

# Designing Virtual Reality Role-Playing Activities to Foster Compassion and Role-Taking Ability

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## ABSTRACT

In Japan, moral education aims to cultivate compassion—a core moral value that encompasses the ability to adopt another's perspective, also known as role-taking ability (RTA) as described by Selman. With the rapid advancement of virtual reality (VR), learners can now embody avatars and engage in role-playing experiences. We hypothesized that if students could assume different roles within a VR environment by switching avatars, they could develop their RTA more effectively. The objective of this study is to design a learning activity (LA) in which learners engage in role-based discussions using avatars in VR and to examine its effectiveness in fostering RTA through practical implementation. Specifically, we developed an LA where participants debate a social issue within a metaverse-based virtual conference room. The discussion focused on gender roles, with students alternating between three roles: a male avatar, a female avatar, and an observer. Each session lasted approximately one hour, and a total of 18 university students participated in groups of three. To assess RTA acquisition, we administered the Interpersonal Reactivity Index (IRI) as a pre- and post-test. Additionally, a post-session questionnaire was conducted to evaluate the perceived usefulness of the LA. The analysis of the questionnaire results revealed a statistically significant difference (at the 1% level) in one item each within the Empathic Concern (EC) and Fantasy Scale (FS) dimensions of the IRI. Furthermore, participants generally rated the LA as highly useful.

**Keywords:** moral education; role-taking ability; virtual reality; avatar; metaverse