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Enhancing Education Through ChatGPT AI:A Comprehensive Exploration of Tutorials

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ABSTRACT

Technology is generally interpreted as anything that can provide us with convenience in many ways. Technology also has a huge impact on education and learning. These two things become increasingly inseparable because their roles are interconnected. One of them is by using Chat GPTAI . The purpose of this research is to explain Transforming Education and Learning through Chat GPT. This study depicts the practice changes in education and learning patterns by describing the characteristics of learning that are currently needed by using ChatGPT AI digital technology .Through mixed method implementation, two questionnaires and an observation checklist are used. The researchers use an explorative approach to collect data and delve deep into the use of ChatGPT and its benefits in education ,in learning and in various fields, such as customer service, education, research, product development and language skills development. Indeed, learners have shown a great pleasure attending tutorials using ChatGPT as an important tool for research. The study explores and pinpoints learners' perception through teachers' observation and the two administered questionnaires. This proved to be a successful experience.

Keywords
enhancing education; Chat GPT AI; Tutorials; exploration

Introduction

In recent years, the integration of AI technologies in educational settings has opened up new avenues for personalized learning and student support. This article delves into the promising application of GPT (Generative Pre-trained Transformer) models in various educational domains. Focusing on tutoring, language learning, and student query assistance, the exploration aims to shed light on the transformative potential of ChatGPT AI in shaping the future of education.

Seo et al., (2021) claim that the impact they can feel is that humans use technology to exchange information, science, and technology. Education is an inseparable part of the process of developing science and technology as a process of human maturation (Dlouhá & Pospíšilová, 2018) . In the dynamic landscape of education, technological advancements continue to reshape the way we approach teaching and learning (Brown et al., 2020). One such ground breaking innovation is the integration of Chat AI powered by Generative Pre-trained Transformers (GPT) into educational settings. This transformative technology has the potential to revolutionize education by offering personalized and interactive learning experiences.

As teachers and stakeholders delve into the comprehensive exploration of enhancing education through ChatGPT AI, it is imperative to understand the underlying principles and capabilities of this cutting-edge technology. GPT, developed by Open AI, is at the forefront of natural language processing, demonstrating unparalleled proficiency in understanding and generating human-like text (Vaswani et al., 2017). With its ability to learn from diverse datasets, ChatGPT AI possesses the potential to adapt to individual learning styles, provide instant feedback, and facilitate a more engaging educational environment.

This exploration will manifest itself in the diverse applications of GPT Chat AI in education, ranging from personalized tutoring and language learning to facilitating collaborative projects and promoting critical thinking skills (Anderson et al., 1995). By analyzing the existing literature and exploring real-world implementations, researchers aim to uncover the transformative impact of ChatGPT AI on education, both in formal and informal learning environments.

Literature Review

Definition of Chat GPTAI

According to Halaweh, M. (2023), ChatGPT is a type of GPT (Generative Pre-trained Transformer) language model that has been specifically trained to generate text in response to natural language inputs. It is designed to simulate humanlike conversation and can be used in a variety of applications, including chatbots, virtual assistants, and language translation tools. (Tingiris, S., & Kinsella, B. (2021). According to Cantwell, J., & Qui, R. (2009), ChatGPT AI is a type of artificial intelligence language model developed by Open AI. It is designed to generate human-like text by predicting the next word in a sentence based on the context of the preceding words.

GPT Characteristics

Due to its practicality and adaptability, ChatGPT is believed to be a promising tool for open education because it may increase the freedom and autonomy of self-directed learners. ChatGPT is said to possess the potential to boost motivation and engagement among self-taught learners by offering individualized help, guidance, and feedback (Firat M.(2023)

Enhancing Education Through GPT:

According to Williamson, B., Macgilchrist, F., & Potter, J. (2023) ,there are several ways in which the GPT (Generative Pre-trained Transformer) language model can be used in education. It can be used to create chatbots and virtual language tutors that help students practice their language skills. They can simulate real-life conversations and provide students with instant feedback on their grammar, pronunciation, and vocabulary. GPT can be used to help students improve their writing skills. It can be also used to grade essays and other written assignments automatically. This can save teachers a lot of time and provide students with immediate feedback on their work. Williamson et al also extended the view to the ability of GPT to create personalized learning experiences for students and recommends specific learning resources, such as articles, videos, and textbooks, that are tailored to their needs. However, it's important to note that GPT should be used as a tool to support learning, not as a replacement for human teachers. Indeed, education has an important role because without education the process of transforming modern knowledge is difficult to realize(Serdyukov, 2017)

