
**Telepresence and education and skills training**

The reading and videos this week are related with “virtual learning environment” (VLE) in which learners can experience spatial immersion and social interaction. Selverian and Hwang (2003) analyzed findings of seventeen research studies related with VLE and tried to find out the relationship among technologies, teaching strategies, presence, and learning.

**Virtual Learning Environment (VLE)**

VLE is a new multimedia learning environment “in which the designer attempts to use technologies and teaching strategies to evoke psychological perceptions of spatial immersion (being there) and social interaction among teachers, learners, and subject matter” (Selverian & Hwang, 2003). The history of VLE dated back to the distance-learning environment in late twentieth century when computer technologies became widely available. Communicating though emails, online discussions, and two-way communication gave people a psychological illusion of social interaction between students and teachers. When educators started to realize the equal importance of illusion of spatial immersion and illusion of social interaction, distance-learning environment began to transform into VLE (Selverian & Hwang, 2003).

**Technology and Teaching Strategy**

Traditional leaning models, such as face-to-face teaching style, built foundation for the
study of the relationship between technologies and teaching strategies, and psychological responses in virtual learning environment (Selverian & Hwang, 2003), because development of technology will not change the “principles of psychological perceptions, sensory stimuli, and learning” (Selverian & Hwang, 2003). In Selverian and Hwang’s research, they mentioned two classifications for technologies and teaching strategies. The first was one-way sensory, which evoked sensory psychological illusion, such as hearing, seeing and touching. The second one was two-way interactive, which evoked psychological illusion of interaction with other subjects.

**Two types of presence in VLE**

Selverian and Hwang (2003) stated that in prior studies, researches could not prove their hypotheses that higher sensory and interactive technologies would bring higher spatial and social illusions for teachers and learners. This was just their forecast. However, there were two types of presence that helped them measure spatial and social illusion in VLE: one was spatial presence and the other one was social presence (Selverian & Hwang, 2003).

**Results**

After evaluate seventeen researches, Selverian and Hwang (2003) identified that relationship among technologies, teaching strategies, spatial and social presence, and learning in VLEs. They separated seventeen VLE researches into two categories by learning objectives, higher-level learning objectives and lower-level learning objective.

In educational VLEs (higher-level learning objectives), they found that two-way interactive technologies and strategies were related with teachers and subject matters’ social presence; and that one-way sensory technologies and strategies were related with teachers and subject matter’s spatial presence. In training VLEs (lower-level learning objectives), they
found that there was relationship among spatial satisfaction, spatial presence and lower-level learning achievement. When people immersed in an environment deeply, they had high spatial presence and achieved high-level learning satisfaction in training VLEs (Selverian & Hwang, 2003).

Based on the findings, Selverian and Hwang (2003) concluded three points in their studies: first, one-way sensory technologies and strategies brought satisfaction of spatial presence, and two-way interactive technologies and strategies brought satisfaction of social presence; second, intensive spatial presence helped people achieve lower-level leaning objectives, and intensive social presence helped people achieve higher-level learning objectives; third, “when levels of both spatial and social presence were high, the achievement of higher-level learning objectives were highest in educational VLEs.”

By identifying relationship among technologies, teaching strategies, spatial and social presence, educators are able to design more effective virtual learning environment for learners in the future, which can not only improve the spatial and social illusion but also achievement of learning.