

ABSTRAK

MARIANI SITANGGANG. Pengembangan Media Pembelajaran Interaktif Melalui Model *Problem Based Learning* Untuk Meningkatkan Kemampuan Komunikasi Matematis dan *Self Regulated Learning* Siswa. Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan. 2023.

Penelitian ini bertujuan untuk (1) menghasilkan media pembelajaran interaktif berbasis model *Problem Based Learning* yang valid, (2) praktis, dan (3) efektif. Penelitian, (4) menganalisis peningkatan kemampuan komunikasi matematis siswa dengan menggunakan media pembelajaran interaktif dengan model *Problem Based Learning*, (5) menganalisis peningkatan kemampuan *self-regulated learning* siswa, dan (6) menganalisis proses jawaban yang digunakan oleh siswa. siswa untuk menyelesaikan tes kemampuan komunikasi matematis. Model 4D Thiagarajan, Semmel, dan Semmel (*Define, Design, Develop, Disseminate*) digunakan dalam penelitian pengembangan ini. Penelitian ini melibatkan siswa kelas VIII SMP N 1 Bandar. Media pembelajaran interaktif berupa RPP, LKS, penilaian komunikasi matematis, dan angket *self-regulated learning* merupakan hasil penelitian. Hasil penelitian menunjukkan bahwa (1) media pembelajaran interaktif yang dikembangkan melalui model *Problem Based Learning* valid pada uji coba II, (2) diperoleh praktik pada uji coba II, dan (3) efektif pada uji coba II. Pada uji coba II, media pembelajaran interaktif melalui model *Problem Based Learning* meningkatkan kemampuan komunikasi matematis siswa. Peningkatan diri siswa—pembelajaran yang dikontrol media. Pada uji coba II pembelajaran interaktif dengan menggunakan model *Problem Based Learning* mengalami peningkatan. (6) Siswa biasanya melakukan kesalahan konsep, operasi perhitungan dan prinsip ketika menjawab tes kemampuan komunikasi matematis. Menurut penelitian, guru dapat menggunakan perangkat pembelajaran ini untuk meningkatkan kemampuan komunikasi matematis siswa.

Kata Kunci: kemampuan komunikasi matematis, model *Problem Based Learning*, *self regulated learning*



ABSTRACT

MARIANI SITANGGANG. Development of Interactive Learning Media Through the Problem Based Learning Models to Improve Students' Mathematical Communication and Self Regulated Learning Skills. Mathematics Education Postgraduate Program. State University of Medan. 2023.

This research aims to (1) produce interactive learning media based on the Problem Based Learning model that is valid, (2) practical, and (3) effective. Research, (4) analyzes the increase in students' mathematical communication skills using interactive learning media with the Problem Based Learning model, (5) analyzes the increase in students' self-regulated learning abilities, and (6) analyzes the answer process used by students to complete a mathematical communication ability test. The Thiagarajan, Semmel, and Semmel 4D models (Define, Design, Develop, Disseminate) were used in this development research. This research involved class VIII students of SMP N 1 Bandar. Interactive learning media in the form of lesson plans, worksheets, mathematical communication assessments, and self-regulated learning questionnaires are the results of research. The research results showed that (1) the interactive learning media developed through the Problem Based Learning model was valid in trial II, (2) practice was obtained in trial II, and (3) it was effective in trial II. In trial II, interactive learning media through the Problem Based Learning model improved students' mathematical communication skills. Student self-improvement—media-controlled learning. In trial II, interactive learning using the Problem Based Learning model experienced an increase. (6) Students usually make errors in concepts, calculation operations and principles when answering mathematical communication ability tests. According to research, teachers can use this learning tool to improve students' mathematical communication skills..

Keywords: *mathematical communication skills, Problem Based Learning model, self regulated learning*