

MATHEMATICAL CRITICAL THINKING ABILITY THROUGH CONTEXTUAL TEACHING AND LEARNING APPROACH

Kurniati¹, Yaya S. Kusumah², Jozua Sabandar², Tatang Herman²

¹Pakuan University, Jl. Pakuan PO Box 452 Bogor 16143 Indonesia

²Indonesia Education University, Jl. Dr. Setiabudi No. 229 Bandung 40154

e-mail: kurniati_unpak@yahoo.com

Abstract

This research aimed to examine the effect of the application of contextual teaching and learning (CTL) approach to the enhance of mathematical critical thinking ability (MCTA) of Primary School Teacher Students (PSTS). This research is an experimental study with the population of all students PSTS who took algebra subject matter of one university in the city of Bogor. The results showed: (1) the increase of MCTA of student who receive CTL better than students who receive TTL; (2) There are differences in the increase MCTA between students in groups of high MPA, medium MPA, and low MPA, both the student who received the CTL and TTL; and (3) There is no interaction between learning factors (CTL and TTL) with MPA (high, medium and low) toward the enhance of MCTA.

Keywords: Critical Thinking Ability in Mathematics, Contextual Teaching and Learning Approach, Prior Mathematical Ability

Abstrak

Penelitian ini bertujuan untuk mengkaji pengaruh penerapan pendekatan pembelajaran kontekstual terhadap peningkatan kemampuan berpikir kritis matematis (MCTA) mahasiswa Pendidikan Guru Sekolah dasar (PGSD). Penelitian ini adalah penelitian eksperimen dengan populasi seluruh mahasiswa PGSD yang mengambil Mata Kuliah Aljabar pada suatu universitas swasta di Kota Bogor. Hasil penelitian menunjukkan bahwa: (1) Peningkatan MCTA mahasiswa yang memperoleh CTL lebih baik daripada mahasiswa yang memperoleh TTL; (2) Terdapat perbedaan peningkatan MCTA pada kelompok KAM tinggi, KAM sedang dan KAM rendah, baik pada mahasiswa yang memperoleh CTL maupun TTL; dan (3) Tidak terdapat interaksi antara faktor pembelajaran (CTL dan TTL) dengan KAM (tinggi, sedang, dan rendah) dalam mencapai peningkatan MCTA.

Kata Kunci: Kemampuan Berpikir Kritis Matematis, Pembelajaran Kontekstual, Kemampuan Awal Mahasiswa.

Mathematical thinking skills are essential given to students ranging from the beginning of its development, especially when the child was in elementary school. Mathematical skills required so that learners can think logically. Mathematics needs to be mastered elementary school students to help digest the sciences in higher education (Wimbarti, 2012). The statement means that the most important thing was learning mathematics at the elementary level because it occurs early during the development of cognitive abilities in students. Early cognitive development of learners in mathematics will affect further development of mathematical thinking and mastery of subjects affecting the others. Thus, mathematics education in primary schools should be able to provide the basic mathematical thinking skills in order to develop the critical thinking skills of learners. Given the