

ABSTRAK

Meiriyanti (2018) Meningkatkan Kemampuan Komunikasi Matematis dan *Self-Efficacy* Siswa SMA Melalui Model Pembelajaran Berbasis Masalah

Penelitian ini dilatarbelakangi oleh pentingnya kemampuan komunikasi matematis dan *self-efficacy* siswa. Namun, kemampuan komunikasi matematis dan *self-efficacy* siswa pada kenyataannya masih rendah. Oleh karena itu, diperlukan model pembelajaran aktif yang dapat meningkatkan kemampuan komunikasi dan *self-efficacy* siswa salah satunya adalah Pembelajaran Berbasis Masalah (PBM). Penelitian ini merupakan kuasi eksperimen yang menggunakan *Non-Equivalent Control Group Design*. Populasi dalam penelitian ini adalah seluruh siswa kelas XI pada salah satu SMA Negeri di Kabupaten Indragiri Hilir, Propinsi Riau. Sampel penelitian ditentukan berdasarkan teknik *purposive sampling*. Terpilih secara acak dua kelas yaitu kelas XI IPA 3 sebagai kelas eksperimen yang memperoleh Pembelajaran Berbasis Masalah dan kelas XI IPA 1 sebagai kelas kontrol yang memperoleh Pembelajaran Langsung. Materi yang dipilih dalam penelitian ini adalah Aplikasi Turunan Fungsi. Instrumen yang digunakan adalah tes dan non-tes. Analisis kuantitatif menggunakan uji-*t* dan uji *Mann-Whitney*. Sedangkan analisis kualitatif dilakukan secara deskriptif. Hasil penelitian menunjukkan bahwa: 1) Peningkatan kemampuan komunikasi matematis siswa yang memperoleh pembelajaran dengan model Pembelajaran Berbasis Masalah lebih baik secara signifikan daripada siswa yang memperoleh pembelajaran dengan model Pembelajaran Langsung; 2) Peningkatan kemampuan komunikasi matematis siswa yang memperoleh pembelajaran dengan model Pembelajaran Berbasis Masalah lebih baik secara signifikan daripada siswa yang memperoleh pembelajaran dengan model Pembelajaran Langsung ditinjau berdasarkan kategori KAM (tinggi, sedang, rendah); 3) *Self-efficacy* siswa yang memperoleh pembelajaran dengan model Pembelajaran Berbasis Masalah lebih baik daripada siswa yang memperoleh pembelajaran dengan model Pembelajaran Langsung; 4) Terdapat korelasi positif antara kemampuan komunikasi matematis dan *self-efficacy* siswa yang memperoleh model Pembelajaran Berbasis Masalah.

Kata Kunci : Pembelajaran Berbasis Masalah, Komunikasi Matematis, *Self-Efficacy*.

ABSTRACT

Meiriyanti (2018) Improving Mathematical Communication Ability and *Self-Efficacy* of Senior High School Students Through Problem-Based Learning Models

This research is motivated by the importance of students' mathematical communication ability and self-efficacy. However, in fact the ability of mathematical communication and student *self-efficacy* is still low. Therefore, it is needed an active learning models which can improve the students' communication ability and self-efficacy. One of the active learning models is called Problem Based Learning (PBL). This research conducted using a quasi experiment with Non-Equivalent Control Group Design. The population in this study is all students of grade XI in one of the State Senior High School in Indragiri Hilir Regency, Riau Province. The sample was determined by purposive sampling technique randomly. Students of class XI IPA 3 as the experimental class who were taught by Problem Based Learning model and students of class XI IPA 1 as the control class who were taught by Direct Learning. The material chosen in this research was the Function Derivative Application. The instruments used were test and non-test. Quantitative analysis used was the t-test and the Mann-Whitney test, meanwhile, qualitative analysis was done descriptively. The results showed that: 1) there was significant differences between improvement of mathematical communication ability of students who were taught by Problem Based Learning model to those who taught by Direct learning; 2) Based on KAM (high, medium, low), the improvement of mathematical communication ability of students who were taught by Problem Based Learning model was better than those who were by Direct Learning; 3) The achievement of students' *self-efficacy* who were taught by Problem Based Learning model was better than those who were by Direct Learning; 4) There was a positive correlation between communication ability and self-efficacy in students who were taught by using Problem Based Learning model.

Keywords: Problem Based Learning, Mathematical Communication, Self-Efficacy