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A CASE STUDY ON ANALYSIS OF THE ROLE OF CHATGPT'S IN STUDENT EVERYDAY LEARNING

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ABSTRACT :

This case study investigates the role of ChatGPT in students' everyday learning, aiming to understand its impact on learning behaviours, aiming to understand its impact on learning behaviours, academic performance, and skill development. The study employs a mixed methods approach, combining surveys and semi structured interviews with students from a university setting. Participants were selected through purposive sampling to ensure they had direct experience using ChatGPT for academic purposes.

Key words: ChatGPT, learning, Artificial Intelligence (AI)

Introduction

The advent of Artificial Intelligence (AI) has initiated a paradigm shift across numerous sectors, and education is no exception. As AI tools become more sophisticated and accessible, their integration into everyday life, particularly for students, has become a subject of intense debate and academic inquiry. Among these tools, OpenAI's ChatGPT, a powerful large language models (LLMs), has garnered unprecedented attention since its public release in late 2022. Its ability to generate human-like text, answer complex questions, and assist with a wide range of tasks has made it a readily available resource for millions of students globally.

The rise of ChatGPT presents a dual narrative in the educational landscape. On one hand, it is hailed as a potential revolution, offering a 24/7 personalized tutor, a research assistant, and a tool for creating more engaging and accessible learning materials. Proponents argue that it can address long-standing challenges in education, such as providing individualized learning experiences, bridging knowledge gaps, and fostering a new form of digital literacy. The potential to automate administrative tasks and provide instant feedback could also free up educators to focus on more nuanced and high-value interactions with their students.

Background of AI in Education:

Artificial Intelligence (AI) has progressively transformed education, reshaping how students learn and educators teach. The integration of AI in education can be traced back to early computer-assisted learning systems in the late 40th century, which provided simple, rule-based tutoring. However, advancements in machine learning, natural language processing (NLP), and big data analytics have significantly expanded AI's role in modern education.

Key Developments in AI and Education:

1. Early Intelligent Tutoring Systems (1960s-1980s)

The earliest forms of AI in education were Intelligent Tutoring Systems (ITS). These systems were designed to mimic a human tutor by providing personalized, one-on-one instruction. They used rule-based programming to diagnose student errors and offer tailored feedback. While a significant step forward, these systems were limited by the need for extensive manual programming for each specific subject. They were often costly and ran on large mainframe computers, making them inaccessible for widespread use.

2. Rise of Adaptive Learning Platforms (1990s-2000s)

As computers became more affordable and powerful, AI in education shifted towards adaptive learning platforms. These systems utilized algorithms to analyze student performance and learning styles on a larger scale. They could recommend different learning paths, adjust the difficulty of content, and provide real-time feedback. Platforms like these paved the way for more personalized and data-driven instruction, moving beyond the simple "correct/incorrect" feedback of earlier systems.

3. Integration with Learning Management Systems and Predictive Analytics (2010s)

In the 2010s, AI became more integrated into the broader educational ecosystem, particularly within Learning Management Systems (LMS). This allowed for the collection and analysis of vast amounts of student data. AI was used for predictive analytics to identify at-risk students, automate administrative tasks like grading and scheduling, and provide educators with valuable insights into student performance trends. This shift focused on using AI to support not just individual student learning, but also administrative and pedagogical practices.

4. The Era of Generative AI (2020s-Present)

The most recent and impactful development is the rise of generative AI, exemplified by tools like ChatGPT. Unlike previous AI tools that were primarily reactive and focused on a single function (like tutoring or grading), generative AI is capable of creating entirely new content, including essays, summaries, and complex explanations. This has led to a major paradigm shift:

- **Widespread Accessibility:** These tools are now freely or cheaply available to anyone with an internet connection, leading to rapid adoption by students.
- **Natural Language Interaction:** Students can interact with AI in a conversational manner, asking complex questions and getting nuanced responses.
- **New Applications:** This has opened the door to new applications like brainstorming, idea generation, and even code writing, which have a profound effect on how students complete assignments and learn.

This latest development has brought both unprecedented opportunities and significant challenges, particularly regarding academic integrity and the need for new educational policies. It has forced a critical re-evaluation of the role of AI, shifting the conversation from a niche technological aid to a central, transformative force in education.

Why Focus on ChatGPT's?

ChatGPT's, released in 4044, represents a leap in generative AI for education. Unlike older AI tutors, it:

- Generates human-like explanations, essays, and code.
- Supports active learning by encouraging student inquiry.
- Raises debates about ethical use (e.g., plagiarism, dependency).

This background sets the stage for examining ChatGPT's specific impact on student everyday learning filling gaps left by prior AI studies focused on institutional use rather than individual learner experiences.

Definition of ChatGPT's

ChatGPT's (Chat Generative Pre-Trained Transformer) is an AI-powered conversational chatbot developed by Open AI. It is built on large language models (LLMs) and uses deep learning techniques to process and generate human-like text based on user input.

