ABSTRAK

Yusuf, Amir. 2017. Keefektifan Pembelajaran *Student Facilitator And Explaining* Berbantuan *Geogebra* Terhadap Kemampuan Penalaran Spasial Siswa Kelas IX. Universitas Islam Sultan Agung. Pembimbing I. Imam Kusmaryono, M.Pd., Pembimbing II. Nila Ubaidah, M.Pd.

Kata Kunci : *Geogebra*, Kemampuan Penalaran Spasial, *Student Facilitator and Explaining*

Kemampuan penalaran spasial merupakan kemampuan yang dimiliki siswa dalam membayangkan, mempresentasikan, memanipulasi, dan mentransformasi informasi visual dalam konteks keruangan, serta memperkirakan posisi dan representasi suatu objek yang akurat berdasarkan perubahan orientasinya. Model pembelajaran yang tidak variatif dan media pembelajaran yang membosankan menyebabkan kemampuan penalaran spasial siswa yang rendah. Salah satu upaya agar penalaran spasial siswa itu berkembang, guru bisa menggunakan model pembelajaran *student facilitator and explaining* berbantuan *geogebra*. *Geogebra* merupakan suatu *software* matematika interaktif yang bisa digunakan untuk media pembelajaran matematika, alat bantu membuat bahan ajar matematika, dan menyelesaikan soal matematika. Penelitian ini merupakan penelitian kuantitatif. Populasi dalam penelitian ini adalah siswa kelas IX MTs Darul Ulum kerangkulon pada tahun pelajaran 2017/2018. Sampel dalam penelitian ini dambil secara acak. Metode pengumpulan data penelitian ini menggunakan metode angket, metode observasi dan metode tes dengan taraf signifikan (α) = 0,05. Hasil penelitian menunjukkan bahwa : (1) pada uji t satu sampel diperoleh nilai mean sebesar 80,00 dan nilai Sig. (2-tailed) = 0,000 < 0,05 yang artinya bahwa nilai rata-rata kemampuan penalaran spasial kelas eksperimen mencapai KKM 70, (2) pada uji t dua sampel menunjukkan bahwa rata-rata kemampuan penalaran spasial siswa kelas eksperimen sebesar 80,00 lebih baik dibandingkan nilai rata-rata kemampuan penalaran spasial siswa kelas kontrol sebesar 74,12, (3) pada uji regresi linier ganda menunjukkan hasil bahwa keaktifan dan motivasi belajar berpengaruh terhadap kemampuan penalaran spasial. Persamaan regresi linier ganda yaitu $Y = 0{,}608 + 1{,}508.X_1 + 0{,}394.X_2$.

ABSTRACT

Yusuf, Amir. 2017. The effectiveness of student learning facilitator and explaining aided Geogebra on spatial reasoning abilities of students grade IX. Sultan Agung Islamic University. Advisor I. Imam Kusmaryono, M.Pd., Advisor II. Nila Ubaidah, M.Pd.

Keywords : *Geogebra, Spatial Reasoning Abilities, Student Facilitator and Explaining*

Spatial reasoning ability is the ability of students in imagining, presenting, manipulating, and transforming visual information in the spatial context and predicting the position and representation of an accuarte object based on its orientation change. The non-varied learning model and tedious learning media lead to low student spatial abilities. One of the efforts to make the students' spatial reasoning develop, the teacher can use the learning model of student facilitator and explaining aided Geogebra. Geogebra is an interactive mathematical software that can be used for media learning mathematics, tools to make mathematics materials and complete mathematics question. This research is a quantitative research. The population in this study were students of grade IX MTs Darul Ulum Kerangkulon in the academic year 2017/2018. The sample in this study was taken randomly. The method of collecting data of this research used documentation method, questionnaire, observation and test with significant level (α) = 0.05. The results of this study showed that (1) on the *t*-test of one sample obtained the mean value of 80.00 and the value of Sig (2-tailed) = 0.000 < 0.05 which means that the average value of spatial reasoning ability of the experimental class reached KKM 70, (2) at *t*-test of two samples showed that the average of student spatial reasoning ability of experimental class was 80.00 better than the average score of student spatial reasoning ability of control class was 74.12, (3) in multiple linear regression test showed the result that activeness and learning motivation affect the ability of spatial reasoning. Double linear regression equation is $Y = 0{,}608 + 1{,}508.X_1 + 0{,}394.X_2$.