, ChatGPT-4, could be easily incorporated into a classroom for three purposes connected to specific writing program outcomes: helping students understand rhetoric, creating drafts, and unlocking personal voice, as well as to examine its efficacy. The outcomes of the integration of ChatGPT-4 are promising. The ChatGPT-4 educator realized immediate time-saving and teaching successes when ChatGPT-4 was utilized to provide students what they had requested – a way to draft an essay quickly and effectively. ChatGPT-4 was easily used to help with audience and position findings, working thesis

creation, ideas organization, traditional as well as unique ways to structure an essay, wording development, and sample sentence creation. One writing student asked to be "clinically attached" to ChatGPT-4 in order to brainstorm and draft with the model 24 hours per day. The educator uses ChatGPT-4 techniques when writing now as well.

To gauge ChatGPT-4's effectiveness, a campus student survey was non-invasively completed in class. Of those resolutions, over 88.33% said they had a positive personal experience using ChatGPT-4, including writing center student consultants who said they would want to have it as a tool in the writing center, received valuable tutoring help from ChatGPT-4, rated ChatGPT-4 as being good at providing to helps the students to offer assistance in obtaining information easily and in a short time. It is considered an important and supportive part for students inside the classroom.

The researcher found that males SD (35.41) and a percentage of (71.27%), while females SD (34.36) and a percentage of (72.48%), and this indicates that there is no significant difference between males and females in the use of artificial intelligence in classrooms.

13. CONCLUSION

Technological advances are a part of the challenges that higher education students face, and it is up to higher education administrators and educators to meet them and rise above the challenge to enable students to improve their life and/or career and professional preparation. Therefore, significant information is included in this chapter related to the use of the Next Generation of internet-based learning called ChatGPT-4, created by Altay Study Group. It focuses on the education sector that needs to modernize itself to maintain its status of quality and education excellence in student education and better teacher performance. Also, suggest new behaviors of educators and academic management so that they can prepare and manage these new learning environments of the Next Generation. These new technologies are changing attitudes, requiring academia to restructure, learn new workstyles, and manage these new teaching and learning methodologies. It is not uncommon to mention the need for complex regulatory governance, started anew in higher education teaching groups so that they can creatively and confidently manage the future of the world of work of young students in a continuous economy.

The results we got from the research made it clear to us that the research objectives were achieved.

To propose constructive reflections addressed for educators and academic management of Higher Education Teachers, we call for special attention to some concerns. Initially, it is important to apologize for the extensive content in this book chapter, which is not specifically an academic research format but required to address the complexity of the proposed objective. Lastly, we hope that the reflection and (inter)actions by the teaching groups will assist students to properly prepare for the teaching and learning future. The main motivation for the proposed map is to help students in the process of academic preparation, critical thinking, logical reasoning, creativity, adaptability, pragmatism, in addition to proposing new worldviews to understand contexts, procedures, and decision-making in the presented challenges of the Next Generation.

REFERENCES

Abbas, N., Whitfield, J., Atwell, E., Bowman, H., Pickard, T., & Walker, A. (2022). Online chat and chatbots to enhance mature student engagement in higher education. International Journal of Lifelong Education, 41(3), 308-326. tandfonline.com.

Alto, V. (2023). Modern Generative AI with ChatGPT and OpenAI Models: Leverage the capabilities of OpenAI's LLM for productivity and innovation with GPT3 and GPT4.

Asaad T. Al-Douri, Noor Mohammed Kadhim, A. A. Hamad Mohamad, Melese Abeyie. (2022) "Simulation of Vehicular Network Use in Emergency Situations and Security Applications on a Pakistan Highway", Security and Communication Networks, vol.2022, Article ID 2902263, p.10. https://doi.org/10.1155/2022/2902263

Azaria, A., Azoulay, R., & Reches, S. (2024). ChatGPT is a remarkable tool—for experts. Data Intelligence. mit.edu

Bhutoria, A. (2022). Personalized education and artificial intelligence in the United States, China, and India: A systematic review using a human-in-the-loop model. Computers and Education: Artificial Intelligence. sciencedirect.com

Chauncey, S. A., & McKenna, H. P. (2023). A framework and exemplars for ethical and responsible use of AI Chatbot technology to support teaching and learning. Computers and Education: Artificial Intelligence, 5, 100182. sciencedirect.com

Chiu, T. K., Moorhouse, B. L., Chai, C. S., & Ismailov, M. (2023). Teacher support and student motivation to learn with Artificial Intelligence (AI) based chatbot. Interactive Learning Environments, 1-17. academia.edu

Haleem, A., Javaid, M., Qadri, M. A., Singh, R. P., & Suman, R. (2022). Artificial intelligence (AI) applications for marketing: A literature-based study. International Journal of Intelligent Networks, 3, 119-132. sciencedirect.com https://tamjeedpub.com/index.php/TJHEST/article/view/65

Kadhim, N. M., Mohammed, H. A., Radhawi, S. N., Jabur, A. M., Gottraan, R. B., Abdulridha, M. M., ... & Mohammed, Z. Q. (2023). Investigation of the next generation science standards including in the science book according to E-learn: Analytical study. Tamjeed Journal of Healthcare Engineering and Science Technology, 1(2), 30-35.. DOI: 10.59785/tjhest.v1i2.23

Kadhim, N. M., & Hamad, A. A. (2024). Mathematical Foundations and Principles Behind These Methods. In Coding Dimensions and the Power of Finite Element, Volume, and Difference Methods (pp. 116-133). IGI Global.

Kocoń, J., Cichecki, I., Kaszyca, O., Kochanek, M., Szydło, D., Baran, J., ... & Kazienko, P. (2023). ChatGPT: Jack of all trades, master of none. Information Fusion, 99, 101861. sciencedirect.com

Nazir, A. & Wang, Z. (2023). A comprehensive survey of ChatGPT: advancements, applications, prospects, and challenges. Meta-radiology. sciencedirect.com

R. Singh, R. Mishra, Richa, P. V. Rao, R. Gopinathan and N. M. Kadhim, "Design of FIR Filter under Frequency Domain responses," 2022 International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems (ICSES), Chennai, India, 2022, pp. 1-3, https://doi.org/10.59785/tjhest.v1i2.23

Ramesh, V., Hamad, A. A., Jwaid, M. F., Sathyabama, M., Abdulridha, M. M., Kadhim, N. M., & Belay, A. (2022). Early recognition of skin malignancy in images based on convolutional networks by using dynamic system model. Journal of Nanomaterials, 2022(1), 1754658.

Sun, Z., Anbarasan, M., & Praveen Kumar, D. J. C. I. (2021). Design of online intelligent English teaching platform based on artificial intelligence techniques. Computational Intelligence, 37(3), 1166-1180.