The Impact of Web-Based Assessment for Learning on Higher Order Thinking Skills in Physics Learning

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ABSTRACT

The aim of this study was to explore the impact and mechanism of using web-based assessment for learning on the development of students' higher order thinking skills in the context of physics learning. The research approach used was a combination of quantitative and qualitative methods, employing a quasi-experimental pretest-posttest control group design. The study involved two groups of learners: one group was given web-based assessment, while the other group used conventional assessment methods. Validated instruments were used to measure higher order thinking skills. Data analysis was conducted using descriptive statistical methods, independent t-tests, and qualitative analysis. The results indicated that the use of Web-Based Assessment for Learning significantly improved students' higher order thinking skills in physics learning. This study reveals a deeper understanding of the interaction mechanism between learners and Web-Based Assessment for Learning, which leads to the development of higher-order thinking skills. The implication of this research is the importance of integrating technology in physics education to facilitate adaptive learning and promote the development of learners' higher-order thinking skills.

Kata Kunci: *Formative assessment, HOTS*