

**PENINGKATAN KEMAMPUAN KOMUNIKASI MATEMATIS  
DAN BERPIKIR KRITIS SISWA DENGAN PENDEKATAN  
PEMBELAJARAN MATEMATIKA REALISTIK  
BERNUANSA ETNOMATEMATIK (PMRE)  
(Studi Kuasi Eksperimen pada Siswa SMP di Kota Jambi)**

**MUSLIMAHAYATI**

**ABSTRAK**

Penelitian ini dilatarbelakangi oleh belum optimalnya pembelajaran di sekolah dalam upaya peningkatan kemampuan komunikasi matematis dan berpikir kritis siswa. Hasil survey PISA 2012 juga diketahui bahwa siswa kesulitan dalam mengaplikasikan matematika ke dalam situasi kehidupan real. Sebelumnya telah dilakukan penelitian pendahuluan terhadap aktivitas etnomatematika masyarakat Suku Anak Dalam (SAD) Provinsi Jambi. Hasil temuan pada penelitian pendahuluan tersebut di padukan dengan pendekatan Pembelajaran Matematika Realistik (PMR) selanjutnya disebut dengan pendekatan Pembelajaran Matematika Realistik bernuansa Etnomatematik (PMRE) dan diujicobakan kepada siswa kelas VII SMP Negeri 22 Kota Jambi. Penelitian ini mengkaji tentang peningkatan kemampuan komunikasi matematis dan berpikir kritis antara siswa yang memperoleh pendekatan PMRE dengan siswa yang memperoleh pembelajaran konvensional, ditinjau secara keseluruhan dan ditinjau menurut kategori kemampuan awal matematis siswa tinggi, sedang dan rendah. Penelitian ini merupakan penelitian *quasi experiment* dengan *nonequivalent control-group design*. Data yang diperoleh dianalisis menggunakan uji perbedaan rata-rata yaitu *uji-t* dan *mann-whitney*. Hasil penelitian menunjukkan bahwa: 1) pencapaian dan peningkatan kemampuan komunikasi matematis dan berpikir kritis siswa yang memperoleh pembelajaran PMRE secara keseluruhan lebih baik daripada siswa yang memperoleh pembelajaran konvensional dengan kategori tinggi dan sedang 2) ditinjau dari KAM, peningkatan kemampuan komunikasi matematis dan berpikir kritis siswa kategori KAM sedang yang memperoleh pembelajaran PMRE lebih baik daripada siswa yang memperoleh pembelajaran konvensional, sedangkan pada siswa kategori KAM tinggi dan rendah yang memperoleh pembelajaran PMRE tidak lebih baik daripada siswa yang mendapatkan pembelajaran konvensional.

**Kata Kunci :** Pembelajaran Matematika Realistik, Etnomatematik, Komunikasi Matematis, Berpikir Kritis.

**THE IMPROVEMENT OF MATHEMATICAL COMMUNICATION AND  
CRITICAL THINKING ABILITIES OF STUDENTS THROUGH  
REALISTIC MATHEMATICS EDUCATION WITH  
THE NUANCE OF ETHNOMATHEMATICS (PMRE)**  
(Quasi experiment study on Junior High School students in Jambi city)

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**ABSTRACT**

This research was backgrounded by the conventional learning in school which seemed far from optimal in order to improve mathematical communication and critical thinking abilities of students. PISA 2012 results also note that students difficult in applying mathematics to real-life situations. Preliminary research has been conducted to determine the ethnomathematical activities of the community of backwoodsmen famous as *Suku Anak Dalam* (SAD) in Batanghari regency in Jambi province. The results of the preliminary research findings combine with realistic mathematics education approach (PMR) and next called as realistic mathematics education with the nuance of ethnomathematics (PMRE) and it is tested to seventh grade students of 22<sup>nd</sup> State Junior High School of Jambi. This research examined the increase of mathematical communication and critical thinking abilities among students between those who received PMRE approach and those who received conventional learning that was viewed as a whole and the category of early mathematical ability of students on category of high, medium, and low. The research was carried out by using *quasi experiment* with *nonequivalent control-group design*. Data were analyzed by using the average differential tests which involved the t-test and the Mann-Whitney. The results of the research were as follows: 1) the achievement and improvement of mathematical communication and critical thinking abilities of students who received the PMRE was overall higher than those who received the conventional learning with high and medium category , 2) in terms of KAM, the improvement of mathematical communication capabilities and critical thinking of students on the category of the medium KAM which were given the PMRE treatment was better than students who received conventional learning, while there was no improvement of the student in category of the low and high KAM who acquired the PMRE.

**Keywords:** *Realistic Mathematics Education, Ethnomathematics, Mathematical Communication, Critical Thinking*