

Resembling ChatGPT-Generated Science Topics with Human-Written Text-Books (A Case Study)

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Abstract

The release and rapid diffusion of Generative Pre-Trainer Transformer (ChatGPT) have caught the attention of educators worldwide. No doubt that ChatGPT and similar generative AI models have attracted hundreds of millions of users and have become part of the public discourse. Rapid developments in generative AI technologies have led to an increased interest in their capabilities and applications. Savango et al (2023) stated that, ChatGPT may provide valuable support for drafting manuscripts, summarizing articles, translating languages, and refining text structures or wording. According to Durak (2023), these technologies have the ability to mimic human-like conversations with users, such as providing information and assistance, offering emotional support. The most frequently used of these technologies is ChatGPT.

This study is evaluating effectiveness and differences between learners' concepts acquirement by generative AI (ChatGPT) and human-generated texts in educational contexts. By determining learner's comprehension level and their attitudes, the study identifies key distinctions between the two types of content. Results showed a statistically significant difference at the significance level ($\alpha \leq 0.05$) between the means of the experimental and control groups in the post-testing in favor of the experimental group. Overall, findings indicated constructive impact of this technology on both students' acquisition of scientific concepts and positive attitudes towards science.