

Cultivating CLIL pre-service teachers' competencies in utilizing Chatgpt and other GenAI for teaching through a teacher training program

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Abstract

Part 1: Overview of the Study

The use of GenAI in education has been a trend. Yet, the investigation into how preservice teachers learn to utilize GenAI in teaching is still scarce. This study investigates how an 18-week teacher training program cultivates fifty-three Content and Language Integrated Learning (CLIL) preservice teachers from Taiwan to develop their competencies in utilizing chatgpt and other GenAI to facilitate teaching.

Guided by experiential learning, the training implements five rounds of an iterative process of active experimentation (generating and refining prompts into lesson planning), concrete experience (assessing knowledge and skills, self-analysis of prompts), reflective observation (evaluating prompt outcomes for lesson planning), and concept abstraction (connecting lesson planning to CLIL education contexts).

The study utilizes a mixed-methods approach, triangulating quantitative and qualitative data. Quantitative data encompasses pretest and posttest of knowledge and skill assessment, TPACK(GenAI)-CLIL questionnaire, and classification of over 2500 participant-generated prompts. Qualitative data includes individual records of prompts, self-analysis, and reflections over five rounds, along with 53 CLIL lesson plans and classroom discussion records. The findings show that for the prompts identified, “pre-lesson planning” and “preparation for teaching materials” are ranked the top two commonly used functions among seven categories to support teaching and “language translation support” as the top among five categories for students to initiate prompts by themselves. Second, the quantitative results of tests show that teacher training significantly enhances participants' knowledge and competencies in utilizing chatgpt and other GenAI into lesson planning. The qualitative findings reveal that although preservice teachers' initial technological proficiency with GenAI remains high, their pedagogical integration of GenAI into CLIL lessons significantly improves. Additionally, awareness of GenAI risks emerges during the teacher training program, emphasizing the importance of fostering elementary school students' social awareness of GenAI. The study discusses theoretical and pedagogical implications for GenAI teacher education research and practice.

Part 2: Relevance to Theme

This study illustrates a significant transition in educational practices, specifically in the realm of teacher training and pedagogy, propelled by the integration of GenAI technology. This transition encompasses the shift from traditional teaching methods to innovative approaches that leverage artificial intelligence to enhance language education. The study documents the journey of preservice teachers as they transition from initial familiarity with GenAI to proficient integration of this technology into their teaching practices. Additionally, it highlights the emergence of awareness regarding the risks associated with GenAI, indicating a transition towards a more nuanced understanding of its implications in educational settings. Thus, the abstract underscores the transformative transition occurring in education as it embraces and adapts to advancements in technology and pedagogy, ultimately shaping the future landscape of teaching and learning.

Speak or Not to Speak?: The Effects of Immersive Virtual Reality on Oral Performance for Taiwanese EFL Students

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Abstract

Part 1: Overview of the Study

The challenges of learning English in a non-English-speaking country, particularly in EFL environments, are well-documented. Factors such as limited exposure to authentic language input, lack of confidence, and fear of making mistakes contribute to low willingness to communicate, hindering language development. This reluctance to communicate affects oral performance, with students often hesitating to participate in classroom discussions due to speaking anxiety.

Educators have explored various teaching methods to enhance communication skills, with immersive virtual reality (iVR) emerging as a potential tool for language learning. This technology offers simulated environments where learners can interact globally, fostering engagement and presence. Research suggests that iVR technology facilitates highly interactive learning experiences for social interaction, engages students in dialogue practice without leaving the classroom, and enhances language skills, particularly in speaking proficiency.

However, current studies on iVR predominantly focus on adults in higher education, leaving a gap in understanding its effectiveness for enhancing second language speaking, particularly among EFL elementary students. To address this gap, this study investigates the effects of iVR (Oculus Quest 2 headset) with Immerse app on enhancing oral performance for EFL elementary students. The 10-week study invited 49 Taiwanese fifth-grade students from a rural school to participate in topics related to ordering food. Three intact classes were randomly assigned to the iVR, desktop, and control groups (traditional role-play), respectively. Quantitative data were collected using pre- and post-questionnaires (including willingness to communicate and speaking anxiety), pre- and post-tests (writing), and post-tests (including speaking, perception, and presence). Qualitative data were collected by semi-structured interviews to obtain students' experiences and feedback.

Analysis of covariance was used to investigate the effect on speaking performance by partially out the post-test (writing) as a covariate. The statistical analyses show that the iVR group outperformed other groups on the speaking test. The mixed-effect ANOVA was conducted to evaluate students' willingness to communicate and speaking anxiety. There was no significant difference among the three groups, although video recordings did show their willingness to try to speak, especially for low-achievers. From interviews, it should be noted that some students complained that the headset was too heavy. Nonetheless, it was observed that students in the iVR group were encouraged and motivated to speak, fostering a collaborative

environment where participants willingly assisted each other, leading to better interaction and collaboration.

Part 2: Relevance to Theme

Overall, the findings of this study are expected to contribute to developing more comprehensive teaching strategies using VR technology and apps for EFL learners, particularly in elementary settings. Language teachers can implement computer-assisted language learning techniques into their teaching strategies to enhance student's communicative competence and interaction. The study offers valuable insights for educators, researchers, and app developers of immersive VR glasses and language learning apps for more effective usage among younger learners.