Focus on Tutorials

In a heterogeneous class with mixed-ability groups, the teacher should appreciate each EFL Tertiary learner as an individual taking into account his learning styles, his mental capacities, multiple intelligences and the way he adapts himself with the types of learning. The teacher should use the appropriate strategies when working with different groups to the extent that he knows when to apply a given strategy with a given group and for what purpose.

The tutorial sessions are primarily meant to work with the learners on specific areas. The teacher needs to identify the strengths and the weaknesses of his learners in the course of time.

Once the teacher has collected data about his learners, he should be able to address their needs accordingly. He has to identify the main problems during his lessons. His portfolio and the learner's portfolio will give him sufficient data and evidence on how the learning process occurred in class. Through the observation sessions, the teacher identified the different learners' shortcomings after exploiting his learners' resulting weaknesses and identifying the non-acquired criteria.

The tutorial sessions offer an opportunity for teachers to work towards excellence among their students. The teacher targets good learners and asks them to work on problem solving situations of a higher difficulty rate so as to train them for real life problem solving situations in the future.

The sessions are also devoted to train learners on different ways of integrating the previous learning in terms of knowledge, skills and attitudes and build upon the new experiences in a scaffolded way; hence constructing their own learning process through technology use.

Keeping up with tutorials and ensuring a performative class act can greatly enhance the learning experience. Here are some ideas related to the exploration of the tutorials.

Flipped Classroom Model:

Bergman et al (2012) suggested to implement a flipped classroom model where students review tutorial materials online before class, allowing class time for more interactive and application-based activities. Meanwhile, Kapp, K. M. (2012).suggests creating interactive online tutorial modules using platform like Moodle incorporating multimedia elements to engage students in the different learning processes. For Peer Teaching and Demonstrations, Topping, K. J. (2005) suggests teachers should encourage students to lead tutorials on specific topics, promoting peer teaching and collaboration.

In recent years, the integration of Artificial Intelligence (AI) technologies in educational settings, particularly in tutorials at tertiary levels, has emerged as a transformative trend. This tutorial explores the various ways . AI is being implemented in higher education, with a focus on tutorials, and discusses the potential benefits and challenges associated with this integration.

AI in Personalized Learning:

One prominent application of AI in tertiary education tutorials is personalized learning. Adaptive learning platforms use AI algorithms to analyze students' learning patterns, preferences, and performance data (Clark, 2018). This allows the system to tailor tutorial content to individual students, providing a more personalized and effective learning experience (Siemens & Baker, 2012).

Intelligent Tutoring Systems (ITS):

Intelligent Tutoring Systems represent another significant aspect of AI integration in tutorials. These systems use advanced algorithms to assess students' understanding, identify areas of weakness, and provide targeted feedback (Van Lehn, 2011). For instance, the use of conversational agents in tutorials helps create interactive and engaging learning environments (Graesser et al., 2017).

Automated Assessment and Feedback:

AI technologies facilitate automated assessment and feedback processes in tertiary tutorials. Machine learning algorithms can analyze written assignments, code submissions, or other assessments, providing timely and constructive feedback to students (Dede, 2016).

Virtual Reality (VR) and Augmented Reality (AR):

The integration of AI with VR and AR technologies enhances the immersive nature of educational tutorials. AI algorithms contribute to creating realistic and adaptive virtual environments, allowing students to engage in hands-on experiences (Dalgarno & Lee, 2010). This can be particularly beneficial in fields that require practical applications and hands-on activities, such as sciences and engineering.

Challenges and Considerations:

While the integration of AI in tertiary level tutorials holds great promise, there are challenges that need to be addressed. Ethical considerations, data privacy, and the potential for bias in AI algorithms are critical aspects that require careful attention (Holstein et al., 2019).

