

ABSTRAK

POPPY AMALIA. Pengembangan Perangkat Pembelajaran Berbasis *Problem Based Learning* untuk Meningkatkan Kemampuan Pemecahan Masalah Matematika dan *Self-Efficacy* Siswa SMK Swasta Ar-Rahman Medan. Tesis. Medan: Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan, 2019.

Penelitian ini bertujuan untuk: 1) Menghasilkan perangkat pembelajaran berbasis *Problem Based Learning* yang berkualitas pada materi Program Linear di kelas XI SMK Swasta Ar-Rahman Medan; 2) Menganalisis peningkatan kemampuan pemecahan masalah matematika siswa dengan menggunakan perangkat pembelajaran yang dikembangkan berbasis *Problem Based Learning*; 3) Menganalisis peningkatan *self-efficacy* siswa dengan menggunakan perangkat pembelajaran yang dikembangkan berbasis *Problem Based Learning*; 4) Menganalisis kesalahan jawaban siswa dalam menyelesaikan tes kemampuan pemecahan masalah matematika. Penelitian ini merupakan penelitian pengembangan dengan menggunakan model pengembangan 4-D Thiagarajan. Uji coba perangkat pembelajaran berbasis *Problem Based Learning* dilakukan sebanyak tiga kali untuk memperoleh perangkat yang berkualitas. Uji coba pertama dilakukan di kelas XI TKJ 1, uji coba kedua dilakukan di kelas XI TKJ 2 dan tahap penyebaran di kelas XI AK. Dari hasil penelitian diperoleh: 1) Perangkat pembelajaran berbasis *Problem Based Learning* yang dibelajarkan berkualitas baik pada saat tahap penyebaran; 2) Kemampuan pemecahan masalah matematika yang dibelajarkan dengan menggunakan perangkat *Problem Based Learning* meningkat pada tahap penyebaran; 3) *Self-efficacy* matematika siswa yang dibelajarkan dengan perangkat *Problem Based Learning* meningkat pada tahap penyebaran; 4) Ditinjau dari *Newman Error Analysis*, kesalahan siswa terjadi dikarenakan siswa tidak dapat menyerap informasi dengan baik, kurang telitinya siswa dalam pengoperasian perhitungan, kurang terlatihnya siswa dalam melakukan proses penyelesaian secara terurut dan kurangnya ketidakpercayaan diri siswa akan kemampuan yang dimiliki.

Kata kunci: pengembangan perangkat pembelajaran, model 4-D, *Problem Based Learning*, kemampuan pemecahan masalah matematika, *self-efficacy* matematika.



ABSTRACT

POPPY AMALIA. Development of Learning Materials Based on *Problem Based Learning* to Improve Problem Solving Ability and Self-Efficacy of SMK Swasta Ar-Rahman Medan Students. Thesis. Medan: Postgraduate Program in Mathematics Education State University of Medan. 2019.

This study aims to: 1) Produce qualified learning materials which is developed based on Problem Based Learning for class XI SMK Swasta Ar-Rahman Medan (science group 11th grade learners); 2) Analyzing the improvement of students' mathematic problem solving ability which is learned using Problem Based Learning materials; 3) Analyzing the improvement of students' mathematic self-efficacy which is learned using Problem Based Learning materials; 4) Analyzing students' errors in solving mathematical problems. This research is a development research using the Thiagarajan 4-D development model. Trials of learning materials based on Problem Based Learning were conducted three times to obtain quality devices. The first trial was conducted in class XI TKJ 1, the second trial was conducted in class XI TKJ 2 and the deployment stage in class XI AK. From the results of the study obtained: 1) Problem Based Learning based learning materials that are taught good quality at the stage of dissemination; 2) The ability to solve mathematical problems learned by using Problem Based Learning materials increases during the deployment stage; 3) Mathematical self-efficacy of students who are taught with Problem Based Learning materials increases during the deployment stage; 4) Students's Error using Newman Error Analysis, students 'mistakes occur because, students cannot absorb information well, students lack the precision in the operation of calculations, lack of trained students in conducting sequential completion processes and lack of confidence in students' abilities.

Keywords: development of learning materials, 4-D models, *Problem Based Learning*, mathematic problem solving ability, mathematic self-efficacy.

