PENGEMBANGAN SOAL MATEMATIKA *OPEN ENDED* UNTUK MELATIH KETERAMPILAN BERPIKIR TINGKAT TINGGI SISWA SMP KELAS VIII

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ABSTRAK

Penelitian ini memiliki tujuan menghasilkan soal yang dapat mengakomodasi ragam metode penyelesaian siswa dalam menjawab soal dan melatih keterampilan berpikir tingkat tinggi siswa SMP kelas VIII yang valid, praktis, serta efektif. Metode penelitian *Research and Development* (*R & D*) dengan model 4-D, *Define, Design, Develop,* dan *Disseminate*. Prosedur penelitian dilakukan hingga uji coba terbatas, yang bertempat di SMP Negeri 1 Tegallalang, SMP Negeri 2 Tegallalang, SMP Negeri 3 Tegallalang, dan SMP Negeri 4 Tegallalang. Adapun instrumen yang digunakan dalam penelitian ini yaitu menggunakan tes berupa soal uraian, dan angket penilaian kepraktisan soal. Soal terdiri dari 15 butir yaitu 3 butir soal memahami, 3 butir soal mengaplikasikan, 3 butir soal menganalisis, 3 butir soal mengevaluasi, dan 3 butir soal menciptakan. Banyak siswa yang digunakan sebagai sampel adalah 300 siswa, dengan materi dalam penelitian ini adalah teorema Pythagoras, lingkaran dan bangun ruang sisi datar. Hasil penelitian memperoleh 12 butir soal yang valid menurut penilaian para ahli materi dan ahli lapangan dengan formula Aiken'V (5 kategori dan 4 penilai) serta valid berdasarkan perhitungan uji korelasi; tingkat kepraktisan soal tinggi; serta keefektifan soal memenuhi persentase kriteria ketuntasan minimum belajar siswa di masing-masing sekolah. Dari hasil tersebut, disimpulkan bahwa soal matematika *open ended* layak digunakan sebagai tes formatif pada pembelajaran matematika SMP kelas VIII.

Kata kunci: pengembangan soal, *open ended*, *HOTS*

THE DEVELOPMENT OF MATHEMATICS OPEN-ENDED QUESTIONS TO PRACTICE HIGHER ORDER THINKING SKILLS OF EIGHT GRADE STUDENTS

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ABSTRACT

The aim of this study was to generate questions that can accommodate a variety of learning characteristics and practice the higher order thinking skills (HOTS) of eight grade students which were valid, practical, and effective. The research method applied in this study was Research and Development (R & D) with a 4-D model, Define, Design, Develop, and Disseminate. The research procedure was carried out until a limited trial, which took place at SMP Negeri 1 Tegallalang, SMP Negeri 2 Tegallalang, SMP Negeri 3 Tegallalang, and SMP Negeri 4 Tegallalang. The instrument used in this research was a test in the form of description questions and questionnaire about practicality assessment. The questions consisted of 15 items including 3 questions to determine the understanding, 3 questions to determine the applying skill, 3 questions to determine the analysing skill, 3 questions to determine the evaluating skill, and 3 questions to determine the creating skill. 300 students was selected as the sample with Pythagorean theorem, circles and plane shapes as the scope of the material in this study. The results found that 12 questions are valid according to the assessment of material experts and field experts based on the Aiken'V formula (5 categories and 4 assessors) and those questions are valid based on the calculation of the correlation test; the level of practicality of the questions is high; as well as the effectiveness of the questions accomplishes the percentage of students' minimum completeness criteria for learning in each school. From the findings, it can be concluded that the open-ended mathematics questions are worthy to be applied as formative tests for the level of learning mathematics of eight grade students.

Key words: *questions development, open ended, HOTS*