ABSTRAK

PARDAMEAN SINAMBELA. Analisis Kemampuan *Multiple Representations* Matematis Dan *Self-Efficay* Siswa dengan Menerapkan Model Pembelajaran Berbasis Masalah (PBM) pada Siswa Kelas X SMA N 1 Pegagan Hilir. Tesis. Medan: Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan, 2021.

Penelitian ini bertujuan untuk menganalisis: (1) kemampuan multiple representations matematis siswa melalui pendekatan Pembelajaran Berbasis Masalah (PBM), (2) *Self-Effiacacy* siswa melalui pendekatan PBM. Subjek penelitian kelas X MIA 2 SMA Negeri 1 Pegagan Hilir yang berjumlah 32 siswa. Instrumen penelitian ini adalah tes kemampuan *multiple representations* matematis, Angket *Self-Efficacy* dan pedoman wawancara. Analisis data dilakukan dengan menggunakan analisis model Miles dan Huberman.

Hasil penelitian menunjukkan: (1) Kemampuan *multiple representations* matematis siswa melalui pendekatan PBM diperoleh bahwa sebanyak 8 siswa atau sebesar 28,125% pada kategori rendah, sebanyak 10 siswa atau sebesar 31,25% pada kategori sedang dan sebanyak 13 siswa atau sebesar 40,625% pada kategori tinggi. Indikator kemampuan *multiple representations* pada penelitian ini adalah Menjelaskan, Menggambarkan dan Ekspresi Matematis. Indikator *multiple representations* berupa indikator Menggambarkan lebih dominan dikuasai oleh siswa dalam menyelesaikan tes kemampuan *multiple representations* yang telah diberikan oleh guru dengan persentase sebanyak 78,43%, sedangkan pada indikator menjelaskan dari 32 siswa didapatkan bahwa 67,19% siswa mampu menguasai indikator tersebut, dan untuk indikator ekspresi matematis 55,93%, (2) *Self-Efficacy* siswa melalui pendekatan PBM bahwa sebanyak 6 siswa terdapat pada rentang skor *Self-Efficacy* $>$140 tergolong pada kriteria *self-efficacy* sangat tinggi dengan persentase 18,75%, sebanyak 16 siswa terdapat pada rentang skor $116 < X \leq 140$ dengan *self-efficacy* tinggi dengan persentase 50%, kemudian pada rentang skor $93 < X \leq 116$ terdapat 10 siswa untuk kriteria *self-efficacy sedang* dengan persentase 31,25%, dan (3) Kesulitan yang dialami siswa dalam menyelesaikan masalah matematika melalui pendekatan PBM mengalami kesulitan dari memahami konsep, kesulitan dalam menerapkan prinsip, dan juga kesulitan dalam masalah verbal.

Kata Kunci: Kemampuan *Multiple Representations*, *Self-Effiacy,* Pembelajaran Berbasis Masalah

ABSTRACT

PARDAMEAN SINAMBELA. Analysis of Students' Mathematical Multiple Representations Ability and Self-Efficacy by Applying Problem-Based Learning Model (PBM) to Class X Students of SMA N 1 Pegagan Hilir. Thesis. Medan: Postgraduate Mathematics Education Study Program, Medan State University, 2021.

This study aims to analyze: (1) students' mathematical multiple representations ability through the Problem-Based Learning (PBM) approach, (2) students' self-efficacy through the PBM approach. The research subjects were class X MIA 2 SMA Negeri 1 Pegagan Hilir, totaling 32 students. The research instrument is a test of mathematical multiple representations ability, a Self-Efficacy questionnaire and an interview guide. Data analysis was carried out using the Miles and Huberman model analysis.

The results showed: (1) The ability of students' mathematical multiple representations through the PBM approach was obtained that as many as 8 students or 28.125% in the low category, as many as 10 students or 31.25% in the medium category and as many as 13 students or 40.625% in the high category. The indicator of the ability of multiple representations in this study is explaination, visualitation and mathematical expression. The multiple representations indicator is in the form of visualitation indicator shows more dominant in completing the multiple representations ability test that has been given by the teacher with a percentage of 78.43%, while the indicator explaination that from 32 students it is found that 67.19% of students are able to master the indicator, and for indicators of mathematical expression 55.93%, (2) Self-Efficacy of students through the PBM approach that as many as 6 students are in the range of Self-Efficacy scores >140 belonging to very high self-efficacy criteria with a percentage of 18.75%, as many as 16 students there is a score range of $116 < X \leq 140$ with high self-efficacy with a percentage of 50%, then in a score range of $93 < X \leq 116$ there are 10 students for medium self-efficacy criteria with a percentage of 31.25%, and (3) Difficulties that experienced by students in solving mathematical problems through the PBM approach experienced difficulties from understanding concepts, difficulties in applying principles, and also difficulties itan in verbal problems.

Keywords: Multiple Representations Ability, Self-Effiacy, Problem-Based Learning