

ABSTRAK

LISA RAHMADANI POHAN. Pengaruh Model Pembelajaran Berbasis Masalah terhadap Kemampuan Representasi Matematis dan *Self-Confidence* Siswa. Tesis. Medan. Program Studi: Pendidikan Matematika Program Pascasarjana Universitas Negeri Medan (UNIMED). Desember 2025.

Enam tujuan penelitian ini adalah untuk memastikan (1) bagaimana model pembelajaran Problem Based Learning (PBL) memengaruhi kemampuan representasi matematis siswa; (2) bagaimana model pembelajaran PBL memengaruhi kepercayaan diri siswa; (3) bagaimana kemampuan representasi matematis siswa memengaruhi kemampuan matematika awal siswa; (4) bagaimana kepercayaan diri siswa memengaruhi kemampuan matematika awal mereka; (5) bagaimana model pembelajaran dan kemampuan awal matematika berinteraksi dengan kemampuan representasi matematis siswa; dan (6) bagaimana model pembelajaran dan kemampuan awal matematika berinteraksi dengan kepercayaan diri siswa. Penelitian eksperimen semu adalah istilah untuk jenis penelitian ini. Siswa kelas sebelas di MAN 2 Model Medan selama semester genap tahun ajaran 2024–2025 berpartisipasi dalam penelitian ini. 34 siswa dari dua kelas berbeda yang satu diajar menggunakan metodologi PBL dan yang lainnya menggunakan paradigma ekspositori dimasukkan dalam sampel penelitian. Tiga sumber data digunakan dalam penelitian ini: tes Kemampuan Matematika Awal, tes kemampuan representasi matematis, dan kuesioner kepercayaan diri siswa. Data dianalisis menggunakan ANOVA dua arah. Hasil analisis data menunjukkan bahwa: (1) kemampuan representasi matematis siswa dipengaruhi oleh model pembelajaran Berbasis Masalah (PBL); (2) model pembelajaran PBL memengaruhi rasa percaya diri siswa; (3) kemampuan representasi matematis siswa dipengaruhi oleh kemampuan awal matematika Tinggi, Sedang, dan Rendah; (4) rasa percaya diri siswa dipengaruhi oleh kemampuan awal matematika Tinggi, Sedang, dan Rendah; (5) terdapat interaksi antara model pembelajaran dan kemampuan awal matematika terhadap kemampuan representasi matematis siswa; dan (6) kemampuan representasi matematis siswa dipengaruhi oleh model pembelajaran dan kemampuan awal matematika mereka.

Kata Kunci: Model Pembelajaran *Problem Based Learning*, Kemampuan Representasi Matematis, *Self-Confidence*.

ABSTRACT

LISA RAHMADANI POHAN. The Effect of Problem-Based Learning Models on Students' Mathematical Representation Skills and Self-Confidence. Thesis. Medan. Study Program: Mathematics Education, Postgraduate Program, State University of Medan (UNIMED). December 2025.

The study's six objectives were to ascertain (1) how the Problem Based Learning (PBL) learning model affects students' mathematical representation abilities; (2) how the PBL learning model affects students' self-confidence; (3) how students' mathematical representation abilities affect students' initial mathematical abilities; (4) how students' self-confidence affects their initial mathematical abilities; (5) how the learning model and initial mathematical ability interacts with students' mathematical representation abilities; and (6) how the learning model and initial mathematical ability interacts with students' self-confidence. Quasi-experimental research is the term for this kind of study. Students in the eleventh grade at MAN 2 Model Medan during the even semester of the 2024–2025 school year participated in this study. 34 students from two distinct classes one taught using a PBL methodology and the other using an expository paradigm were included in the study's sample. Three sources of data were used in this study: an Initial Mathematical Ability test, a mathematical representation ability test, and a student self-confidence questionnaire. The data was analyzed using a two-way ANOVA. The following was discovered by data analysis: The study found that (1) students' mathematical representation abilities are influenced by the Problem Based Learning (PBL) learning model; (2) the PBL learning model influences students' self-confidence; (3) students' mathematical representation abilities are influenced by their High, Medium, and Low initial mathematical abilities; (4) students' self-confidence is influenced by their High, Medium, and Low initial mathematical abilities; (5) there is an interaction between the learning model and initial mathematical ability on students' mathematical representation abilities; and (6) students' mathematical representation abilities are influenced by the learning model and their initial mathematical abilities.

Keywords: Problem Based Learning Model, Mathematical Representation Ability, Self-Confidence.