

A STUDY ON THE ADOPTION AND IMPACT OF CHATGPT IN UNIVERSITY STUDENT ENGAGEMENT AND LEARNING: A CASE STUDY OF NORTH MAHARASHTRA REGION

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Abstract

This research paper investigates the usage and impact of ChatGPT, a state-of-the-art conversational AI model, among university students. With the increasing prevalence of virtual learning environments and online communication platforms, there exists an increasing scholarly interest in investigating the prospective advantages and obstacles associated with the integration of AI-driven chatbots within educational contexts. This research endeavour seeks to evaluate the efficacy of ChatGPT in enhancing student engagement and educational outcomes. In order to attain this goal, a mixed-methodological framework was utilized, integrating qualitative interviews conducted with students alongside a quantitative assessment of usage metrics. The research findings indicate that ChatGPT serves as a valuable tool for students, facilitating access to information, providing personalized assistance, and promoting self-paced learning. Participants reported that ChatGPT offered a convenient and readily available resource for addressing academic queries and obtaining learning support outside of regular class hours.

Keywords: ChatGPT, AI Model, Chatbots, Self-Paced Learning, University Student.

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I. Introduction

ChatGPT constitutes a sophisticated conversational artificial intelligence model created by OpenAI, founded on the GPT-4 architectural framework. The acronym "GPT" signifies "Generative Pre-trained Transformer," which pertains to a category of models specifically engineered for the comprehension and production of text that closely resembles human communication, contingent upon the input it receives. ChatGPT signifies a remarkable progression in the domain of conversational artificial intelligence, providing a formidable instrument for a multitude of applications. Its capacity to comprehend and generate text in a manner akin to human expression unveils a plethora of opportunities for augmenting productivity and enhancing user engagement across various sectors.

II. Literature Review

- Angelov et al. (2021) underscore the alarming predisposition against the employment of numerals within the ChatGPT user community. The author of the study observes that the most frequently generated numeral by ChatGPT coincides with the most favored numeral among humans, thereby implying a significant correlation between these two phenomena. The author elucidates the various advantages and disadvantages inherent in ChatGPT as a conversational agent.

- The incorporation of artificial intelligence (AI) within educational environments is examined by Adamopoulou and Moussiades (2020). In accordance with the 21st International Conference on Artificial Intelligence in Education (AIED) slated for 2020, AIED represents a swiftly expanding domain within educational technology. The methodologies by which AI can be leveraged for pedagogical aims, alongside its ramifications for teaching and learning in higher education, remain enigmatic to numerous educators. The author of the study contemplated the transformative influence of artificial intelligence (AI) on pedagogical practices, underscoring both its achievements and shortcomings. Furthermore, there exists a discourse regarding the outcomes of AI integration in educational settings and a particular methodology for the development of an AI-enhanced platform for instructional purposes (Jungwirth & Haluza, 2023).
- In their research, Boateng & Tindi (2022) explored the potential outcomes of AI's classroom introduction. The study employed phenomenology, a qualitative approach that evaluated participants' perspectives from different areas. Findings indicate that Implementing AI in the classroom will offer numerous advantages and disadvantages for learners and educators. A few recommendations on how to effectively use AI and steer clear of any the drawbacks it might pose are outlined. Even though the majority of respondents show hopefulness concerning AI, certain educators and researchers are apprehensive about what it might signify for the occupation. Nevertheless, engineers view AI as an instrument to enhance quality and advantage all within the field of education At the same time, lawyers and jurists are more concerned with the legal foundations for AI in education and potential problems (Mamani, et al., 2022).
- Chang et al. (2021) introduced this technology and the breadth of AI in various fields, emphasizing its application in education. She talks about its meaning, search strategies, advancements, and upcoming in a study of the results of various experimental implementations, which have been reported more thoroughly elsewhere, Chang et al. (2021) offered some tentative answers, first conceptually and then practically. We find that because AI is fundamentally different from human intelligence in how it operates and what it accomplishes, it will never "take over" the role of the teacher in the context of electronic computing techniques developed over the past three-quarters of a century (Harper et al., 2003). It might appear contradictory, yet the constraints mentioned here have the ability to transform education in manners that render it more human-centered
- According to OpenAI, "The ChatGPT model employs Reinforcement Learning from Human Feedback. Feedback (RLHF), employing similar methods as InstructGPT but with slight differences. Changes in the data collection setup. For instance, this research published the query "effect of ChatGPT on education in Peru,". This utilized data set from randomly gathered students' feedback from Twitter, with a sample size of 216 reflecting varied reactions to their exchanges with ChatGPT. This study utilized the information randomly gathered from public websites of Peruvian universities regarding the perception, The effectiveness, enthusiasm, and involvement of ChatGPT in transforming the learning experience digitally. The data was processed in Microsoft Excel and then transferred to SPSS for additional analysis of descriptive statistics pertaining to the quotative analysis procedure

III. Objectives of the Study

- To get better understanding the importance of ChatGPT in University Student Engagement and Learning.
- To find out why students are using ChatGPT.
- To find out the satisfaction of University student towards ChatGPT.

