

An SEM-based Investigation on Students' Technology Acceptance Levels of Using Open and Selected Resources in a Web-based Information-Searching Activity

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This study assesses the 10th grader students' intentions to use a problem-based learning system in open or selected resource mode. A survey was employed to validate items from past research. Using the extended Technology Acceptance Model (TAM) as a research framework, a total of 418 students from a vocational school in Taiwan responded to a 15-item questionnaire containing five constructs: quality of the Problem-based Learning system (QPBL), perceived enjoyment (PE), perceived usefulness (PU), perceived ease of use (PEU), and intention to use (IU). Structural equation modeling (SEM) was employed as the main method of analysis in this study. A multi-group analysis of invariance was performed on the two samples which had 204 students participated in the open resource mode and 214 students participated in the selected resource mode, respectively. The results showed that the 15-item measure, the factor loading pattern and factor loadings appeared to be equivalent across the two groups examined for the five paths.

The structural weights were equivalent across all the two groups for the five paths. This study confirmed that perceived enjoyment, perceived ease of use, and perceived usefulness were key determinants of behavioral intention in using the information searching environment for problem-based learning activities. The students in the two groups both had positive attitudes toward using the open or selected resources. Both of the quality of the problem-based learning systems were confirmed to be useful (experimental group: mean=4.96, SD=1.16; control group: mean=4.89; SD=1.21). For novices' easier search, the teacher could take the selected resource mode (the information searching system in the experimental group) into account. On the contrary, for experienced students, for perceiving high usefulness, the teacher could apply the open resource mode (the information searching system in the control group) to foster students' evaluation of the correctness of the information more.