Enhancing Education through ChatGPT Technology

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Abstract: The following work discusses the use of ChatGPT, a neural network tool, in the education system. While some view ChatGPT as harmful due to its ability to generate original text that is difficult to distinguish from human-written text, it also has positive features that can improve the efficiency and accuracy of various processes. The work suggests several ways that ChatGPT can be used to enhance the education experience, including personalized learning experiences, 24/7 learning support, enhancing critical thinking, language learning, and distance learning. Also, some of the disadvantages are covered to illustrate that the technology has some negative sides too.

1 INTRODUCTION

The efficacy of the use of emerging new technology leaves much to be desired. In the last few decades, we have been introduced to ground-breaking technologies that are dramatically changing and shaping our present and future. These technologies are immediately absorbed by leading companies to automate their industries to a new echelon. However, in the masses, these technologies are often met with repulsion. "New" means something with an unknown background, which is capable of having both good and bad in it. Due to these unknown factors, prejudgment, or misinformation, these technologies might not be used to their maximum capacity. Of course, with the passage of time, one can see its advantages and utilize it properly.

It is believed that the time period of new revolutions that shape humankind's living standards becomes more frequent. In the last few decades, it has been hard to keep up with the new technologies that emerge every day, some of which are broadly discussed, and some of which barely get noted. Lately, there has been a trending use of neural networks. Almost everything nowadays consists of neural networks. The use of neural networks pushes any industry to a new level of fortune. However, some of its use is met with negativity. For example, a popular neural network tool is ChatGPT. Although it is believed to harm the education system with its capabilities to generate original text, which is hard to distinguish from human-written text, there are some positive features it can bring to the table.

ChatGPT is an advanced analytical tool that is capable of sifting through large volumes of unclassified information and extracting relevant insights. It is a powerful solution for searching through large amounts of data that would otherwise be difficult to manage. When used correctly, ChatGPT has many capabilities that can be leveraged to improve the efficiency and accuracy of various processes. With its ability to analyze natural language, ChatGPT can extract meaning from text that is difficult for humans to interpret. It also has the capability to generate human-like text and personalize outputs based on user preferences. These capabilities make ChatGPT an ideal solution for a

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wide range of applications, from content creation to personalized learning experiences.

2 GENERAL USE OF TECHNOLOGY TO ENHANCE THE EXPERIENCE IN EDUCATION

The use of technology listed below may be suggestions that best suits educational purposes. However, some of these suggestions may already be fully utilized or may be used in the future within the education system.

2.1 Personalized Learning Experiences

One may recall from their school or higher education classes that some students grasped certain topics better than others, even though they were all taught by the same teacher at the same time, using the same method of delivery. This can be attributed to the fact that everyone's learning style is unique, and with a specific approach, information can be presented in a way that is easily understandable. Therefore, it is important for educators to understand and adapt to the diverse learning needs of their students in order to facilitate effective learning.

ChatGPT's personalized way of interaction can enrich learning abilities by morphing with the person and knowing exactly what they want. With its advanced natural language processing capabilities, ChatGPT can adapt to each student's learning style and pace, providing tailored support and feedback that meets their individual needs. This personalized approach can help students build confidence, stay motivated, and achieve success in their studies. Through its interactive exercises, games, and customized learning materials, ChatGPT can create a rich and engaging learning experience that goes beyond traditional classroom instruction [1, 2].

2.2 24/7 Learning Support from ChatGPT

Although there are other resources available in the market to assist with inquiries through any time, what sets ChatGPT apart is its ability to clearly understand the user's query and provide accurate responses (which can be related to the first mentioned “Personalized learning experiences”), without overwhelming them with billions of possible answers or links, as some search engines tend to do. Additionally, ChatGPT can provide continuous support and assistance to students at any time of the day or night, helping them to stay on track and achieve their learning goals. This personalized and round-the-clock support can help to enhance the overall learning experience and promote better learning outcomes [3, 4]

2.3 Enhancing Critical Thinking

The usage of ChatGPT as a tool for information gathering not only provides new insights to the process but also sharpens skills in information analysis. Its collaborations with enquirers work as symbiosis, as both ChatGPT and the enquirer are able to increase their abilities to generate the most appropriate information possible. With ChatGPT's advanced analytical capabilities and the enquirer's domain-specific knowledge, the tool is able to provide highly accurate and personalized responses that enhance critical thinking and promote a deeper understanding of the subject matter [5].

