

Creation and application of immersive video materials for language assessment: Towards the future of CALL

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Abstract of Dissertation

This research project is aimed at studying the material design, development, and application of modern immersive virtual reality technologies (360-degree video and VR headsets) for English language assessment from the point of view of the teacher as the developer. Throughout this study, we developed and tested 360-degree immersive video materials based on existing computer-based English tests (i.e. GTEC, IELTS, etc.).

As technological tools become more embedded into our daily lives, computer assisted language learning (CALL) has also become an essential part of language education. However, this rapid technological progress overwhelms many language teachers and students, creating a gap between developers and users. One manifestation of the ubiquity of CALL is computer-based standardized language testing (CBT). In recent years, CBT has become a prerequisite for access to worldwide educational and job opportunities. Nevertheless, students face problems related to anxiety, costs, and access when taking these tests.

One of the most recent technological tools to become widely available is Virtual Reality (VR). In the past decade, emerging research in VR as an instructional tool has been active in fields such as medicine, entertainment, cultural heritage education and language teaching and learning. Previous studies demonstrate that advantages of VR tools include intuitive interaction and being able to experience conditions that are usually unavailable. We hypothesize that some of the issues related to CBT may be solved effectively through VR materials.

By describing the design, development, and application process in this dissertation, we explored the following topics: the knowledge and equipment necessary to create VR materials as educators, the suitable settings for VR in language assessment and the ways in which VR materials in this setting might affect test-takers' performance and experience.

The instructional materials developed in this study were tested and compared to current widely used computer-based tests through experimental trials with university students. Furthermore, the language teacher's perspective was studied through experimental workshops. The findings indicate that it was possible for language teachers with limited experience in multimedia development to design, develop and successfully implement VR assessment materials. Experimental test scores also indicated positive results in student performance and

engagement.

This study explored one aspect of VR in language teaching and learning. Considering the current developing technologies and remote learning situations; in future research we hope that the efforts achieved in this study open the way for possibilities to develop new learning systems that benefit educators and learners.