

**Universiti Teknologi MARA**

**Web-Based Multimedia Educational Application Using  
Scaffolding Approach**

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## **ABSTRACT**

The purpose of this project is to produce the mathematic courseware to educate students in learning mathematics in order to make students become an independent learner. Based on the research, students are difficult to understand mathematic in traditional learning environment. Therefore, the researcher developed the courseware to help students excel in mathematic subject which focus solely on multiplication. “Palangku” is modified method that adapted the application of bars in the abacus was used as a technique for solve multiplication question. Scaffolding approach is primarily effective in teaching method in which students or learner need to be more self-reliant, such as in technology-based learning. Scaffolding is a teaching method which encourages students to figure on prior knowledge. Moreover, through Scaffolding technique, students will be guided in accordance with the needs of students and guidance will be reduced when students were proficient. Besides, the use of multimedia technology such as courseware makes it easier to student in learning. It is proven that the courseware contributed to significant interactive effects and improvement throughout the learning process as compared to using traditional learning method. The result showed that the use of the courseware in learning provides a significant improvement in students’ performance compared to traditional learning environment.

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