

ABSTRAK

Rohana (2015). Peningkatan Kemampuan Penalaran dan Komunikasi Matematis, serta Karakter Mahasiswa Calon Guru melalui Pembelajaran Reflektif

Penelitian ini bertujuan untuk mengkaji pencapaian dan peningkatan kemampuan penalaran matematis (KPM), kemampuan komunikasi matematis (KKM), dan karakter mahasiswa (KM) melalui penerapan pembelajaran reflektif. Penelitian ini menggunakan metode kuasi-eksperimen dengan desain kelompok kontrol pretes dan postes nonekuivalen. Subyek penelitian ini adalah mahasiswa program studi pendidikan matematika pada salah satu Perguruan Tinggi Swasta di Palembang sebanyak 155 orang. Berdasarkan faktor pembelajaran, subyek penelitian dibedakan atas dua kelas yaitu kelas eksperimen yang mendapatkan pembelajaran reflektif (PR) dan kelas kontrol yang mendapatkan pembelajaran konvensional (PK). Berdasarkan faktor Kemampuan Awal Mahasiswa (KAM), subyek penelitian dibedakan atas tiga kelompok yaitu tinggi, sedang, dan rendah. Penelitian dilaksanakan pada semester ganjil tahun akademik 2013/2014. Instrumen dalam penelitian ini adalah tes KAM, tes KPM, tes KKM, skala KM, lembar observasi, pedoman wawancara dan dokumen terkait dengan proses pembelajaran berlangsung. Analisis data yang digunakan adalah uji- t , uji- t' , uji Mann-Whitney, uji Kruskal-Wallis, dan analisis grafik interaksi. Berdasarkan hasil analisis data tersebut, hasil yang diperoleh dalam penelitian ini adalah: 1) pencapaian dan peningkatan KPM dan KKM mahasiswa calon guru yang mendapatkan PR lebih baik daripada mahasiswa calon guru yang mendapatkan PK ditinjau dari keseluruhan dan KAM; 2) tidak terdapat perbedaan pencapaian KM yang signifikan antara mahasiswa calon guru yang mendapatkan PR dan mahasiswa calon guru yang mendapatkan PK ditinjau dari keseluruhan dan KAM; 3) peningkatan KM mahasiswa calon guru yang mendapatkan PR lebih baik daripada mahasiswa calon guru yang mendapatkan PK ditinjau dari keseluruhan dan KAM tinggi; 4) tidak terdapat perbedaan peningkatan KM yang signifikan antara mahasiswa calon guru yang mendapatkan PR dan PK ditinjau dari KAM sedang dan KAM rendah; 5) tidak terdapat pengaruh interaksi penerapan pembelajaran (PR dan PK) dan KAM (tinggi, sedang, rendah) terhadap pencapaian dan peningkatan KPM, KKM, serta KM.

KataKunci: Pembelajaran Reflektif, kemampuan penalaran matematis, kemampuan komunikasi matematis, karakter mahasiswa

ABSTRACT

Rohana (2015). The Enhancement of Mathematical Reasoning Ability, Mathematical Communication Ability, and Character of Prospective Teachers through Reflective Learning

This research aims to investigate the achievement and enhancement of mathematical reasoning ability, mathematical communication ability, and character of prospective teachers through Reflective Learning. This research used a quasi-experimental design with nonequivalent pre-test and post-test control-group design. The subjects of this study were students of Mathematics Education Program at a private university in Palembang, consisting of 155 students. Based on instructional factors, there were two groups of samples used in this study: experimental and control groups. The experimental group was given Reflective Learning (RL), while the control group was given Conventional Learning (CL). Based on the result of prior mathematical knowledge test, there were three categories, namely: higher, mediocre, and lower. This study was conducted in the first semester of the academic year 2013/2014. Data collection instruments consist of prior mathematical knowledge test, mathematical reasoning ability test, mathematical communication ability test, scale of character, observation sheets, interview guide, and document related to learning process. Data analysis that was used were t -test, t' – test, Mann-Whitney U test, Kruskal-Wallis test, analysis of interaction graph. Based on data analysis, the result obtained from this study are: 1) the achievement and enhancement of students' mathematical reasoning ability and mathematical communication ability who received RL are better than those of students who received CL; 2) Based on whole students and prior mathematical knowledge, there is no significant difference in achievement of students' character between students who worked under RL and students who worked under CL; 3) Based on whole students and high Priory Student Ability, the enhancement of students' character who received RL are better than those of students who received CL; 4) Based on mediocre and lower prior mathematical knowledge, there is no significant difference in enhancement of students' character between students who worked under RL and students who worked under CL; 5) there is no significant interaction effect between instructional factors (RL and CL) and prior mathematical knowledge (higher, mediocre, lower) toward the students' achievement and enhancement mathematical reasoning ability, mathematical communication ability, and character.

Key words: Reflective Learning, mathematical reasoning ability, mathematical communication ability , and students' character.