Benefits of ChatGPT for Education

According to Cribben, I., & Zeinali, Y. (2023), there are several potential benefits of ChatGPT (Generative Pre-trained Transformer) for education, including advantages as: ChatGPT can analyze a student's learning patterns and preferences and recommend specific learning resources that are tailored to their needs. This can help students to learn at their own pace and in a way that works best for them. In addition, ChatGPT can be used to create chatbots and virtual language tutors that help students practice their language skills. These chatbots can simulate real-life conversations and provide students with instant feedback on their grammar, pronunciation, and vocabulary. Also, ChatGPT can be used to grade essays and other written assignments automatically. This can save teachers a lot of time

and provide students with immediate feedback on their work. ChatGPT can be used to assist students with their research by providing answers to their questions, suggesting relevant resources, and summarizing complex topics.

Cribon et al (2023) added that ChatGPT can generate prompts and questions for classroom discussions, which can encourage students to think critically and engage in meaningful discussions.

GPT and Change in Teaching

According to Hopper (2015) ,GPT technology can also bring about changes in the way we teach. Here are some ways in which GPT can impact teaching : GPT can be used to generate lesson plans and teaching materials based on specific learning objectives, helping teachers save time and effort in curriculum development. It can be used to provide personalized feedback on student work, allowing teachers to focus on higher-order skills such as critical thinking and problem solving, rather than spending time on lower-level skills such as grammar and syntax.

Further ,Chat GPT AI can be used to facilitate communication between teachers and students, as well as between different stakeholders in the education system, such as administrators, parents, and policymakers- A thing that was missing a long time ago. Sari &Yudha, (2022) speculated in this respect saying: Most learning and learning patterns developed in institutions -educational institutions still relatively rely on textbooks, student worksheets, and unstructured lectures or discussions, while learning activities are impressive come, sit, listen, note, and memorize

GPT and Changes in Learning

GPT technology has the potential to bring about significant changes in the way we learn and teach. ChatGPT AI helps provide automated feedback on student writing, identifying and correcting common errors, providing suggestions for revision, and offering guidance on grammar and syntax, can simulate real-life conversation, allowing students to practice speaking and listening skills in a natural and interactive way. It can also help learners generate content on a wide range of topics, allowing students to explore new areas of knowledge and discover new interests as writing poetry, short stories and tales. However, this does not exclude that ChatGPT AIhas also some shortcomings such as the risk of bias, accuracy of responses, and ethical concerns.

ChatGPT Limitations

Sobieszek, A., & Price, T. (2022) speculate that ChatGPT and other AI language models have shown great potential in various fields, including education, they also have several limitations and challenges. Here are some of the limitations of ChatGPT . Like all language models, ChatGPT is trained on large datasets of text that may contain biases and stereotypes, hence, it lacks accuracy, is not perfect and can make errors or generate inaccurate responses. Moreover, ChatGPT AI lacks specific knowledge and may not be able to generate accurate or appropriate responses to specialized topics or subjects and it is also used by learners in unethical way which is considered as a form of plagiarism.

Methods

For an exploratory quasi-experimental research, the researcher teachers select two small group of master students with a sum population of 50 students. To facilitate the task and ensure everybody can have access to ChatGPT , the teachers use two groups of 25 ,each received the pre- ChatGPT questionnaire and post questionnaire with their perceptions on its use.

The two groups received two sessions of tutorship where some activities were implemented before and after the delivery of the Post-questionnaire. The teachers also use an observation checklist for the two sessions. A mixed method research type is used -both quantitative and qualitative data collection were used to gather a maximum of data.

Methodology

The integration of AI technologies in tertiary level educational tutorials presents exciting opportunities to enhance learning experiences. By understanding and addressing the associated

challenges, educators and institutions can harness the potential of AI to create more personalized, interactive, and effective tutorial environments. Inherent to these data, the researcher has formulated some leading questions-

Problem Statement

While advancements in AI have been noticed in various educational domains, there is a noticeable gap in the literature concerning the specific impact of ChatGPT AI on language learning, particularly in tertiary-level EFL settings. The current body of research primarily focuses on broader AI applications or traditional language learning methods, leaving a need for in-depth exploration of how ChatGPT AI can be optimally integrated to enhance language acquisition, communication skills, and overall educational experiences for EFL learners at the tertiary level. Understanding the perceptions, challenges, and opportunities associated with this integration is vital for informing educational practices and contributing to the ongoing discourse on technology-enhanced language education.