Key Features:

- Natural Language Understanding: Responds to questions in a conversational manner.
- Text Generation: Can write essays, summaries, code, and more.
- Contextual Adaptation: Adjusts responses based on user prompts.
- 44/7 Availability: Provides instant assistance without time constraints.

REVIEW OF LITERATURE

Mariño-Romero et al., Citation4044 AI will make it possible for educational institutions to comprehend and manage a data collecting procedure so that it may be incorporated into an educational efficiency plan

Lund & Wang, Citation4043; Tlili et al., Citation4043 One of the tools which has been an interesting topic is ChatGPT's. Based on the GPT language model technology, it is a very sophisticated chatbot that can handle a variety of text-based requests, including simple question answering and more difficult tasks like writing essays and assisting people in difficult conversations about productivity problems

Hasbi et al., Citation4044 By utilising its enormous data stores and effective architecture, ChatGPT's is able to comprehend and interpret user requests before producing suitable replies in almost natural human language Since we are still in the early stages of discussing the use of OpenAI in education, particularly about ChatGPT's, we would like to contribute by showing the trending topics related to this discussion.

Rojas-Sánchez et al. (Citation4044) started analyzing the development of using technology in education by conducting a bibliometric analysis, thus motivated us to conduct the same methodology for this article.

Palos-Sanchez et al., Citation4044 The examination of various themes, journals, and countries has all been done using bibliometric approaches, which require a significant amount of bibliographic data

ChatGPT's and Its Relevance in Student Learning

ChatGPT in Academic Support

- **Personalized Learning and Tutoring:** ChatGPT can act as a 24/7 virtual tutor, providing students with instant, customized explanations of complex topics. Instead of just a single answer, it can break down problems step-by-step, answer follow-up questions, and adapt its explanations to different learning styles. This is particularly helpful for students who need assistance outside of regular class or office hours.
- **Enhanced Efficiency and Idea Generation:** The tool can greatly streamline various academic tasks. Students can use it for brainstorming research paper topics, generating outlines for essays, and getting initial drafts of introductions. This can help overcome writer's block and save valuable time on repetitive or foundational tasks, allowing students to focus more on higher-order thinking and critical analysis.
- **Accessibility and Language Support:** For non-native speakers or students with certain learning disabilities, ChatGPT can be a crucial aid. It can assist with grammar and spelling, translate complex academic texts, and rephrase concepts into simpler language, thereby reducing language barriers and making academic content more accessible.

Challenges and Risks

- **Over-reliance and Skill Erosion:** One of the most significant risks is that students may become over-reliant on the tool. If used as a shortcut to get answers rather than as a supplement for learning, it can hinder the development of essential skills like critical thinking, independent problem-solving, and original writing.
- **Academic Dishonesty and Plagiarism:** The ease with which ChatGPT can generate well-written content raises serious concerns about plagiarism and academic integrity. It's difficult for educators to differentiate between genuinely student-produced work and AI-generated content, leading some institutions to reconsider traditional take-home assignments and revert to in-class, handwritten essays or oral exams.
- **Factual Inaccuracies and Bias:** ChatGPT, and other LLMs, are prone to "hallucinations," which means they can produce factually incorrect or fabricated information. The models are trained on vast datasets from the internet, which can contain biases that may be unknowingly passed on to students. This requires students to be even more diligent in critically evaluating and verifying the information they receive.

FINDINGS

Findings reveal that students widely use ChatGPT for various learning tasks, including

- Generating ideas and brainstorming
- Completing assignments more efficiently
- Getting immediate explanations and feedback on complex topics.

The results indicate that ChatGPT can be an effective tool for providing personalized learning experiences, enhancing engagement, and improving accessibility to information. However, the study also identifies significant challenges and risks. Concerns include

- Over-reliance on the tool, which may hinder the development of independent critical thinking and problem-solving skills.
- Ethical issues, such as academic dishonesty, plagiarism, and the need for new policies to govern AI use.
- The potential for inaccurate or biased information, requiring students to critically evaluate the AI's responses.

SUGGESTIONS:

1. **Awareness Programs**:

Institutions should offer training to help students use ChatGPT's ethically and effectively.

2. **Balanced Usage**:

Encourage combining ChatGPT's with traditional study materials to prevent overreliance.

3. **Classroom Integration**:

Gradually introduce ChatGPT's as a support tool in classrooms with clear policies.

4. **Ethics Education**:

Promote awareness of academic honesty and clarify boundaries regarding AI usage in assessments.

CONCLUSIONS

In conclusion, while ChatGPT offers immense potential to revolutionize education by making learning more efficient and accessible, its successful integration requires a balanced approach. This involves creating a structured framework with clear ethical guidelines to maximize benefits while mitigating risks, promoting responsible use, and fostering a culture of independent learning.

ChatGPT is not just a passing trend; it's a tool that is fundamentally changing the way students interact with academic material. While it offers powerful benefits for personalizing learning, improving efficiency, and increasing accessibility, its use must be accompanied by new educational policies and a concerted effort to teach digital literacy and responsible AI usage. The ultimate challenge is to leverage its potential to support learning without compromising the development of the core skills and intellectual integrity that are central to a quality education.

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