

DIAGNOSTIC ASSESSMENT BASED ON BLENDED LEARNING FOR NEEDS PRIMARY SCHOOL STUDENTS LEARNING MATHEMATICS

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ABSTRACT

Learning must basically be based on the analysis of learning needs, especially in mathematics learning. The analysis of learning needs can be a reference for learning according to student needs. So that mathematics learning will be more effective. Analysis of student learning needs can be done with diagnostic tests. The results of diagnostic tests can provide information about concepts that are already understood, concepts that are not yet understood and misconceptions about a particular concept. However, not every diagnostic test is suitable for the characteristics of elementary school students, because diagnostic tests have various levels that have an impact on the energy used by students and tend to burden students. Therefore, a diagnostic test instrument is needed in accordance with the characteristics of elementary school students which is packaged in the form of technology media / learning applications. The goal is to summarize and make it easier for students / teachers / parents to see and interpret diagnostic test results as a basis for determining student learning needs more effectively. Thus, this study aims to, (1) develop diagnostic test patterns that are in accordance with the development of elementary school students based on *blended learning*; (2) develop and test the quality of diagnostic assessment instruments; (3) develop a diagnostic assessment platform based on blended learning; and (4) *test the quality and effectiveness of using* a blended learning-based assessment platform.

The development of the assessment platform is basically developed through three stages.

The first stage of development uses an assessment model with the ADDIE model, this development analyzes diagnostic assessment patterns that match the characteristics of elementary school students. Then the second stage develops instruments using the Oriundo-Antonio test development model, this stage develops diagnostic test instruments and looks at the quality of the instrument (validity, reliability, level of difficulty, and information function). The third stage of development is to develop an assessment platform with the Borg & Gall development model. This stage packages diagnostic instruments in the application and makes an algorithm on the application of diagnostic test results to be able to produce a recommendation for student learning needs based on the results of diagnostic assessments. Data collection using test techniques, questionnaires, observations and FGDs (forum group discussions). Data analysis using descriptive statistics and IRT (item response theory).

The research produced diagnostic assessment instrument products and LMS-based diagnostic assessment platforms. Diagnostic assessment instruments are of good quality and can spot student misconceptions. In addition, diagnostic assessments provide recommendations for students so that students know the achievements and what must be learned. Diagnostic assessment platforms help teachers to know students' abilities, and are used as a foundation for lesson planning. Students find it easy and helpful to use the diagnostic assessment platform.

Kata Kunci: Assessment, Learning needs, Diagnosis