Research Questions: For this study, researchers issued the following questions:

1. How does the integration of ChatGPT AI enhance language learning experiences for tertiary-level English as a Foreign Language (EFL) learners?
2. To what extent does the use of ChatGPT AI impact students' language proficiency and communication skills in EFL educational settings?
3. What are the perceptions of EFL learners regarding the effectiveness and usability of ChatGPT AI in language learning contexts?

Objectives:

a. To assess the impact of ChatGPT AI on the development of language proficiency among tertiary-level EFL learners.

b. To investigate the influence of ChatGPT AI on the enhancement of communication skills in English, including speaking, listening, reading, and writing.

c. To explore the perceptions of EFL learners regarding the usability, user-friendliness, and overall effectiveness of ChatGPT AI in language learning contexts.

Hypotheses:

1.The use of ChatGPT AI in EFL tutorials will significantly enhance language proficiency levels among tertiary-level learners compared to traditional methods.

2.EFL learners exposed to ChatGPT AI will demonstrate a notable improvement in their communication skills, including speaking, listening, reading, and writing, compared to those relying solely on conventional instructional approaches.

3. Positive perceptions of ChatGPT AI, including usability and effectiveness, will be reported by the majority of EFL learners. The incorporation of ChatGPT AI in EFL tutorials will positively correlate with increased levels of student engagement and motivation.

Data Analysis

Pre- GPT use questionnaire

Section Two: Students' Attitudes towards Language Learning:

Table 1-Students responses

How confident do you feel about your current English language skills?		
Options	Responses	
a. Not at all confident		04
a. Slightly confident		06
b. Moderately confident		10
c. Very confident		22
d. Extremely confident		08
	Total	**50**

What are the perceptions of EFL learners regarding the effe

Table 2: Students' Challenges

b. What challenges do you face in language learning?

Challenges	Responses
1. Technology Distractions:	11
2. Ineffective Learning Methods	06
3. Motivation and Persistence	10
4. Fear of Making Mistakes	08
5. Grammar and Syntax	08
6. Vocabulary Acquisition	07

Section Three: Technology Usage:

Table Three: on Technology Use

How frequently do you use technology for language learning purposes? (e.g., language learning apps, online resources)	Responses
1. rarely	10
2. occasionally	11
3.regularly	25
4. frequently	04

Section Four: Expectations and Preferences:

Table Four: On Students' Expectations

a. **What are your expectations from tutorials that integrate AI technologies like ChatGPT AI?**	
b. Expectations	Responses
c. Language Support	09
d. Assistance with Complex Topics	12
e. Availability:	11
f. Natural Language Understanding	10
g. Interactivity	08
Total	**50**

Appendix B-Post-Questionnaire:

Table 5-Students overall experiences with the ChatGPT AI-

a. How would you rate your overall experience with the ChatGPT AI-enhanced tutorials?	
Options	Responses
1.Very Unsatisfactory	03
2.Unsatisfactory	02
3.Neutral	05
4.Satisfactory	20
5.Very Satisfactory	20
Total	50

Table 6-Benefits of ChatGPT AI-enhanced Tutorials

b. What aspects of the ChatGPT AI-enhanced tutorials did you find most beneficial?	
Options	Responses
a. Motivational Factor:	11
b. Supplemental Learning Resource	09
c. Engaging and Fun Learning Experience	10
d. Immediate Feedback:	20

Results

This observation checklist is intended for teachers to observe and evaluate students' engagement, participation, and interactions during ChatGPT AI-enhanced tutorials.

