Telepresence and Education and Skills Training

Introduction:

In this article Melissa Markaridian Selverian and Ha Sung Hwang go into the new age of VLEs or Virtual Learning Environments. With the fairly recent innovation of computers, the classroom environment has changed drastically. It has gone from chalk boards with pen and paper to smart boards with tablets. With this shift in technological advancement teaching styles have been pushed to evolve and take advantage of what technology has to offer. Teachers are moving towards more interactive classroom environments with things like Virtual Reality as well as digital photos, videos and more. VLEs are used to evoke psychological perceptions of spatial immersion and social interaction between teachers, learners, and subject matter. Selverian and Hwang break down the two different over-all classifications of how presence shows up in the classroom, one-way sensory and two-way interactive. Both of these come with their own classroom environments as well as presence.

The Study:

The study is intended to help us better understand the virtual learning environment. To do this, the study had three main research questions: 1) How do technologies and
teaching strategies in training in educational VLEs relate to classifications of one-way sensory and two-way interactive technologies and teaching strategies in the education literature? 2) How do the learners’ psychological responses reported in the studies relate to the categorizations of spatial and social presence in the communication literature? 3) What relationships does the research show among the one-way sensory and two-way interactive technologies and teaching strategies, spatial and social presence, and learning in the VLEs?

**One-Way Sensory:**

One-way sensory is having “real” teachers and the more traditional way of teaching. In this model, there is little to no digital technology being used in the classroom. The teachers are relying on photographs, videos, tables, text, pictures, etc. to assist their teaching techniques. These techniques aim to target one or more of the senses and evoke a psychological vision. Students expressed that during this style of teaching as compared to the two-way interactive, there was more of a communal feel. They were in the same room as their fellow students and the teacher, which brought them into more presence. They were happy to be interacting with actual things not through a screen. As per the study, the ideals of presence were broken down into two categories, spatial presence and social presence. **Spatial presence** refers to the presence one feels within their “real” physical environment, for example, seeing, hearing, touching real physical persons, places, or things. **Social presence** involves perceptions of technology-mediated social interactions with persons, places, and things. For one-way sensory, spatial presence was clearly more predominant because it goes hand in hand with social interaction and being in the same
room as those around you. This way of learning had a great impact on the students and patients. The evaluation suggests that higher levels of spatial presence correlates with the achievement of lower-level learning objectives, or objectives involving little manipulation of fact and little formation of ideas and concepts. Some examples of lower-level learning are memorizing, understanding, or repeating tasks.

**Two-Way Interactive:**

Two-way interactive technology and teaching strategy is a set of technologies and plans for presenting technologies designed to evoke the psychological illusions of teachers and/or subject matter. It aims to allow the teacher and/or subject matter to see, hear, touch, or in some other way respond to the learner. This is done through stimulating one or more of the senses. The technologies used in two-way interactive learning were prominently instant chat software, audio/video conferencing systems, and real time video networks. The study showed that there were more indications of social presence with the two-way interactive technology and teaching strategy, as opposed to one-way sensory. The evaluation suggests that higher levels of social presence are correlated with the achievement of higher-level learning objectives. Higher-level learning objectives involve the manipulation of facts into cognitive ideas and concepts. Examples of higher-level learning are analyzing and synthesizing.

**Conclusion:**

The two different forms of VLEs, one-way sensory and two-way interactive, have been shown to be useful in different situations. One-way sensory uses technologies whose
primary purpose is to present text, visual, or verbal cues, including structured websites, one-way TV broadcasts, and audio-visual text software. Two-way interactive uses technologies that include instant chat software, audio video conferencing systems, and real time video networks. Multimedia web sites and interactive group software programs are included technologies in both one-way sensory and two-way interactive. The evaluation suggests that one-way sensory showed the most indication of spatial presence, while two-way interactive showed the most indication of social presence. The highest levels of learning were associated with the highest levels of combined social and spatial presence, thus a combination of one-way sensory and two-way interactive teaching and technologies, which may be an ideal solution to the challenges of effective teaching and learning.