A STUDY ON APPLICATION OF AI AND CHAT GPT BY TEACHERS AT UNDERGRADUATE LEVEL FOR IMPROVING THEIR TEACHING LEARNING PROCESS

Ms. Shilpa Sawant

Assistant Professor, Dept. of Commerce, K.J. Somaiya College of Science & Commerce, Vidyavihar, Mumbai 400077

shilpa.sawant@somaiya.edu

Abstract
This study shows the attitude, perception and practices of undergraduate teachers regarding the use of Artificial Intelligence (AI) tools, specifically ChatGPT, in the teaching-learning process. A survey methodology was used for data collection from the teachers about their awareness, frequency of use, their attitude towards its effectiveness and challenges faced in using technology. The findings shows that while there is universal awareness of AI, its practical application is not yet widespread, with the majority of respondents using it on a weekly or monthly basis. The most common applications identified were generating quiz questions and preparing lecture notes. Teachers rated the tools as highly effective, time-saving. However, concerns were raised regarding the potential for plagiarism and the accuracy of AI-generated content. A need for hands-on training and faculty development programs was identified as a critical factor. The study concludes that AI and ChatGPT have the potential to transform undergraduate education by enhancing teaching efficiency, but their successful adoption depends on addressing ethical concerns and providing educators with the necessary skills and support to use them judiciously.
Keywords: AI Artificial Intelligence, Chat GPT, Teaching Learning process

Objectives: The research papers aims
1. To evaluate the awareness about AI and Chat GPT amongst the teachers teaching at undergraduate level
2. To examine teachers perception about the usage of AI and Chat GPT for improving teaching learning process
3. To identify the challenges in application of AI and Chat GPT by teachers

Research methodology
Primary data was collected through a survey. Questionnaire was filled by respondents (teachers teaching at undergraduate level).Secondary data is also referred for additional information.

Literature review
The integration of Artificial Intelligence (AI) and chatbots like ChatGPT into higher education is a rapidly evolving area with significant benefits and notable challenges. AI can revolutionize learning by offering personalized experiences, providing adaptive content, and offering immediate feedback to students, thereby enhancing engagement and academic performance. Furthermore, AI tools can streamline administrative tasks for educators, such as grading and scheduling, freeing up time to focus on teaching and fostering critical thinking However, a number of ethical and practical concerns are also identified. Key issues include threats to academic integrity, such as plagiarism, and the potential for a decrease in critical thinking skills if students become over-reliant on the technology Other challenges encompass data privacy and security, algorithmic bias, and the risk of digital fatigue and social isolation from reduced face-to-face interaction The current literature suggests a gap between the recognized potential of AI and its practical, widespread application. As these technologies continue to advance, further empirical research is needed to fully understand and mitigate their long-term effects on students' well-being and the educational landscape as a whole.

Introduction
AI is a set of technologies that enables the computer to perform a variety of advanced functions. Artificial intelligence (AI) is a field of computer science that focuses on creating machines and software that can perform tasks that would normally require human intelligence. This includes things like learning, reasoning, problem-solving, perception, and natural language understanding. Essentially, AI aims to replicate human cognitive abilities in machines. There are various sub fields of AI such as Machine Learning, Deep Learning, Natural Language Processing, Generative AI etc. AI is now an inevitable aspect of every field like banking, insurance, travel, research and development, teaching, transportation, retail industry etc. it is now essential to adopt AI in order to sustain in the given industry. Chat GPT is a large language model (LLM) developed by Open AI, based on the Generative Pre-trained Transformer (GPT) architecture. It is an advanced form of generative artificial intelligence, specifically designed and fine-tuned for conversational and text-based interactions. The "GPT" in its name stands for "Generative Pre-trained Transformer.
AI has created a huge impact on the education sector as well. Academicians, research scholars and students are using AI for a varied purpose. It is therefore essential to understand the role of AI in education. It is observed that students are widely

using AI for various purposes like understanding the concepts, creating notes, making presentations, solving problems etc. it is essential for the teachers to adapt the AI in order to match with the changing trends as well as to understand the student's perspective. The research paper aims to evaluate the awareness amongst teachers teaching at undergraduate level regarding AI and Chat GPT, to examine their perception about the usage of AI and Chat GPT for improving teaching learning process and to identify the challenges in application of AI and Chat GPT by them.

Observation and Analysis

A survey was conducted and following are the observations.

1. Age group ranging from 25 years of age to 60 years of age has filled the survey form out of which 83% were female teachers and remaining are male teachers.
2. The largest age group was 41-50 years and the most common experience level was 16-20 years This indicates that the survey primarily reflects the perspectives of experienced educators.
3. 100% of respondents were aware of AI tools and ChatGPT.
4. Purpose of Use: The most common use cases for AI were Generating quiz questions and Preparing lecture notes. Developing case studies was also a popular application,
5. Effectiveness: AI/ChatGPT was rated as highly effective.

Benefits, Challenges, and Future Outlook

1. Primary Benefits: The most frequently cited benefit was time-saving. Other benefits included the ability to generate a variety of content, provide diverse examples and case studies, and enhance creative teaching activities.
2. Challenges and Concerns: The top two concerns were plagiarism and lack of training Accuracy/Authenticity was also a significant concern, cited by respondents. One respondent mentioned a specific concern about mathematical answers being wrong.
3. Potential to Transform Education: The majority of respondents believe AI has the potential to transform undergraduate education, with 44% respondents answering "Yes" and 34% answering "Maybe". The 9% "No" responses came from teachers who had never used the tools or found them more challenging than advantageous.
4. Needed Training and Support: The most common suggestions for training were hands-on workshops and faculty development programs (FDPs). Other requests included training on prompt engineering and specific use cases like generating questions for particular subjects.

Conclusions

The survey findings suggest that while there is widespread awareness and a generally positive perception of AI and ChatGPT among educators, their integration into teaching is still in its emerging stages. The data reveals that teachers are leveraging these tools primarily for administrative and content-generation tasks, such as creating quizzes and lecture notes, which they perceive as significant time-savers. The high effectiveness ratings indicate that these tools are seen as valuable aids in the teaching-learning process.

However, the survey also highlights critical barriers to wider adoption. Key concerns include the potential for plagiarism and inaccurate information, which point to a need for institutional guidelines and a focus on ethical use. The most prominent finding from the open-ended responses is the clear and consistent demand for practical training and support. Educators feel that hands-on workshops, faculty development programs, and guidance on effective "prompt engineering" are essential to overcome their current challenges and fully harness the potential of AI.

In conclusion, while the initial adoption is encouraging, the future role of AI in higher education hinges on a supportive framework that addresses educators' concerns and provides them with the necessary skills to integrate these tools effectively and ethically. This shift requires a move beyond basic awareness to dedicated, subject-specific training that empowers teachers to use AI as a tool for deeper learning and innovation, rather than a mere replacement for traditional methods.

References

1. https://cloud.google.com/learn/what-is-artificial-intelligence
2. https://uca.edu/cetal/chat-gpt/
3. https://openai.com/index/chatgpt/
4. https://www.mdpi.com/2227-9709/12/3/74
5. https://ideas.repec.org/a/bcp/journl/v7y2023i6p306-314.html
6. https://pmc.ncbi.nlm.nih.gov/articles/PMC12318603/
7. https://www.researchgate.net/publication/378303562_The_use_of_ChatGPT_in_teaching_and_learning_a_systematic_review_through_SWOT_analysis_approach
8. https://www.researchgate.net/publication/378104299_The_Impact_of_ChatGPT_on_Learning_in_Higher_Education_-_Results_of_a_Pilot_Study