2.3 Language Learning

The versatility of ChatGPT technology extends to language learning as well, making language learning apps unnecessary. With its natural language processing abilities, ChatGPT can provide learners with personalized language learning experiences, tailored to their interests and abilities. ChatGPT is not only capable of translating languages, but it can also provide interactive language learning experiences that enable learners to practice their language skills.

In addition to this, ChatGPT eliminates the need for different language carriers to interact with each other to learn foreign languages. Instead, learners can practice their language skills by conversing with ChatGPT, which can provide personalized feedback and authentic language input, such as news articles or social media posts. This can make language learning more accessible to learners who may not have access to native speakers or language exchange programs [6,7].

To conclude, the tool’s language learning capabilities are extensive and provide learners with personalized language learning experiences. With ChatGPT, learners can practice their language skills in a safe, supportive, and engaging environment.

2.2 Distance Learning and Virtual Classrooms

ChatGPT is an advanced tool that can significantly benefit distance learning and virtual classrooms by providing real-time assistance, personalized learning experiences, and enhanced communication. ChatGPT can serve as a virtual assistant, providing immediate support and answers to questions in real-time, which can be helpful for students who may need clarification on a topic. Additionally, ChatGPT's personalized learning experiences can tailor instruction to individual students' needs and preferences, providing custom resources, practice exercises, and assessments that match their skill level and interests. Moreover, ChatGPT can improve communication between teachers and students in virtual classrooms, facilitating discussions, answering questions, and providing feedback. These capabilities make ChatGPT an ideal solution for a wide range of applications, from content creation to personalized learning experiences.

3 DISADVANTAGES USING THE TECHNOLOGY IN EDUCATION

Every technology has its own set of advantages and disadvantages. While some technologies may have more advantages than disadvantages, it is important to acknowledge both sides. One of the major disadvantages of technology, particularly in the case of AI-powered language models like ChatGPT, is the issue of trust. These models generate responses based on the input they are fed, meaning that if they are asked to provide an answer to a fictional question with two possible answers, it may be difficult to determine which one the model will choose. This is because language models are trained on large amounts of data, which can be chaotic and contradictory. As a result, the model may provide an answer that is not accurate or reliable. To address this issue, it is important to fact-check the information provided by the technology and not rely solely on its output. While AI can provide helpful insights and suggestions, it should not be the sole basis for decision-making in education or any other field [7].

Another disadvantage of the technology, specifically in the context of ChatGPT, is that it may limit interaction with real people. As humans, we are social beings and we thrive on social interaction. However, with the increasing use of technology like ChatGPT, there is a risk of people becoming overly dependent on it for communication and interaction. This can have negative effects on our psychological well-being, leading to feelings of isolation, loneliness, and even depression. Furthermore, dependence on ChatGPT may limit our ability to improve and learn new skills. While the technology can provide us with quick and easy answers to our questions, it may not necessarily help us develop critical thinking and problem-solving skills. In fact, reliance on ChatGPT may hinder our ability to think creatively and independently, and may even lead to a decrease in our cognitive abilities over time. Therefore, it is important to use ChatGPT in moderation and not become overly reliant on it. It should be used as a tool to aid in learning and problem-solving, rather than a replacement for human interaction and independent thinking.

It is widely recognized that the technology relies on outdated data. For instance, the prevalent version utilized in 2023 generates information sourced from 2021, which indicates a dearth of up-to-date information to draw upon, thus leading to limited information output. While it is true that some of the training data used for ChatGPT may come from past years, the technology is constantly being updated with new data and information. It is also important to note that the time period from which the data is gathered can vary depending on the specific use case and application of the technology.

The technology has several other minor disadvantages that cannot be ignored, but there is a scenario for generating hateful or malicious content using the technology, which is fact is a big disadvantage. Due to its ability to generate any given inquiry, the technology can be exploited by criminals to create misinformation and propaganda to manipulate people's beliefs and actions. This misuse of the technology could lead to widespread harm and societal unrest.

4 CONCLUSIONS

To conclude, emerging technologies are changing the world, and while some are met with repulsion, others have the potential to revolutionize various industries, including education. ChatGPT is one such technology that has advanced natural language processing capabilities and can be used to personalize the learning experience, provide 24/7 learning support, enhance critical thinking, facilitate language learning, and improve distance learning and virtual classrooms. Its ability to sift through large volumes of unclassified information and extract relevant insights makes it an ideal solution for various applications. However, it is important to use this technology ethically and responsibly to maximize its potential benefits and minimize any negative impacts. As technology continues to advance, it is up to us to adapt and leverage these tools to create a better future.

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