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Title

**Correlations Between 3D Animation Test Score,  
Spatial Ability And Computer Experiences  
Amongst Multimedia Major University Students**

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Deficits in spatial abilities, particularly Spatial Visualization and Spatial Rotation affect the performance of 3D Computer Animation among Multimedia major university students. Lacking of necessary spatial ability factors may affect students' performance in 3D Computer Animation. Some students experienced greater difficulties in performing a complicated visualization task required in creating three-dimensional (3D) objects and animation. The purpose of this study was to examine the relationship between Spatial Ability, Computer Experiences and the 3D Computer Animation performance among Multimedia major undergraduate students at Malaysian public university. In addition, this study also examined whether Spatial Ability could be used to predict students' performance in 3D Computer animation course. Specifically the study attempted, 1) to investigate the correlation between Spatial Rotation test score and students' performance in 3D Computer Animation test score among multimedia major undergraduate students, 2) to investigate the

correlation between Spatial Visualization test score and students' performance in 3D Computer Animation test score among multimedia major undergraduate students, 3) to investigate the correlation between Computer Understanding and Experience Scale (CUE) and performance in 3D Computer Animation course among multimedia major undergraduate students, 4) to determine whether Spatial Ability is the possible predictors of successful performance of 3D Computer Animation course among multimedia major undergraduate students and, 5) to examine significant differences between Spatial Ability test score and a CUE test score based on demographics with their performance in 3D Computer Animation. The participants of this study were 188 (male = 52 and females = 136) Multimedia major students from six public universities. Five instruments were utilized in this study namely, 1) demographic questionnaire, 2) Spatial Ability psychometric test was adapted from the *Kit of Factor-Referenced Cognitive Tests* (1976), 3) Computer Understanding and Experience Scale questionnaire, 4) 3D Computer Animation test score and, 5) *STPM* and *SPM* academic transcripts. Analyzing the data using Pearson Correlations, it was found that there was a significant relationship between Spatial Rotation and Spatial Visualization with the performance of 3D Computer Animation. The Multiple Regression analysis revealed that Spatial Ability is a significant predictor for 3D Computer Animation performances. Overall, Spatial Ability was found to be predictive of 3D Computer Animation performance among Multimedia major students. Additionally, gender, race and academic backgrounds were found to be highly significant for successful comprehension of 3D Computer Animation course. The coefficient of determination  $R^2$  of the Spatial Ability showed 47.4% of the variance in the 3D Computer Animation test score.