

Chapter 2

Exploring the Pedagogical Implications of ChatGPT in Education: Pedagogical Perspective

ABSTRACT

In this chapter, the authors explore the pedagogical implication of (ChatGPT) using content analysis. It has several applications in education, teaching, and research. The authors have performed the content analysis to observe the perception of the ChatGPT tool among the general population. The research uses the keywords “ChatGPT and pedagogy” and searches webpages, news articles, white papers, and university guidelines. The researchers use qualitative methodology to create the word cloud of the context extracted from included web pages. The authors have identified ChatGPT as an opportunity to use it as a learning tool, and everyone, including students and teachers, can take help from the application. Teachers are concerned about the increasing prevalence of plagiarism and academic misconduct. ChatGPT is a productive tool for brainstorming and developing the content outline. The reliability of ChatGPT is a question; everyone must use the tool carefully and vet their search from a reliable source or original source of knowledge and information.

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BACKGROUND

ChatGPT is a public tool developed by OpenAI using Generative Pretrained Transformer (GPT) (Lund & Wang, 2023; Rudolph et al., 2023). While the previous class of AI models have primarily been Deep Learning (DL) models, designed to learn and recognize patterns in data, Large Language Model (LLM) was developed recently by OpenAI. It is a new type of AI algorithm trained to predict the likelihood of a given sequence of words based on the context of the words that come before it. As a result, if LLMs are trained on enough text data, they can produce novel word sequences. ChatGPT is powered by GPT3.5, an LLM trained on the OpenAI 175B parameter foundation model and a large corpus of text data from the Internet via reinforcement and supervised learning methods.

ChatGPT is useful in education. Several articles have been published to endorse its efficiency in education. For example, ChatGPT demonstrated a high level of concordance and insight in United States Medical Licensing Exam (USMLE), which consists of three exams: Step 1, Step 2CK, and Step 3. Without any extra instruction or reinforcement, ChatGPT passed all three exams with a score at or around the passing mark (Kung et al., 2023). Another study has confirmed the efficiency of ChatGPT in answering the questions in the USMLE (Gilson et al., 2023).

The term “digital era” refers to the period in history characterized by the widespread use and integration of digital technologies in various aspects of society, including communication, commerce, education, and entertainment. The current technological revolution has reached all social classes and its educative use by teachers has not gone unnoticed. The introduction of 2.0 tools has become a reality in many classrooms. In order to evaluate the digital competence of teachers, different dimensions must be considered, including knowledge and educative use (Guillén-Gámez et al., 2021).

The objective of the current study is to understand the pedagogical implications of ChatGPT in education from current available online resources. The research questions include the following items.

1. What are the advantages and disadvantages of using ChatGPT in education?
2. How to utilize the potential pedagogical ChatGPT in education?

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