ABSTRAK

Titi Rohaeti (2017) : Peningkatan Kemampuan Penalaran dan Komunikasi Matematis Serta Motivasi Belajar Siswa SMP Melalui Penerapan Metode *Discovery Learning*

Penelitian ini bertujuan untuk mengkaji masalah peningkatan kemampuan penalaran dan komunikasi matematis siswa sebelum dan setelah memperoleh pembelajaran dengan metode *discovery learning* dan konvensional, serta menelaah motivasi belajar matematika siswa setelah dilakukan proses pembelajaran. Penelitian ini menggunakan pendekatan kuantitatif dengan metode kuasi eksperimen dengan desain *nonequivalent control group design*. Dalam rancangan desain ini, sampel yang digunakan terdiri dari dua kelompok, yaitu kelompok eksperimen (yang diberi perlakuan) dan kelompok kontrol (pembelajaran konvensional) dan tidak dipilih secara random. Subyek penelitian terdiri dari 40 siswa kelas eksperimen dan 41 siswa kelas kontro yang dipilih secara purposive dari salah satu SMP Negeri di Kota Cirebon. Analisis data penelitian dilakukan secara kuantitatif berdasarkan keseluruhan sampel maupun dirinci berdasarkan kategori kemampuan matematis awal (KMA): tinggi, sedang, dan rendah. Hasil penelitian menunjukkan bahwa peningkatan kemampuan penalaran dan komunikasi matematis siswa yang memperoleh metode *discovery learning* lebih tinggi secara signifikan baik secara keseluruhan atau berdasarkan KMA dibandingkan siswa yang memperoleh pembelajaran konvensional. Kemudian motivasi belajar matematika siswa yang memperoleh metode *discovery learning* lebih baik secara signifikan baik keseluruhan atau berdasarkan KMA tinggi dan rendah, tetapi tidak lebih baik untuk KMA sedang.

Kata kunci: *Discovery learning, kemampuan penalaran, kemampuan komunikasi, motivasi belajar*

ABSTRACT

Titi Rohaeti (2017) : The Enhancement of Mathematical Reasoning and Communication Ability and Students' Learning Motivation of Junior High School Students Trough Application of Discovery Learning Method.

This study is aimed to study the problem of mathematical reasoning and communication ability enhancement before and after getting learning with discovery learning method and conventional methods, and to exemine students' motivation in learning mathematics after learning process was done. This study used quantitative approach with quasi experiment method with nonequivalent control group design. In this experiment design, sample used consisted of two groups, namely experiment group (which was given treatment) and control group (conventional learning) and was not selected randomly. Subject of study consisted of 40 students of experiment class and 41 students of control class who were selected purposely from one of Public Junior High School in Cirebon City. Data analysis was done quantitatively based on whole samples and was detailed based on the category of mathematical initial ability (MIA): high, medium, and low. The study result showed that the enhancement of mathematical reasoning and communication ability of students who get discovery learning method was higher significantly either in a whole or based on MIA compared to students who get conventional learning. Then learning motivation of students who get discovery learning method is better significantly either in a whole or based on high and low MIA, but is was not better for medium MIA.

Key Words: *discovery learning, matematical resoning, mathematical communication, learning motivation*