Title:	The impact of ChatGPT on the acquisition of English indirect questions: A mixed-methods study
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Abstract

ChatGPT, a large language model (LLM)-powered chatbot developed by OpenAI, has infiltrated into different sectors across societies, with language education not being an exception. Previous scholarly efforts have discussed the incorporation of the chatbot in the language classroom and surveyed the attitudes of students and teachers towards the technology. However, there has been a lack of positivist studies that probe the effectiveness of ChatGPT in specific components (e.g., syntax and pragmatics) of second or foreign language acquisition. The present study seeks to bridge the gap by administering a classroom experiment to measure the effects of ChatGPT-generated feedback on the acquisition of English indirect questions by Hong Kong senior secondary students ($n = 12$). To account for the quantitative findings, a series of semi-structured qualitative interviews were conducted to gain learner perceptions of ChatGPT. Inferential statistics indicated that there were no significant differences in post-test scores between the experimental group (ChatGPT-generated feedback) and the control group (human teacher feedback). Meanwhile, the participants who took part in the interviews ($n = 4$) displayed mixed-to-negative perceptions of the LLM-powered chatbot. Several hypotheses are formulated based on the descriptive statistics of the quantitative experiment to provide future directions for research in the field of technology-mediated language learning.

Reflection

I would like to, first of all, dedicate this brainchild of mine to all the educators who devote their lives to enlightening souls. As the embodiment of learning throughout my two decades of life, this capstone project symbolises the denouement of my four-year undergraduate studies and, simultaneously, the beginning of my professional pursuit of technology-mediated language learning. The project provided me with a strong impetus to not only synthesise my prior knowledge of linguistics acquired from a broad spectrum of undergraduate courses, but also step out of my comfort zone by studying frequentist statistics and the R programming language.

Before signing off, I would like to express my sincere gratitude to my supervisor, Prof. Haerim Hwang, who kindly shared her expertise on tackling this relatively new problem. I am also indebted to Prof. Jookyoung Jung for inspiring my experimental design and Prof. Wilkinson Gonzales for informal advice on methodological issues.