

## ABSTRAK

**Adliani,Siska (2019).** Pengaruh Pendekatan Matematika Realistik (PMR) terhadap kemampuan pemahaman konsep dan kemampuan koneksi matematika siswa di SMP Swasta Islam Hikmatul Fadhillah Medan kelas VII. Tesis Program Studi Pendidikan Dasar Pascasarjana Universitas Negeri Medan, 2019.

Tujuan penelitian dalam desain Eksperimen Semu ini menyelidiki pengaruh Pendekatan Matematika Realistik (PMR) terhadap kemampuan pemahaman konsep matematika siswa, kemampuan koneksi matematika siswa dan interaksi antara pendekatan pembelajaran dengan kemampuan awal siswa terhadap perbedaan kemampuan pemahaman konsep dan kemampuan koneksi matematika siswa. Penelitian ini dilaksanakan di SMP Swasta Islam Hikmatul Fadhillah pada kelas VII sebanyak 118 siswa. Penelitian ini merupakan suatu studi eksperimen dengan desain penelitian *test-post-test control group design*. Populasi dalam penelitian ini adalah seluruh siswa kelas VII dengan mengambil sampel dua kelas (kelas eksperimen dan kelas kontrol) melalui teknik random sampling. Data diperoleh melalui tes KAM, tes kemampuan pemahaman konsep matematika, dan tes kemampuan koneksi matematika. Data dianalisis dengan uji ANAVA dua jalur. Sebelum digunakan uji ANAVA dua jalur terlebih dahulu dilakukan uji normalitas dalam penelitian dan homogenitas dalam penelitian ini dengan taraf signifikan 5%. Hasil analisis data menunjukkan bahwa rata-rata tes kemampuan pemahaman konsep adalah 71,43 dan kelas kontrol adalah 62,54, dengan nilai  $\text{sig} = 0$  dengan  $0 < \alpha < 0,05$  maka terdapat perbedaan kemampuan pemahaman konsep matematika siswa yang diajarkan dengan pendekatan matematika realistik matematika (PMR) dengan pendekatan pembelajaran biasa, rata-rata tes kemampuan koneksi matematika eksperimen dan kontrol adalah 70,43 dan 67,76 dengan  $\text{sig} = 0$ , dengan  $0 < \alpha < 0,05$ , maka terdapat perbedaan kemampuan koneksi matematika siswa yang diajarkan dengan pendekatan matematika realistik (PMR) dan pendekatan pembelajaran konvensional, nilai signifikan sebesar 0,127, karena  $0,127 > 0,05$  maka tidak adanya interaksi antara pendekatan pembelajaran dengan kemampuan awal siswa terhadap kemampuan pemahaman konsep matematika siswa, nilai signifikan sebesar 0,360, karena  $0,360 > 0,05$  maka tidak adanya interaksi antara pendekatan pembelajaran dengan kemampuan awal siswa terhadap perbedaan kemampuan koneksi matematika siswa. Besar Pengaruh PMR terhadap Kemampuan Pemahaman Konsep sebesar 28,7%, dan besar pengaruh PMR terhadap Kemampuan Koneksi sebesar 69,1%. Temuan penelitian merekomendasikan PMR dijadikan salah satu pendekatan pembelajaran yang digunakan di sekolah utamanya untuk mencapai kompetensi berfikir tinggi.

Kata Kunci: Pendekatan PMR, kemampuan pemahaman konsep, kemampuan koneksi matematika

## ABSTRACT

**Adliani, Siska (2019).** The Effects of Realistic Mathematics Approach towards conceptual understanding ability and mathematical connection ability on 7<sup>th</sup> Grade Junior High School Student of Hikmatul Fadhillah Islamic Private School Medan. Thesis. Basic Education Program State University of Medan, 2019.

The aims in this quasi experimental research design is to investigate the effect of realistic mathematics approach towards the student conceptual understanding in mathematics, student mathematical connection ability and interaction between learning approach and student initial ability towards the differences of conceptual understanding ability and student mathematical connection ability. This research involved the 7<sup>th</sup> Grade Junior High School Student of Hikmatul Fadhillah Islamic Private School Medan amounting to 118 students. This research was experimental study with the post-test control group design. The population of the study was the whole of the 7<sup>th</sup> grade student by taking two classes (experimental class and control class) by using random sampling technique. Data is obtained through KAM test, mathematic conceptual understanding test and mathematic connection ability test tes . Data is analyzed using two paths ANOVA test. Before the researcher used ANOVA test, the researcher had used Normality test and Homogeneity and the significant level is 5%. The result of data analysis showed that the average of conceptual understanding ability test is 71,43 in experiment class while 62,54 is in control class with  $\text{sig} = 0$  and  $0 < \alpha < 0,05$ . Therefore, there is difference between students conceptual understanding ability that was taught using PMR approach and conventional approach. The average of mathematic connection ability test in experiment is 70,43 and 67,76 is in control class. P-value (2-tailed) is 0 and  $0 < \alpha < 0,05$ . Therefore, there is the difference between student's mathematic connection ability that was taught using PMR approach and conventional approach. The significant value is 0,127 because  $0,127 > 0,05$ . Therefore, there is no interaction between learning approach and students' initial ability toward the difference in conceptual understanding ability. The significant value is 0,360, because  $0,360 > 0,05$  so there is no interaction between learning approach and students' initial ability toward the difference in students' mathematic connection ability. The Percentage effect from PMR for conceptual understanding is 28,7% and percentage effect from PMR for Connection ability is 69,1 %. The result of this research recommend that PMR approach is become one of learning approach which is used to achieve high competence.

*Key words* : PMR approach, conceptual understanding ability, mathematic connection ability.