**The Learning Effectiveness of Technical High School Students For Cutting Vegetables through Virtual Reality**

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**Abstract**

This study explores whether students have the spatial ability, technology innovativeness, cognitive load, experiential value and learning effectiveness of cutting vegetables through virtual reality, and whether students with different backgrounds have differences in spatial ability, technology innovativeness, cognitive load, experiential value and learning outcomes. This study conducted a five-point questionnaire analysis based on the questionnaire survey method for science and technology innovativeness, cognitive load, experiential value-epistemic, utilitarian, hedonic. The main target is two private technical high school catering students, 196 and 171 respectively, and 367 valid questionnaires. This study used descriptive statistics, first-order confirmatory factor analysis, reliability and validity test, path analysis, structural equation model and independent sample T-test for data analysis. The results of this study found that: (1) Spatial ability is negatively correlated with cognitive load, (2) Technology innovativeness is not related to cognitive load, (3) Cognitive load is negatively related to epistemic, utilitarian and hedonic value, (4) Epistemic and hedonic value are positively related to learning outcomes. (5) Utilitarian value is not related to learning outcomes.

**Keywords:**

**Spatial ability, Technology innovativeness, Virtual reality, Cognitive load, Learning effectiveness, Experiential value**