

# **Study the Effectiveness of Implementing Web-based Formative Assessment 'Ask-Hint Strategy' in e-Learning Environment**

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This research aimed to investigate the effectiveness of implementing the Game Assessment Module of the Web-based Assessment and Test Analysis system (GAM-WATA) in an e-Learning environment of junior high school Nature and Science Technology Curriculum. The unique feedback strategy in the GAM-WATA was named 'Ask-Hint Strategy'. This research tried to use the GAM-WATA to construct a Web-based formative assessment environment in which the tests are quiz-game-like and contains multiple-choice items. Its design aimed to motivate students to participate in Web-based formative assessment. Quasi-experimental design was adopted in this research and 494 seventh grade students from 12 classes were involved. We constructed five different types of Web-based formative assessment, including the two different designs of 'Ask-Hint Strategy'. Each class as a unit was randomly assigned to the five different groups. The results concluded that students in five different groups have different learning effectiveness and have different options about when and how they use 'Ask-Hint Strategy'.

Keywords: WATA(Web-based Assessment and Test Analysis system), GAM-WATA, e-Learning, Web-based formative assessment, Ask-Hint Strategy

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