

ABSTRACT

Arifah, Umi. 2016. The Implementation of Reasoning and Problem Solving Approach Based On Islamic Character Towards Mathematics Critical Thinking Ability of Student. Thesis. Program of Mathematics Education Faculty of Teacher and Education Sultan Agung Islamic University Semarang. Supervisor I: M. Aminudin, M.Pd., Supervisor II: Hevy Risqi Maharani, M.Pd.

Keywords : *Reasoning and Problem Solving approach, learning based on Islamic character, mathematics critical thinking ability.*

Theoretically the mathematics critical thinking ability towards problem solving on polyhedron was very important in real life, the mathematics critical thinking ability and student activities was low would affect the students' mathematics ability. The aim of research to determine (1). the mathematics critical thinking ability of students used the Reasoning and Problem Solving approach based on Islamic character could achieve both categories a value of 75; (2). the mathematics critical thinking ability of students which use Reasoning and Problem Solving approach based on Islamic character better than the mathematics critical thinking ability of students which used conventional learning of class VIII SMP Negeri 20 Semarang academic year 2015/2016; (3). the influence students activities towards the mathematics critical thinking ability used Reasoning and Problem Solving approach based on Islamic character.

This type of research was an experimental research. The research variable consists of the independent variable was student activities of Reasoning and Problem Solving approach based on Islamic character, while the dependent variable was the mathematics critical thinking ability. Population in this research were students of grade VIII of SMP Negeri 20 Semarang academic year 2015/2016. Sample were taken by cluster random sampling and VIII G as the experimental class who got Reasoning and Problem Solving approach based on Islamic character and VIII F as the control class who got conventional learning. Data collection techniques of research conducted using tests, documentation and observation sheet. The methods used for analyze the data were one sample t test, two-sample t test, simple linear regression analysis, which previously performed the prerequisite test was a test of normality and homogeneity test.

Results of this research showed that the mathematics critical thinking ability in the experimental class of Reasoning and Problem Solving approach based on Islamic character achieve good category value 75 at 81.15. The mathematics critical thinking ability who got Reasoning and Problem Solving approach based on Islamic character better at 81.15 compared to the mathematics critical thinking ability who got conventional learning at 72.59. There was the influence students activities towards mathematics critical thinking ability use Reasoning and Problem Solving approach based on Islamic character of 66.5%, while the other variables that affect learning outcomes by 33.5% with equality regression $Y = -36.946 + 1,375x$.

SARI

Arifah, Umi. 2016. Penerapan Pendekatan *Reasoning and Problem Solving* Berkarakter Islami Terhadap Kemampuan Berpikir Kritis Matematis Siswa. Skripsi. Pendidikan Matematika Fakultas Keguruan dan Ilmu Pendidikan Universitas Islam Sultan Agung. Pembimbing I. M. Aminudin, M.Pd., Pembimbing II. Hevy Risqi Maharani, M.Pd.

Kata kunci : *Pendekatan Reasoning and problem solving, pembelajaran berkarakter Islami, kemampuan berpikir kritis matematis.*

Secara teoritis bahwa kemampuan berpikir kritis matematis siswa terhadap pemecahan masalah bangun ruang sisi datar sangat penting dalam kehidupan sehari-hari, kemampuan berpikir kritis matematis dan aktivitas siswa yang rendah akan berpengaruh terhadap kemampuan matematis siswa. Penelitian ini bertujuan untuk mengetahui (1). kemampuan berpikir kritis matematis siswa dengan pendekatan *Reasoning and Problem Solving* berkarakter Islami dapat mencapai kategori baik yaitu nilai 75; (2). kemampuan berpikir kritis matematis siswa pada pendekatan pembelajaran *Reasoning and Problem Solving* berkarakter Islami lebih baik dari pada kemampuan berpikir kritis matematis siswa dengan pembelajaran konvensional di kelas VIII SMP Negeri 20 Semarang tahun pelajaran 2015/2016; (3). pengaruh aktivitas siswa terhadap kemampuan berpikir kritis matematis siswa pada pendekatan *Reasoning and Problem Solving* berkarakter Islami.

Jenis penelitian ini adalah penelitian eksperimen. Variabel penelitian terdiri atas variabel bebas yaitu aktivitas siswa pada pendekatan *Reasoning and Problem Solving* berkarakter Islami, sedangkan variabel terikatnya adalah kemampuan berpikir kritis matematis siswa. Populasi dalam penelitian ini adalah siswa kelas VIII SMP Negeri 20 Semarang tahun ajaran 2015/2016. Pemilihan sampel dilakukan dengan *cluster random sampling* dan kelas VIII G dipilih sebagai kelas eksperimen dan VIII F dipilih sebagai kelas kontrol. Teknik pengumpulan data penelitian dilakukan dengan menggunakan tes, dokumentasi, dan lembar observasi. Metode yang digunakan untuk mengukur analisis data antara lain uji t satu sampel, uji t dua sampel, uji regresi linear sederhana, yang sebelumnya dilakukan uji prasyarat yaitu uji normalitas dan uji homogenitas.

Hasil penelitian menunjukkan kemampuan berpikir kritis matematis pada kelas eksperimen dengan pendekatan *Reasoning and Problem Solving* berkarakter Islami mencapai kategori baik yaitu nilai 75 sebesar 81,15. Kemampuan berpikir kritis matematis siswa yang dikenai pendekatan *Reasoning and Problem Solving* berkarakter Islami lebih baik sebesar 81,15 dibanding kemampuan berpikir kritis matematis siswa yang dikenai pembelajaran konvensional sebesar 72,59. Terdapat pengaruh aktivitas siswa terhadap kemampuan berpikir kritis matematis yang dikenai pendekatan *Reasoning and Problem Solving* berkarakter Islami sebesar 66,5%, sedangkan variabel lain yang mempengaruhi hasil belajar sebesar 33,5% dengan persamaan regresi $Y = -36,946 + 1,375x$.