ABSTRAK

Tedy Machmud. (2013): Peningkatan Kemampuan Komunikasi, Pemecahan Masalah Matematis dan *Self-Efficay* Siswa SMP Melalui Pendekatan *Problem-Centered Learning* dengan Strategi *Scaffolding*.

Hasil survey yang dilakukan oleh TIMSS tahun 2011 menunjukkan peserta siswa SMP dari Indonesia mengalami penurunan capaian prestasi pada hampir semua domain matematika. Fakta ini menuntut perlu adanya usaha perbaikan antara lain pada aspek pembelajaran dan peninjauan intensitas bobot kemampuan matematika yang dibelajarkan di kelas. Penelitian eksperimen ini hendak mengkaji peningkatan kemampuan komunikasi, pemecahan masalah matematis dan *self-efficacy* siswa SMP, setelah intervensi pembelajaran dengan pendekatan *Problem-Centered Learning* (PCL) yang disertai strategi *scaffolding*. Dengan teknik *stratified sampling* pada populasi siswa di 16 sekolah SMP/MTs Negeri Kota Gorontalo, terpilih 3 (tiga) sekolah sebagai sampel penelitian mewakili kelompok sekolah level tinggi, sedang dan rendah. Pada masing-masing sekolah dipilih 2 kelas yakni satu kelas sebagai kelas eksperimen dengan yang diberi perlakuan pembelajaran dengan pendekatan PCL disertai strategi *scaffolding*, dan satu kelas sebagai kelas kontrol dengan perlakuan pembelajaran konvensional. Instrumen penelitian yang digunakan adalah pretes dan postes untuk mengukur kemampuan komunikasi matematis (KKM), kemampuan pemecahan masalah matematis (KPPM) dan skala *self-efficacy* (SE) siswa. Melalui analisis statistik parametrik dan non parametrik, yakni uji beda rata-rata, uji analisis varians, dan uji beda lanjut, diperoleh informasi bahwa: (1) siswa yang diberi pembelajaran pendekatan PCL dengan strategi *scaffolding* memperoleh peningkatan KKM, KPMM dan SE yang lebih tinggi daripada siswa yang mendapat pembelajaran pendekatan konvensional, baik dilihat dari sisi level sekolah, level kemampuan awal matematika (KAM) maupun secara keseluruhan. Semua kategori yang dikomparasikan menunjukkan perbedaan yang siginifikan; (2) perolehan rata-rata *n-gain* untuk KKM, KPMM dan SE masih dalam kategori sedang; (3) ada interaksi antara pendekatan pembelajaran dengan level sekolah terhadap peningkatan KKM dan KPMM; (4) tidak ada interaksi antara pendekatan pembelajaran dengan KAM terhadap peningkatan KKM dan KPMM; (5) Tidak ada interaksi antara pendekatan pembelajaran dengan level sekolah ataupun KAM terhadap peningkatan SE siswa.

Kata Kunci: *Problem-Centered Learning* (PCL), Strategi *Scaffolding*, kemampuan komunikasi matematis, kemampuan pemecahan masalah matematis, *Self-Efficacy* siswa

ABSTRACT

Tedy Machmud. (2013). The Enhancement of Junior High School Students' Mathematical Communication Ability, Mathematical Problem Solving Ability, and Self-Efficacy Through Problem-Centered Learning Approach with Scaffolding Strategy.

The results of a survey conducted by TIMSS in 2011 showed that junior high school students from Indonesia decreased their performance in almost all domains of mathematics. This fact requires the need for improvement including aspects of learning and reviewing math skills intensity that are taught in class. This experimental study examines the improvement of mathematical communication ability, mathematical problem solving ability and self-efficacy of junior high school students, as a result of the learning intervention by Problem-Centered Learning (PCL) approach and a scaffolding strategy. With stratified sampling technique on a population of students in 16 schools SMP/MTs Gorontalo City, three schools are selected as a sample representing the high, medium and low school level. From each school, two classes are selected: one class as an experiment class which are treated by PCL approach with scaffolding strategy and one class as a control class with conventional learning treatment. The research instrument used is a pretest and posttest to measure students' mathematical communication ability (MCA), mathematical problem solving ability (MPSA) and self-efficacy (SE). Through the analysis of parametric and non-parametric statistics, t-test, analysis of variance test, and the continuation main different test, it can be concluded that: (1) students who received PCL approach with scaffolding strategies obtain higher MCA, MPSA and SE than students who received conventional learning approach, both in terms of school level, Mathematical Prior Ability (MPA) or as a whole. All compared categories showed a significant difference; (2) the acquisition of the n-gain mean for MCA, MPSA and SE is in the medium category; (3) there is an interaction between school-level and learning approach toward the MCA and MPSA improvement; (4) there is no interaction between learning approaches and MPA toward the MCA and MPSA improvement; (5) there is no interaction between learning approach and school level or between learning approach and MPA enhancement on students' SE.

Keywords: Problem-Centered Learning (PCL), Scaffolding Strategy, mathematical communication ability, mathematical problem-solving ability, Students' Self-Efficacy