

ABSTRAK

Calista Mega Deagestiara, 2023. Pengembangan Permasalahan Matematis Bersifat *Open-Ended* Untuk Mengukur Kemampuan Berpikir Kreatif Peserta Didik Kelas VII Pada Materi Aljabar di SMP Stella Duce 1 Yogyakarta. Program Studi Pendidikan Matematika, Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sanata Dharma.

Tujuan dari penelitian ini yaitu 1) mendeskripsikan proses mengembangkan permasalahan aljabar yang bersifat *Open-Ended* untuk mengukur kemampuan berpikir kreatif pada peserta didik Kelas VII SMP Stella Duce 1 Yogyakarta menggunakan model pengembangan ADDIE, 2) mengetahui kevalidan, kepraktisan, dan hasil analisis butir soal dari permasalahan aljabar yang bersifat *Open-Ended* di dalam mengukur kemampuan berpikir kreatif pada peserta didik Kelas VII SMP Stella Duce 1 Yogyakarta.

Jenis penelitian ini adalah penelitian dan pengembangan (*Research and Development*) yang proses pengembangannya dilakukan berdasarkan model ADDIE (*Analysis, Design, Development, Implementation, Evaluation*). Subjek penelitian berjumlah 25 orang peserta didik dan 1 orang pendidik di SMP Stella Duce 1 Yogyakarta. Objek penelitian ini adalah perangkat soal *open-ended*. Jenis data dari penelitian terdiri dari data kuantitatif dan kualitatif. Teknik pengumpulan data terdiri dari wawancara dan observasi pembelajaran untuk analisis kebutuhan, angket uji kepraktisan, serta lembar validasi ahli materi. Teknik analisis data untuk wawancara dan observasi pembelajaran dilakukan dengan mereduksi data, mendeskripsikan hasil, dan menyimpulkan terkait kebutuhan dari subjek penelitian berdasarkan hasil wawancara dan observasi pembelajaran. Analisis data untuk angket dan lembar validasi diperoleh dengan melakukan perhitungan terhadap persentase tingkat kevalidan dan kepraktisan.

Hasil penelitian berupa 1) deskripsi proses mengembangkan perangkat soal aljabar kelas VII bersifat *open-ended* menggunakan model pengembangan ADDIE yang terdiri dari: a) pada tahapan *Analyze* dilakukan analisis kebutuhan sehingga diketahui jika kemampuan berpikir kreatif peserta didik pada materi aljabar masih rendah dan pendidik belum mengembangkan permasalahan aljabar yang bersifat *open-ended* untuk latihan soal mandiri; b) pada tahapan *Design* dilakukan perancangan soal berdasarkan indikator berpikir kreatif dan capaian pembelajaran aljabar kelas VII; c) pada tahapan *Development* dilakukan proses pengembangan terhadap rancangan produk soal dan uji validitas untuk perbaikan terhadap produk; d) pada tahapan *Implementation* dilakukan proses uji coba produk soal terhadap peserta didik subjek penelitian; e) pada tahapan *Evaluation* dilakukan uji kepraktisan dan analisis butir soal; 2) diketahui jika perangkat soal a) "Sangat Valid" dengan nilai 83,3%; b) "Praktis" dengan nilai 67,4%; c) dari hasil analisis butir soal diketahui jika terdapat 4 butir soal yang valid dan 1 butir soal yang tidak valid sehingga tidak dilakukan analisis reliabilitas, tingkat kesukaran, dan daya pembeda; tingkat reliabilitas soal sebesar 0,725 dengan kategori "Tinggi"; tingkat kesukaran 4 butir soal memiliki kategori "Sukar"; dan 2 butir soal masuk dalam kategori daya pembeda "Cukup" serta sisanya masuk dalam kategori daya pembeda "Rendah".

Kata kunci: aljabar, berpikir kreatif, *open-ended*

ABSTRACT

Calista Mega Deagestiara, 2023. *Development of Open-Ended Mathematical Problems to Measure the Creative Thinking Skills of Grade VII Students in Algebra Material at SMP Stella Duce 1 Yogyakarta. Mathematics Education Study Program, Department of Mathematics and Natural Sciences Education, Faculty of Teacher Training and Education, Sanata Dharma University.*

The objectives of this research are 1) to describe the process of developing Open-Ended algebraic problems to measure creative thinking skills of Grade VII students of SMP Stella Duce 1 Yogyakarta using the ADDIE development model, 2) to find out the validity, practicality, and results of item analysis from open-ended algebraic problems in measuring the creative thinking skills of Grade VII student of SMP Stella Duce 1 Yogyakarta.

This is a research and development type of study whose development process is carried out based on the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The research subjects were 25 students and 1 teacher at SMP Stella Duce 1 Yogyakarta. The object of this research was a set of open-ended questions. The type of data from this research consists of quantitative and qualitative data. Data collection techniques consisted of interviews and classroom observation for needs analysis, practicality test questionnaires, and material expert validation sheets. Data analysis techniques for interviews and classroom observation are carried out by reducing results data, describing the results, and concluding the needs of research subjects based on interview and observation results. Data analysis for questionnaires and validation sheets is carried out by calculating the percentage of validity and practicality.

The results of the research are 1) a description of the process of developing a set of open-ended algebraic questions for Grade VII using the ADDIE development model which consists of: a) at the Analyze stage, a needs analysis is carried out so that it is known if students' creative thinking skills in algebra material were low and teacher have not developed algebraic problems that are open-ended for individual exercise; b) at the Design stage, questions are designed based on indicators of creative thinking skills and grade VII algebra learning objectives; c) at the Development stage, the development process is carried out on product based on the problems design and validity tests is carried out for product improvements; d) at the Implementation stage, the product testing process is carried out on this research subject students; e) at the Evaluation stage, practicality tests and item analysis are carried out; 2) it is known if the set of questions is a) "Very Valid" with a value of 83.3%; b) "Practical" with a value of 67.4%; c) from the results of the item analysis it is known if there are 4 valid items and 1 invalid item so the analysis of reliability, difficulty index, and discrimination index is not carried out; the reliability coefficient of the questions is 0.725 at "High" category; 4 items in the category "Difficult" for difficulty index; and 2 items fall into the category of "Satisfactory" of discrimination index and the rest fall into the category of "Poor" discrimination index.

Keywords: algebra, creative thinking, open-ended