

# **Effects of Collaborative VR Creation on Intercultural Communicative Competence and Pragmatic Competence in EFL Education**

## **Abstract**

This study adopted a pretest-posttest design to investigate the effects of collaborative virtual reality (VR) creation on EFL learners' intercultural communicative competence (ICC) and pragmatic competence. It also aimed to explore learners' perceptions of VR integration into the curriculum. Thirty-three seventh-grade students from a rural junior high school in Kaohsiung City participated in this study. Research instruments include intercultural communicative competence questionnaires (ICCs), multiple-choice tests (MCTs), written discourse completion tasks (WDCTs), and a perception questionnaire.

The treatment spanned 34 weeks and was divided into two stages. Stage 1 consisted of two weeks of explicit instruction on request strategies and modifications. Stage 2 involved collaborative VR creation on four cultural themes using Thinglink VR, conducted over 32 weeks under the researcher's supervision. Pretests (ICCs, MCTs, WDCTs) were administered prior to the intervention, and posttests along with a perception questionnaire were conducted afterward. Both quantitative and qualitative methods were employed for data analysis.

Results showed significant improvements in learners' ICC across knowledge, skills, attitude, and awareness, as well as in their comprehension and production of English requests, indicating enhanced pragmatic competence. Furthermore, learners demonstrated positive perceptions toward the VR-integrated curriculum, highlighting its engaging nature and its contribution to cultural knowledge, creativity, and communication skills. These findings suggest that collaborative VR projects can serve as an effective pedagogical strategy for developing junior high school students' intercultural and pragmatic competence in EFL contexts.

**Keywords:** virtual reality (VR), intercultural communicative competence, pragmatic competence, Thinglink

# 虛擬實境協同創作對國中生跨文化溝通能力與英語語用能力之影響

## 摘要

本研究採用前測—後測研究設計，旨在探討英語為外語學習者（EFL）透過協同虛擬實境（VR）創作活動，對其跨文化溝通能力（intercultural communicative competence, ICC）與語用能力（pragmatic competence）之影響，並進一步了解學生對 VR 融入課程的看法。參與對象為高雄市某偏鄉國中 33 位七年級學生。研究工具包括跨文化溝通能力問卷（ICCQs）、選擇題測驗（MCTs）、言談情境填充問卷（WDCTs）與學習者觀感問卷。

課程實驗為期 34 週，分為兩階段。第一階段為期 2 週，進行英語請求語用策略與修辭的語用教學；第二階段為期 32 週，由研究者指導學生使用 Thinglink VR 協同創作四個文化主題的 VR 專案。於課程介入前實施 ICCQs、MCTs 與 WDCTs 前測，課程結束後進行相同後測及觀感問卷調查。本研究採量化與質性分析並行以進行資料分析。

研究結果顯示，學生在 ICC 四個面向（知識、技能、態度與意識）皆有顯著提升，且在英文請求語的理解與產出方面亦展現明顯進步，顯示其英語語用能力有所增強。此外，學生對 VR 融入課程展現高度正向的學習感受，認為此課程具趣味性，並有助於文化知識、創造力與溝通能力之提升。本研究結果顯示，運用 Thinglink VR 進行協同虛擬實境創作活動，可作為提升國中生跨文化與英語語用能力的有效教學策略。

關鍵詞：虛擬實境（VR）、跨文化溝通能力、語用能力、Thinglink