

ABSTRACT

The purpose of this study was to determine whether collaboration occurred within 3D virtual learning environments. Furthermore, if collaboration occurred were the elements of Nonaka and Takeuchi's knowledge spiral present as well? By creating a 3D didactic constructivist virtual environment, conversations were observed for collaborative elements. Data for this mixed-design study were gathered through three sources, the 3D virtual environment, a survey created by the researcher, and follow-up interviews.

Findings revealed that the five (5) forms of collaboration: Elementary Clarification, In-Depth Clarification, Inference, Judgment, and Application, amplified the knowledge creation process and indeed occur with virtual learning environments. It was also determined that all four (4) requirements for a knowledge spiral: socialization, externalization, combination, and internalization, did occur during the period of this research within the 3D environment. Thus the creation of new knowledge as knowledge passed from tacit to explicit and explicit to tacit (Nonaka & Takeuchi, 1995) within this 3D virtual learning environment. Qualitative results further suggested that after a period of adaptation by the user, most participants were less likely to get off-topic and focused more on the project given to them.