UNIVERSITI TEKNOLOGI MARA

SCIEASE: E-LEARNING ON SCIENCE YEAR 3 FOR STUDENTS OF SK KUBANG IKAN BASED ON THE CONSTRUCTIVIST THEORY

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ABSTRACT

Science education at the primary school level needs a more interactive approach so that it is possible for the pupils to grasp scientific ideas effectively. Traditional teaching methods involving much use of textbooks and teacher-centered teaching method may decrease the interest and active participation of pupils during the teaching process. In order to solve the above problems, this project has created SCIEASE: E-Learning on Science Year 3 for Students of SK Kubang Ikan Based on the Constructivist Theory which is an interactive web-based learning method which comprises of multimedia, educational games, quiz and exploratory activities in order to make pupils learn in a more effective way. The main objective of this project is to find out the requirement of the creation of e-learning system, design and develop the system based on the Constructivist Theory and to evaluate the system. This project has made use of ADDIE instructional design model which consists of five steps such as analysis, design, development, implementation and evaluation. The courseware has been developed by HTML, CSS, JavaScript and PHP. Usability evaluation was carried out with 30 Year 3 pupils from SK Kubang Ikan using a five-point Likert scale questionnaire. The functionality testing confirmed that all system functions operated successfully without critical errors. Expert evaluation produced positive feedback regarding the system's interface design, multimedia elements, learning activities, navigation, and application of Constructivist Theory, with several recommendations for future enhancement. The usability evaluation achieved an overall mean score of 4.57 out of 5.00, indicating a very high level of user acceptance. Pupils particularly appreciated the interactive games, multimedia content, and engaging learning activities, demonstrating that SCIEASE effectively supported Science learning. In conclusion, SCIEASE successfully provides an interactive and meaningful e-learning environment that promotes active learning among Year 3 pupils. Future work should include additional Science topics, more exploratory real-life activities, richer animations for complex concepts, and the integration of Artificial Intelligence (AI)-assisted explanations and chatbot support to provide personalised learning assistance.