Chapter 12
Chatbots as Conversation Partners:
Effect on Perceived Writing Ability

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ABSTRACT

This chapter discusses the use of chatbots as conversation partners for language learning and studies the impact of chatbot-based conversation practice and corrective feedback on language learners' writing proficiency and attitudes towards chatbots. The chapter describes a study where 34 English language learners at a Japanese university were offered text-based conversation practice with Replika, a generative AI chatbot. Half of the participants received corrective feedback, addressing vocabulary, grammar, and syntax errors in their messages, while the other half practiced without feedback. Pre-test and post-test surveys assessed improvement in perceived writing performance, and general feedback on chatbot-based practice was collected. Replika, despite its non-educational design, was effective at personalizing interactions and its use resulted in significant improvement in perceived writing proficiency. Despite minor issues during conversation practices, the general impression of the chatbot is positive suggesting its potential for an English language classroom use.

1. INTRODUCTION

In recent years, the emergence of generative AI has revived the discussions as to whether it was possible to have a machine produce natural human-like speech. This question for a long time has been the center of chatbot research (Coniam, 2014), where chatbots showed a promise to become tireless conversation partners for language learners. It was hoped that chatbots would be able to offer language learners a virtually limitless, authentic conversation practice in a non-judgmental environment, where one was able to make mistakes and try again. That hope was shared by educators who would be able to provide individual feedback to their students while saving time by means of using chatbot technology.

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While the quality of conversations with chatbots varied in the past, with language learners often reporting boring, circular conversations that showed little sign of human-like interaction ability (Coniam, 2014; Fryer et al., 2020; Huang et al., 2022), generative AI demonstrated potential to make chatbots sound human. This would allow millions of language learners to experience authentic conversation and obtain unlimited practice in their target language without the need to look for the human language partner.

Considering the progress in the field of generative AI, the objective of this chapter is to discuss the impressions that English language learners at a Japanese university have in regards to text-based conversation practice with a generative AI chatbot Replika, and to explore the potential applications of said chatbot in an English language classroom.

2. LITERATURE REVIEW

2.1 Instant Messaging in Education

Instant Messaging (IM) generally refers to synchronous or asynchronous communication using text messages, sent between messaging applications on mobile devices (Andujar, 2016, p.63). An earlier version of IM, texting, also involved the exchange of messages, albeit in a strictly asynchronous environment using SMS (So, 2016, p.33). Using text messaging as a language learning method is a rather controversial topic. The opponents of the practice often highlight the devastating impact that text messaging has on one's language grammar and spelling, reshaping standard language into unrecognizable slang and lowering literacy of young people (Cingel & Sundar, 2012; Harman & Sato, 2011; Kaid Mohammed Ali et al., 2019). Understandably so, the medium of text messaging is often reduced to abbreviations, textese spelling, incomplete sentences, and reduced punctuation, to accommodate the little time the interaction with text messages requires.

However, there is a growing body of evidence that points out to the opposite side of the argument. Exchanging text messages can provide benefits for general, as well as classroom use. Since text messages offer immediate communication, fun and less formal style of interaction, widespread accessibility, and privacy of communication (Lauricella & Kay, 2013), some applications with IM functionality have been used for peer support and collaborative learning in academia. One study by So (2016) illustrates the use of the WhatsApp mobile application for academic communication. In the study, a treatment group was provided with supplementary materials and teacher guidance through WhatsApp, while attending regular classes. The results of the study demonstrated significantly higher learning achievements among the treatment group.

The use of IM has also been explored in language learning. Text messages have been used in research with children, demonstrating that using text messages positively affects children's grammar knowledge (Van Dijk et al., 2016), increases phonological and phonetic awareness (Plester et al., 2008; Plester et al., 2009), increases writing speed, as well as reading speed and accuracy (Kemp & Bushnell, 2011). In adults, a study by Baek et al. (2017) explored the use of KakaoTalk, an IM application, where Korean language learners were paired with native Korean speakers, using KakaoTalk as a platform for conversational practice alongside weekly face-to-face meetings. The study reported the acquisition of new vocabulary through context-based conversations and the convenience of receiving quick language-related feedback at any time. Furthermore, an Iranian study (Namaziandost et al., 2020) focused on vocabulary learning through WhatsApp, with the experimental group outperforming the control group