

**PENERAPAN *GRADED RESPONSE MODEL* (GRM) DALAM
PENGEMBANGAN ASESMEN KOMPETENSI MINIMUM LITERASI
NUMERIK BENTUK URAIAN UNTUK PESERTA DIDIK
SD.**

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ABSTRAK

Penelitian ini bertujuan mengembangkan instrumen AKM Literasi Numerik bentuk uraian untuk peserta didik SD dengan menerapkan GRM. Literasi numerik dalam penelitian ini mencakup indikator pemahaman bilangan, operasi hitung, interpretasi informasi kuantitatif, dan penerapan konsep matematika dalam kehidupan sehari-hari. Pengembangan instrumen menggunakan model *formative research* yang meliputi tahap pendahuluan, evaluasi diri, dan evaluasi formatif. Instrumen disusun dalam tiga paket soal, masing-masing berisi 10 butir soal uraian. Uji coba empiris instrumen melibatkan 120 peserta didik. Analisis butir dilakukan dengan menerapkan GRM. Hasil uji coba lapangan menunjukkan bahwa: (1) seluruh butir soal dinyatakan valid; (2) konsistensi internal berada pada kategori baik; (3) reliabilitas instrumen tinggi yang menunjukkan kestabilan dalam pengukuran; (4) Indeks daya beda menunjukkan bahwa butir soal mampu membedakan peserta didik berkemampuan tinggi dan rendah dengan baik; (5) taraf kesukaran bervariasi sehingga dapat mengukur kemampuan pada rentang yang luas; dan (6) probabilitas menjawab benar sesuai GRM meningkat seiring peningkatan kemampuan dari $\theta = -3$ hingga $\theta = 3$ pada setiap kategori penilaian. Hasil uji validitas konkuren melalui SEM-PLS menunjukkan bahwa paket tiga berhubungan signifikan dengan hasil belajar matematika dengan koefisien jalur 0,761 dan p-value 0,027. Nilai R^2 sebesar 0,568 menunjukkan bahwa model SEM-PLS dengan instrumen paket tiga mampu menjelaskan 56,8% variasi hasil belajar matematika. Paket satu tidak signifikan dengan p-value = 0,508, dan paket dua tidak signifikan dengan p-value = 0,562. Berdasarkan hasil tersebut, instrumen yang dikembangkan dinyatakan layak digunakan untuk memberikan gambaran kemampuan literasi numerik peserta didik SD.

Kata kunci: Asesmen Kompetensi Minimum, *Graded Response Model*, Instrumen Uraian, Literasi Numerik, Peserta Didik SD.

**APPLICATION OF THE GRADED RESPONSE MODEL (GRM) IN THE
DEVELOPMENT OF MINIMUM NUMERACY LITERACY COMPETENCY
ASSESSMENTS IN ESSAY FORM FOR ELEMENTARY SCHOOL
STUDENTS.**

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ABSTRACT

This study aims to develop an essay-based Minimum Competency Assessment (AKM) instrument for numeracy literacy for elementary school students by applying the Graded Response Model (GRM). Numeracy literacy in this study includes indicators of number comprehension, arithmetic operations, interpretation of quantitative information, and the application of mathematical concepts in everyday life. The instrument development employed a formative research model consisting of the preliminary stage, self-evaluation, and formative evaluation. The instrument was organized into three test packages, each containing 10 essay items. The empirical field testing involved 120 students. Item analysis was conducted using the GRM approach. The results of the field testing indicated that: (1) all items were declared valid; (2) internal consistency was categorized as good; (3) the instrument demonstrated high reliability, indicating stability in measurement; (4) the discrimination index showed that the items were able to effectively differentiate between high- and low-ability students; (5) item difficulty levels varied, enabling measurement across a wide range of abilities; and (6) the probability of obtaining higher scores increased in line with students' ability levels, ranging from $\theta = -3$ to $\theta = 3$ for each response category. The results of concurrent validity testing using SEM-PLS analysis showed that the third test package had a significant relationship with students' mathematics achievement, with a path coefficient of 0.761 and a p-value of 0.027. The R^2 value of 0.568 indicates that the SEM-PLS model with the third test package explains 56.8% of the variance in mathematics achievement. The first package was not significant (p-value = 0.508), and the second package was also not significant (p-value = 0.562). Based on these findings, the developed instrument is considered appropriate for providing a description of elementary school students' numeracy literacy abilities.

Keywords: *Minimum Competency Assessment, Graded Response Model, Essay-Based Instrument, Numeracy Literacy, Elementary School Students.*