Table 7-Results of Observation Checklist

1.Student Engagement:	**.../50**
a. Actively participating in ChatGPT AI activities	**32**
b. Demonstrating enthusiasm and interest in language learning tasks	**29**
c. Engaging in group discussions facilitated by ChatGPT AI	**28**
2.Communication Skills:	
a. Effectively using language skills (speaking, listening, reading, writing) during ChatGPT AI interactions	**32**
b. Collaborating with peers in language-related tasks	**18**
c. Demonstrating improved communication skills compared to previous sessions	**19**
3.The Use of ChatGPT AI:	
a. Comfortably navigating and interacting with the ChatGPT AI platform	**30**
b. Demonstrating an understanding of instructions provided by ChatGPT AI	**27**
c. Seeking clarification or additional information from ChatGPT AI when needed	**39**

4.Adaptability:	
a. Adapting to ChatGPT AI-enhanced tutorials easily	**29**
b. Using ChatGPT AI feedback to enhance language learning	**28**
c. Demonstrating flexibility in integrating ChatGPT AI into language learning activities	**42**
5.Overall Participation:	
a. Actively participating in the entire tutorial duration	**47**
b. Collaborating with peers and responding to ChatGPT AI prompts	**43**
c. Showing sustained interest and involvement in ChatGPT AI-enhanced language learning tasks	**47**

Observing students as they were working in two groups respectively has brought about the forthcoming results. In terms of students' engagement,32 students who presumably participated actively in ChatGPT AI activities,29 students demonstrated enthusiasm and interest in language learning tasks ,and 28 believed ChatGPT AI facilitated group discussions.

As to Communication Skills,32students effectively used language skills during GPT AI interactions, 18 students collaborated with peers in language related tasks and finally 19 students who demonstrated improved communication skills better than the past.

On the Use of ChatGPT AI,39 students declared using ChatGPT when needed,30 students comfortably navigated with ChatGPT, while 27 students profited from GPT instructions.

What concerns Adaptability,12 students showed flexibility in integrating ChatGPT AI into learning activities,29 Adapted themselves to ChatGPT AI-enhanced tutorials easily, and finally 28 used GPT AI feedback to improve.

With Overall Participation, two similar groups of students making 47 actively participated in the entire total duration, and showed sustained interest and involvement in ChatGPT AI.Finally,43 students collaborated with peers and responded to ChatGPT AI prompts

Discussions

Discussion of Table 1: As the table indicates, the majority of students (22) showed satisfaction and confidence with their current English skills against 04 not confident at all,06 slightly confident,10 moderately confident

Discussion of Table 2: What concerns challenges in language learning, the majority of students (11) opted for technology distractions with (10) on motivation and persistence. Two equal groups, with 08 students each, attribute challenges to fear of making mistakes and to grammar and syntax, while another group with(07 students) believe this pertains to vocabulary acquisition. Finally, one group of (06) attribute challenges to ineffective learning Methods.

Discussion of Table 3: Concerning technology use,25 students as majority claim they use technology regularly,11 of them use it occasionally,10 use it occasionally against 04 who declared using it frequently. To conclude, the majority use technology for different language learning purposes.

Discussion of Table 4: In relation to students' expectations from tutorials using GPT Chat,12 students expect it as an assistance for complex matters,11 students wished for its availability,10 considers it as a natural understanding to what they feel and grope to,09 students wish it as a language support in times of need. Among all these,08students expect its use in interactivity.

Discussion of Table 5:What concerns students' personal rating, two groups of 20 students respectively responded they are very satisfactory,05 student stand neutral,02 unsatisfactory and 03 very unsatisfactory.

Discussion of Table 6: Concerning the benefit of ChatGPT, 20 students think it is very beneficial in terms of immediate feedback,11students consider it a good motivational factor,10 students see it as

engaging and fun learning experience and finally 09 students consider it as a supplemental learning resource.

Conclusion

The use of GPT technology in education has the potential to revolutionize the learning experience, enabling personalized and interactive learning, and empowering students with access to a vast amount of knowledge and information. However, the use of GPT technology also poses challenges and limitations, including concerns about learners' cheating, data privacy, and bias. It is important for educators and policymakers to consider these challenges and take appropriate measures to address them in the future especially the one concerning cheating at exams.

Ultimately, the success of using GPT technology in education will depend on how well it is integrated into the learning process and how effectively it is applied to enhance students' learning and achievement. By adopting a thoughtful and balanced approach to the use of GPT technology, teachers and education staff can unlock its potential to transform education and empower the next generation of learners.

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