

ABSTRAK

Elita Erawati Silaban. Pengembangan Perangkat Pembelajaran Untuk Meningkatkan Kemampuan Komunikasi Matematis dan *Self-Efficacy* Siswa Melalui Model Pembelajaran *Problem Based Learning* Berbantuan Media Video Pembelajaran Kelas X SMA. Tesis. Medan: Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan, 2021.

Penelitian ini bertujuan untuk: 1) menganalisis validitas perangkat pembelajaran menggunakan model pembelajaran *Problem Based Learning* yang dikembangkan untuk meningkatkan kemampuan komunikasi matematis siswa dan *self-efficacy* siswa; 2) menganalisis kepraktisan perangkat pembelajaran berdasarkan model *Problem Based Learning* yang dikembangkan terhadap peningkatan kemampuan komunikasi matematis siswa dan *self-efficacy* siswa; 3) menganalisis keefektivan perangkat pembelajaran menggunakan model pembelajaran *Problem Based Learning* yang dikembangkan untuk meningkatkan kemampuan komunikasi matematis siswa dan *self-efficacy* siswa; 4) mengetahui pentingnya bantuan media pembelajaran berupa Video Pembelajaran untuk mencapai tujuan pembelajaran. Penelitian ini menggunakan model engembangan Dick & Carey dari Dick & Carey yang telah dimodifikasi dan dilaksanakan di kelas X SMA Negeri 18 Medan tahun ajaran 2020/2021. Hasil penelitian menunjukkan bahwa: 1) Validasi perangkat pembelajaran dikembangkan dengan nilai rerata total keseluruhannya berada pada nilai $4 \leq V_a < 5$ sehingga para ahli menyatakan perangkat pembelajaran tersebut dikategori “*valid*”; 2) perangkat pembelajaran berbasis *Problem Based Learning* yang telah dikembangkan sudah memenuhi kategori “praktis”; 3) Perangkat pembelajaran berorientasi model pembelajaran berbasis masalah yang dikembangkan memenuhi kriteria efektif; 4) Terdapat peningkatan yang signifikan antara rata-rata kemampuan komunikasi matematis dengan rata-rata N-gain pada uji coba I sebesar 0,25 yang berada pada kategori rendah meningkat pada uji coba II sebesar 0,37 yang berada pada kategori sedang dan *Self-Efficacy* siswa yang diberi perangkat pembelajaran berbasis *Problem Based Learning*.

Kata kunci: pengembangan perangkat pembelajaran, kemampuan komunikasi matematis, *self efficacy*, *problem based learning*, video pembelajaran



ABSTRACT

Elita Erawati Silaban. Development of Learning Devices to Improve Student's Mathematic and Self-Efficacy Communication Abilities Through The Problem Based Learning Learning Model Assisted by The Video Media Learning Class X SMA.
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This study aims to: 1) analyze the validity of learning devices using the Problem Based Learning model developed to improve students' mathematical communication abilities and students' self-efficacy; 2) to analyze the practicality of learning devices based on the Problem Based Learning model developed to increase students' mathematical communication abilities and students' self-efficacy; 3) analyzing the effectiveness of the learning devices using the Problem Based Learning learning model which was developed to improve students' mathematical communication abilities and students' self-efficacy; 4) knowing the importance of learning media assistance in the form of Learning Videos to achieve learning objectives. This study used a modified Dick & Carey development model from Dick & Carey and was implemented in 10th grade Senior High School 18 Medan for the 2020/2021 school year. The results showed that: 1) The validation of the learning devices was developed with the total mean value of the whole being at a value of $4 \leq V_a < 5$ so that the experts stated that the learning device was in the "valid" category; 2) Problem Based Learning learning devices that have been developed have met the "practical" category; 3) The developed learning devices oriented to the problem-based learning model meet the criteria of being effective; 4) There is a significant increase between the average mathematical communication abilities and the average N-gain in the first trial of 0.25 which is in the low category, increasing in the second trial of 0.37 which is in the medium and Self-Efficacy of students who are given learning devices based on Problem Based Learning.

Keywords: development of learning devices, mathematical communication abilities, self-efficacy, problem based learning, video media learning

