

ABSTRAK

Syarifah Hanum Hasibuan. Pengaruh pembelajaran berbasis masalah terhadap kemampuan berpikir kritis dan representasi matematis siswa kelas XI rekayasa perangkat lunak SMK Negeri Binaan Provinsi Sumatera Utara. Tesis. Medan : Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan 2017.

Tujuan penelitian ini adalah untuk mengetahui : (1) Apakah terdapat pengaruh pembelajaran berbasis masalah (PBM) terhadap kemampuan berpikir kritis matematis siswa. (2) Apakah terdapat pengaruh pembelajaran berbasis masalah terhadap kemampuan representasi matematis siswa. (3) Interaksi antara pembelajaran berbasis masalah dan kemampuan awal matematika (KAM) terhadap kemampuan berpikir kritis matematis siswa. (4) Interaksi antara pembelajaran berbasis masalah dan KAM terhadap kemampuan representasi matematis siswa. Jenis penelitian ini adalah *quasi eksperiment*. Populasi penelitian ini adalah seluruh siswa SMK Negeri Binaan Provinsi Sumatera Utara. Sampel penelitian ini adalah. Kelas XI RPL (25 siswa) diajarkan dengan PBM dan kelas XI TKJ (25 siswa) diajarkan dengan konvensional. Instrumen yang digunakan terdiri dari tes kemampuan berpikir kritis dan kemampuan representasi matematis siswa. Analisis yang dilakukan menggunakan ANAVA. Hasil penelitian menunjukkan bahwa : (1) Terdapat pengaruh yang signifikan terhadap kemampuan berpikir kritis matematis siswa yang diajarkan dengan pembelajaran berbasis masalah. (2) Terdapat pengaruh yang signifikan terhadap kemampuan representasi matematis siswa yang diajarkan dengan pembelajaran berbasis masalah. (3) Tidak terdapat interaksi yang signifikan antara model pembelajaran dan KAM terhadap kemampuan berpikir kritis matematis. (4) Tidak terdapat interaksi yang signifikan antara model pembelajaran dan KAM terhadap kemampuan representasi matematis siswa.

Kata kunci : Pembelajaran berbasis masalah, kemampuan berpikir kritis dan kemampuan representasi matematis.

ABSTRACT

Syarifah Hanum Hasibuan. The effect of problem based learning toward critical thinking ability and mathematical representation of student class XI of software engineering SMK Target Province North Sumatra country. Thesis. Medan: Mathematic Education Post Graduate Program of Medan University 2017.

This research aimed to determine : (1). Whether there is influence of problem based learning toward students mathematical critical thinking ability. (2) Whether there is influence of problem based learning toward students mathematical representation ability. (3) Whether there is interaction between problem based learning (PBL) and student's mathematic prior knowledge toward the mathematical critical thinking ability. (4) Whether there is interaction between problem based learning (PBL) and student's mathematic prior knowledge toward the mathematical representation ability. The type of research is quasi experiment.the population of research was all student SMK Target Province North Sumatra country, The sampel of research are student class XI of software engineering. XI of software engineering (25 student) were taught by PBL and class XI computer network technology (25 student) were taught by conventional method. The instrument used are consist from the test capabilities of mathematical critical thinking ability and mathematical representation student ability. The analysis was performed using ANOVA . The results showed that: (1) There is a significant influence on mathematical critical thinking ability of students were taught by problem based learning. (2) There is a significant influence of student were taught mathematical representation ability by problem based learning. (3) There is no significant interaction between the learning model and mathematic prior knowledge towards mathematical critical thinking ability. (4) There is no significant interaction between the learning model and mathematic prior knowledge towards mathematical representation ability.

Key words: Problem based learning, critical thinking ability and representation ability.