

## SARI

**Fahrozi.** 2017. “Penerapan *Discovery Learning* dengan Rekayasa Sistem Sosial terhadap Kemampuan Representasi Matematis Siswa MTs”. Skripsi. Progam Studi Pendidikan Matematika Fakultas Keguruan dan Ilmu Pendidikan Universitas Islam Sultan Agung Semarang. Pembimbing I: M. Aminudin, M.Pd, Pembimbing II: Imam Kusmaryono, M.Pd.

**Kata kunci:** *Discovery Learning*, Rekayasa Sistem Sosial, Kemampuan Representasi Matematis.

Penelitian ini bertujuan untuk mengetahui: (1) hasil belajar kemampuan representasi matematis siswa melalui penerapan *discovery learning* dengan rekayasa sistem sosial pada pokok bahasan himpunan mencapai KKM 75; (2) mengetahui rata-rata kemampuan representasi matematis siswa melalui penerapan *discovery learning* dengan rekayasa sistem sosial lebih baik daripada siswa yang memperoleh pembelajaran ekspositori pada pokok bahasan himpunan; (3) mengetahui adanya pengaruh positif aktifitas belajar siswa melalui penerapan *discovery learning* dengan rekayasa sistem sosial terhadap kemampuan representasi matematis siswa pada pokok bahasan himpunan.

Penelitian ini merupakan penelitian kuantitatif. Populasi dalam penelitian ini adalah seluruh siswa kelas VII MTs Darul Ulum Suruh. Sampel penelitian ini diambil tiga kelas secara *cluster random sampling* dari empat kelas dan diperoleh kelas VII A, VII B dan VII C. Kelas VII C sebagai kelas uji coba, kelas VII A sebagai kelas eksperimen dan kelas VII B sebagai kelas kontrol. Data penelitian diperoleh melalui: (1) metode dokumentasi; (2) tes; (3) observasi; (4) wawancara. Uji yang digunakan untuk mengetahui ketuntasan belajar memenuhi KKM adalah uji rata-rata dan uji t satu sampel, untuk mengetahui adanya pengaruh positif aktifitas belajar siswa digunakan uji regresi linier sederhana.

Hasil penelitian disimpulkan bahwa rata – rata kemampuan representasi matematis siswa pada kelas eksperimen memenuhi KKM 75, yaitu sebesar 81,04. Sedangkan rata-rata kemampuan representasi matematis siswa pada kelas kontrol diperoleh hasil sebesar 71,85. Kesimpulan dari penelitian ini adalah penerapan *discovery learning* dengan rekayasa sistem sosial lebih baik daripada pembelajaran secara ekspositori dan terdapat pengaruh positif aktifitas belajar siswa melalui penerapan *discovery learning* dengan rekayasa sistem sosial sebesar 75,2% variasi yang terjadi di dalam kemampuan representasi matematis dapat dijelaskan oleh aktifitas belajar siswa melalui model regresi  $Y = 7,447 + 0,929x$ , sedangkan 24,8% dipengaruhi oleh variabel lain.

## ABSTRACT

**Fahrozi.** 2017. “Application of Discovery Learning with Social Systems Engineering Student Mathematical Representation of the ability of MTs”.Thesis. Mathematics Education Study Progam Faculty of Teacher Training and Education Sultan Agung Islamic University Semarang. Supervisor I: M. Aminudin, M.Pd, Supervisor II: Imam Kusmaryono, M.Pd.

**Keywords:** Discovery Learning, Social System Engineering, The ability of mathematical representation.

This study aims to determine: (1) mathematical representation capability of learning outcomes of students through the application of discovery learning with social system engineering on the subject of the set reach KKM 75; (2) knowing the average ability of the mathematical representation of students through the application of discovery learning with social system engineering better than students who received expository on the subject of the set; (3) aware of the positive influence the students’ learning activities through the application of discovery learning with social system engineering to the ability of the mathematical representation of students on the subject of the set.

This research is quantitative research. Population in this study is all students in grade VII MTs Darul Ulum Suruh. The study sample was taken three classes are cluster random sampling from four classes and class acquired VII A, VII B and VII C. class VII C as a class test, class VII A as the experimental class and class VII B as the control class. Data were obtained through: (1) method of documentation; (2) test; (3) observation; (4) interview. The test is used to determine the complete learn fulfill KKM is the average test and one sample t test, to know the positive influence student activities used simple linear regression test.

The final conclusion average ability of the mathematical representation of students in the experimental class meet KKM 75, amounting 81,04. While the average ability of the mathematical representation of students in the control class results obtained by 71,85. Conclusions of this research is the application of discovery learning with social system engineering is better than learning expository and there is a positive influence on students’ learning activities through the application of discovery learning with social system engineering for 75,2% variations occur in the mathematical representation capabilities can be explained by the activity of student learning through a regression model  $Y = 7,447 + 0,929x$ , while 24,8% influenced by other variables.