IV. Methodology

The 150 students from North Maharashtra University have been selected from North Maharashtra region for the present study by adopting random sampling technique. In order to study the effect of ChatGPT on learners.

V. Data Analysis and Results

1. How often do you use ChatGPT?

Sr. No.	Frequency	No of Respondents	Percentage
1	Daily	0	0
2	Weekly	112	75
3	Monthly	26	17
4	Rarely	12	8

The above table shows that 75 percent respondents are using ChatGPT Weekly.

2. How long have you been using ChatGPT?

Sr. No.	Using ChatGPT	No. of Respondent	Percentage
1	Less than a month	24	16
2	1-3 months	23	15
3	4-6 months	68	45
4	More than 6 months	35	23

It is interpreted that out of the total respondents, 16% are using ChatGPT for less than a month. 15% of the respondents have been using it for the past 1–3 months. 23% of the respondents have been using for more than 6 months, whereas the majority of respondents, that is, 45%, have been using ChatGPT for the 4-6 months.

3. Why do you prefer ChatGPT?

Sr. No.	Prefer ChatGPT	No. of Respondent	Percentage
1	Convenient	25	17
2	Fast	32	21
3	Accurate answer	12	8
4	Support in study	81	54

The study showed that support in study 49% is the main driving force for preferring ChatGPT while 21% of the respondents prefer because of fast result, Other motivating forces, which had led to prefer ChatGPT, were convenient 16%, Accurate answer 8%.

4. For what purposes do you primarily use ChatGPT?

Sr. No.	Purpose for using ChatGPT	No. of Respondent	Percentage
1	Academic research	6	4
2	Writing assistance (essays, reports)	103	69
3	Personal interest and exploration	14	9

4	Language learning	27	18
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It is interpreted that out of the total respondents, 69% are using ChatGPT for writing assistance. 18% of the respondents are using ChatGPT for language learning. 9% of the respondents are using for personal interest and exploration, 4% using for academic research.

5. How helpful has ChatGPT been in improving your academic performance?

Sr. No.	Improving your academic performance	No. of Respondent	Percentage
1	Yes	136	91
2	No	4	3
3	Can't Say	10	6

It is depicted in the table that 91% of the respondents reported that ChatGPT help in improving their academic performance and 6% of the respondents said ChatGPT does not improve their academic performance.

6. What features of ChatGPT do you find most useful?

Sr. No.	Most useful feature	No. of Respondent	Percentage
1	Detailed explanations	24	16
2	Quick responses	96	64
3	Ability to generate creative content	12	8
4	Programming help	18	12

It is interpreted that out of total respondents 64% of respondents reported that quick response is the most useful feature of ChatGPT and 4% of respondents reported they have not received medicine at a high price.

7. Do you trust the information provided by ChatGPT?

Sr. No.	Trust the information provided by ChatGPT	No. of Respondent	Percentage
1	Always	25	16
2	Most of the time	83	55
3	Sometimes	36	24
4	Rarely	6	4

The above table shows that 55 % & 16% of respondent trust the information provided by ChatGPT

8. What are your main concerns about using ChatGPT?

Sr. No.	Main concerns	No. of Respondent	Percentage
1	Accuracy of information	12	8
2	Ethical issues (e.g., bias, misinformation)	26	17
3	Privacy and data security	14	10
4	Over-reliance on AI	98	65

It is interpreted that out of total respondents 65% of respondents reported that Over-reliance on AI and 8% of respondent reported that accuracy of information is main concern about ChatGPT.

9. How would you rate your overall satisfaction with ChatGPT?

Sr. No.	Satisfaction	No. of Respondent	Percentage
1	Very satisfied	65	43
2	Satisfied	43	29
3	Neutral	36	24
4	Dissatisfied	6	4
5	Very dissatisfied	0	0

It is depicted in the table that 43% of the respondents are very satisfied, 29% are satisfied, 24% are neutral and 4% are dissatisfied with ChatGPT.

VI. Conclusion

This survey has been conducted with various stake holders of all higher education courses to know the Adoption and Impact of ChatGPT in University Student Engagement and Learning. 49% of the students reported that support in study is the main driving force for preferring ChatGPT. 69% are using ChatGPT for writing assistance. Survey indicated that 91% of the respondents reported that ChatGPT help in improving their academic performance. 64% of respondents reported that quick response is the most useful feature of ChatGPT. Most 71% of respondent trust the information provided by ChatGPT. Majority 65% of respondents reported that Over-reliance on AI is main concern about ChatGPT and 62 % of students reported that they are satisfied with ChatGPT.

Overall, ChatGPT has significantly impacted on academic's performance of students. Its ability of enhancing productivity, efficiency, and user satisfaction is vast, and its Applications are only starting to be investigated. As ChatGPT keeps developing an enhancing, We can anticipate witnessing even more remarkable outcomes in the upcoming years.

VII. References

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