UNIVERSITI TEKNOLOGI MARA

BIJAK FIQH MIRATH: A COURSEWARE SYSTEM FOR STPM USING MAYER'S COGNITIVE THEORY

MUNIRAH BINTI MESUWAN

BACHELOR OF INFORMATION SYSTEMS (HONS.) BUSINESS COMPUTING

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ABSTRACT

BIJAK FIQH MIRATH: A Courseware System for STPM Using Mayer's Cognitive Theory is an interactive web-based learning platform developed to support STPM students in learning Fiqh Mirath under the Syariah subject. The project aims to overcome the lack of interactivity, multimedia support, and opportunities for self-directed learning in learning with printed notes, textbooks, and explanations on the whiteboard. Therefore, the project aimed to identify the courseware requirements, design and develop the courseware based on Mayer's Cognitive Theory of Multimedia Learning, and evaluate its functionality and usability. The Analysis, Design, Development, Implementation, and Evaluation was directed by the ADDIE model. Courseware consists of structured digital notes, instructional videos, interactive activities, quizzes, and assessment questions based on the STPM. Eight Mayer principles—Coherence, Signalling, Redundancy, Spatial Contiguity, Temporal Contiguity, Segmenting, Pre-training, and Personalization—were applied to organise the learning materials, reduce unnecessary cognitive load, and improve understanding. Functionality testing, expert evaluation, and a user survey with the System Usability Scale were used to evaluate. The functionality results confirmed that the main courseware features operated as intended, while expert feedback indicated that the content, multimedia design, usability, and interactivity were appropriate. The user evaluation with 35 respondents gave an average SUS score of 83.07, which was rated as Excellent. Future improvements include more visual and animated learning resources, detailed step-by-step assessment feedback, topic-based learning paths, accessibility controls, user accounts, and progress tracking features.