ENHANCING THE QUALITY OF NATURAL SCIENCE LEARNING EVALUATION THROUGH THE DEVELOPMENT OF BLENDED LEARNING STRATEGY

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ABSTRACT

This study aims to improve digital literacy and conceptual understanding of students in the master program of science education by using an adaptive e-learning portal from Yogyakarta State University called Be-Smart, in the Science Learning Evaluation Course. Be-Smart applies the concept of adaptive e-learning that innovatively uses the Moodle Learning Management System (LMS). Moodle-based adaptive e-learning design uses VAK (Visual, Auditorial, Khinesthetic) and Global-Sequential learning styles as the basis for adapting the appearance of material on the course pages (Surjono, 2015) so that six variations of adaptation are obtained; Global-Visual (G-V), Global-Auditory (G-A), Global-Kinesthetic (G-K), Sequential-Visual (S-V), Sequential-Auditory (S-A), and Sequential-Kinesthetic (S-K). The research method used was Research and Development (R&D) 'Five phases of instructional design' from Cennamo and Kalk (2005). The syntax of this spiral model is done cyclically through five development phases: (1) define, (2) design, (3) demonstrate, (4) develop, and (5) deliver. The results showed that the use of Be-Smart as an adaptive e-learning portal could significantly improve digital literacy and conceptual understanding of students participating in the Science Learning Evaluation Course.

Kata Kunci: *adaptive e-learning, BESMART, moodle LMS, digital literacy, concept understanding.*