Title: THE EXPERIENCE OF PRESENCE AND SOCIAL PRESENCE IN A VIRTUAL LEARNING ENVIRONMENT AS IMPACTED BY THE AFFORDANCE OF MOVEMENT ENABLED BY MOTION TRACKING

This research is directed to inform Virtual Reality (VR) research and practice in the field of education by examining the impact of tracking a participant's movement in a Virtual Learning Environment (VLE) to control movement of the virtual camera to simulate the occurrence or lack of occurrence of proximity. The purpose of this study is to explore the relationship between presence and employing the tracking of an individual's body movement to control the virtual camera position in a mixed reality environment to simulate movement among virtual objects and agents. The hypothesis is that the affordance of movement has a positive impact on the perceptions and experience of both physical presence and social presence of the user in the environment.

For this research, social presence refers to the sense of connection with another consciousness, real or simulated. The virtual environment being used for this research is the TLE TeachLivE™ mixed reality classroom populated with virtual students. This research uses a mixed methods multimodal approach to measuring social presence that includes subjective, behavioral, and physiological measures. The participants (n=20) reported higher levels of physical presence and social presence at a statistically significant level when they experienced the point-of-view movement condition of the study. There was also a significant difference between the control and experimental group on the standard deviations of heart rates. The triangulation of the data types was not conclusive, but there were anecdotal instances in which factors of social presence were aligned with increased heart rate.

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Approved for distribution by Charles Hughes, Committee Chair, on July 13, 2015.

The public is welcome to attend.