

## ABSTRAK

**Mualdin Sinurat.** Pengembangan Media Pembelajaran Matematika Berbantuan Program Flash untuk Meningkatkan Kemampuan Komunikasi Matematik Siswa SMP. Tesis: Program Pascasarjana Universitas Negeri Medan, 2015.

Penelitian ini bertujuan untuk : (1) mengembangkan media pembelajaran matematika berbantuan program Flash yang dapat meningkatkan kemampuan komunikasi matematik siswa dengan menerapkan strategi *student active learning*, (2) mengetahui tingkat validitas media pembelajaran matematika dengan program Flash yang menerapkan strategi *student active learning* dan (3) mengetahui keefektifan dan kepraktisan media pembelajaran yang dikembangkan pada mata pelajaran matematika materi Transformasi. Subjek dalam penelitian ini adalah siswa kelas VII SMP Putri Cahaya Medan sebanyak 42 orang dan objek penelitian ini adalah untuk kualitas media pembelajaran dari segi validitas, kepraktisan dan keefektifan untuk meningkatkan kemampuan komunikasi matematik siswa. Instrumen yang digunakan terdiri dari lembar validasi oleh ahli materi dan ahli media, lembar observasi aktivitas siswa, angket respons siswa serta tes kemampuan komunikasi matematik. Hasil penilaian para ahli terhadap media diperoleh bahwa persentase rata-rata penilaian ahli materi terhadap kualitas media adalah 96,12% kategori “sangat baik” dengan tingkat validitas 0,8156, ahli media (ahli desain dan perangkat lunak) 94,79% dengan tingkat validitas 0,7332 serta hasil ujicoba kelompok kecil 97,31% dengan tingkat validitas 0,72002 yang menyatakan bahwa media memadai dan layak digunakan. Dari hasil ujicoba lapangan diperoleh tingkat ketuntasan belajar siswa adalah 88,10% dengan peningkatan kemampuan komunikasi matematik siswa dalam kategori “tinggi” yang ditunjukkan oleh  $N\text{-gain} = 0,785$ , respon positif siswa terhadap media “sangat baik” dengan persentase 81,72% serta persentase kadar aktivitas siswa pada proses pembelajaran adalah memenuhi waktu ideal.

Berdasarkan data tersebut di atas maka dapat disimpulkan bahwa: media pembelajaran matematika berbantuan program flash dapat meningkatkan kemampuan komunikasi matematik siswa dan kualitas media adalah baik yaitu memenuhi kriteria valid, praktis dan efektif.

**Kata Kunci:** *Media pembelajaran, program flash, komunikasi matematik*

## ABSTRACT

**Mualdin Sinurat.** The developing of mathematics Learning Media by using Flash program to improve the Mathematics Communication Skills of junior high school students. Thesis : Postgraduate, Medan State University, 2015.

The aims of this study are : (1) to develop mathematics learning media by using Flash Program that can improve the students mathematics communication skills by applying the student active learning strategies. (2) to determine the validity of mathematics media learning with Flash Program by applying student active learning strategies and (3) to determine the effectiveness, practicality, the simplicity of the media learning those are developed in mathematics especially in Transformation material. The subjects in this study were the first grade of Putri Cahaya Medan junior high school that were consisted of 42 students and the object of the study was the qualities of the learning media from the validity, the effectiveness, practicality, to improve the students mathematics communication skills. The instruments that were used in this study consisted of the validation sheets that were taken from the material experts and media specialists, the observation sheets of the students' activities, the students' questionnaire responses, and the sheets of the also the Mathematics Communication Skills test.

The expert assessment results to the media, they found that the percentage of the average assessment of the experts to the quality of the media is about 96.12%, the category is "very good", the validity of 0,8156, media experts (expert design and software) 94,79%, the validity level is 0,7332 and the trial results of the small group are 97,31%, the validity level is 0,72002, it means that the media is adequate and suitable to use. From the field trials results, the level of the students mastery learning is 88.10%, with Increasing of the students mathematics communication skills in a "high" category that is showed by  $N - gain = 0,785$ , the positive responses of students to the media were "very good" with the percentage of 81.72% and the percentage of activity levels students in the learning process is to meet the ideal time. Based on the data above, it can be concluded that: the mathematics learning media by using Flash programs can improve the students' mathematics communication skill and the quality of the media is good that meets the valid criteria, practical and effective.

**Keywords:** *learning media, flash program, mathematical communication*