Developing chatbots as virtual clients: A pilot study using empathy training as an example

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Abstract

Purpose: The purpose of this research is to develop chatbots as virtual clients (VCs) for empathy training.

Methods: The virtual clients are developed and tested based on chatbots using professional knowledge of empathy training. Chatbots are powered by natural language processing engines and trained by corpora of dialogues involving various emotions. As

such, using chatbots serving as VCs allows the interlocutor to practice empathy skills with diversity and richness. After chatbots are successfully transformed into VCs, 22 volunteers from the Department of Guidance and Counseling are recruited to experience the interaction with VCs, followed by immediately conducting user experience surveys to understand users' subjective feelings and thoughts for evaluating the ease of use and effectiveness of VC.

Results: Chatbots are successfully transformed into VCs by implementing corpora of emotions into "custom brain" of chatbots. The content of corpora includes case scenarios that are consistent with the goals of empathy training for undergraduates in guidance and counseling or psychotherapy. The test results show that regardless of the questionnaire survey or feedback on open-ended questions, most of the testers think that the appearance and body movements of the chatbot are cute and interesting, and they would not feel pressure to practice empathy by talking to VCs. The testers consider chatbots suitable and helpful for practicing empathy with VCs so as to improve their empathy skills.

Conclusions: Virtual clients based on chatbots are successfully developed and can be used as an auxiliary tool for empathy training. In addition to increasing practice hours and opportunities for empathy training, using VCs allows prospective counselors to

avoid ethical problems and pressure caused by directly facing the real-life client in the learning stage of developing counseling skills. Besides, using VCs as training tools would help continuing counseling education in situations like the coronavirus disease 2019 pandemic.