

ABSTRAK

NURLITA DWI YUNIANTI, Pengaruh Model Pembelajaran *Brain Based Learning* Berbatuan *Mind Mapping* Terhadap Kemampuan Representasi Matematis Siswa di Kelas VIII SMP Negeri 2 Jakarta. Skripsi. Jakarta : Program Studi Pendidikan Matematika, Jurusan Matematika, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Jakarta, 2019.

Kemampuan representasi matematis adalah kemampuan menyajikan kembali suatu objek ke dalam bentuk kata-kata, diagram, tabel, grafik, persamaan matematika dan bentuk lainnya sebagai alat bantu dalam menyelesaikan masalah matematis. Penelitian ini dilakukan untuk mengetahui pengaruh model pembelajaran *Brain Based Learning* berbantuan *Mind Mapping* terhadap kemampuan representasi matematis siswa di kelas VIII SMP Negeri 2 Jakarta.

Metode penelitian yang digunakan adalah metode eksperimen semu atau *quasi experiment*. Instrumen penelitian yang digunakan adalah tes kemampuan representasi matematis berupa 5 soal uraian yang telah dinyatakan valid. Populasi target penelitian adalah seluruh siswa SMP Negeri 2 Jakarta. Populasi terjangkau penelitian adalah siswa kelas VIII SMP Negeri 2 Jakarta. Teknik pengambilan sampel menggunakan *Two Stage Sampling*, yaitu *Purposive Sampling* dan *Cluster Random Sampling*. Tahap pertama *Purposive Sampling*, terpilih 6 kelas. Tahap kedua adalah *Cluster Random Sampling*, yaitu pengambilan 2 dari 6 kelas yang telah lolos uji prasyarat analisis data sebelum perlakuan, sebagai satu kelas eksperimen (VIII-G) yang belajar menggunakan model pembelajaran *Brain Based Learning* berbatuan *Mind Mapping* dan satu kelas kontrol (VIII-H) dengan menggunakan model pembelajaran konvensional.

Berdasarkan hasil pengujian prasyarat analisis data setelah perlakuan, hasil tes kemampuan representasi matematis kelas eksperimen dan kelas kontrol berdistribusi normal dan homogen. Pengujian hipotesis statistik Uji-t dengan taraf signifikansi $\alpha = 0,05$, diperoleh $t_{hitung} = 2,744$ dan $t_{tabel} = 1,671$. Nilai $t_{hitung} > t_{tabel}$ sehingga H_0 ditolak dan diperoleh kesimpulan bahwa rata-rata skor tes kemampuan representasi matematis siswa kelas eksperimen lebih tinggi dari kelas kontrol. Besar pengaruh model pembelajaran *Brain Based Learning* berbatuan *Mind Mapping* terhadap kemampuan representasi matematis siswa di SMP Negeri 2 Jakarta adalah 0,7 dengan presentasi 76% dan berada pada kategori besar. Hal ini menunjukkan bahwa terdapat pengaruh model pembelajaran *Brain Based Learning* berbatuan *Mind Mapping* terhadap kemampuan representasi matematis siswa di SMP Negeri 2 Jakarta.

Kata Kunci: Model Pembelajaran *Brain Based Learning*, *Mind Mapping*, Kemampuan Representasi Matematis.

ABSTRACT

NURLITA DWI YUNIAN TI, *The Effect of The Model Type Brain Based Learning Assisted by Mind Mapping on Mathematics Representation of Students in Junior High School 2 of Jakarta. Skripsi. Jakarta : Mathematics Education Study Program, Faculty of Mathematics and Science, Universitas Negeri Jakarta, 2019.*

The ability of mathematics representation is the ability to restate an object into the form of words, diagram, table, chart, mathematical equation and other forms as a tool in solving mathematics problems. This research is a quantitative study that aims to determine whether there is an effect of The model type Brain Based Learning assisted by Mind Mapping on mathematics representation of students in Junior High School 2 of Jakarta.

The research method used was a quasi experimental method. The research instrument used was an instrument of mathematics representation in the form of 5 problem descriptions that have been declared valid. The target population of the study were all students of Junior High School 2 of Jakarta. The affordable population of the study was class VIII students of Junior High School 2 of Jakarta. The sampling technique uses Two Stage Sampling, namely Purposive Sampling and Cluster Random Sampling. The first phase of Purposive Sampling, selected 6 class. The second stage is Cluster Random Sampling, which is taking 2 out of 6 classes that have passed the prerequisite test of data analysis before treatment, as 1 experimental class (VIII-G) learning to use the model type Brain Based Learning assisted by Mind Mapping and 1 control class (VIII-H) using conventional learning models.

Based on the result of prerequisite test of data analysis after treatment, the result of tests of mathematics representation of experimental and control classes are normally distributed and homogeneous. Testing the statistical hypothesis T-test with a significance $\alpha = 0,05$, obtained $t_{count} = 2,744$ and $t_{table} = 1,671$. The value of $t_{count} > t_{table}$ so that H_0 is rejected and the conclusion is that the average score of the mathematics representation of the experimental class students is higher than the control class. The influence of the model type Brain Based Learning assisted by Mind Mapping on mathematics representation of students in Junior High School 2 of Jakarta is 0,7 with 76% presentation and is the large category. This show that there is an effect of the model type Brain Based Learning assisted by Mind Mapping on mathematics representation of students in Junior High School 2 of Jakarta.

Keyword: *Brain Based Learning, Mind Mapping, Mathematics Representation*