

ABSTRACT

THE INFLUENCE OF *BRAIN-BASED LEARNING* APPROACH ON THE ABILITY ENHANCEMENT OF JUNIOR HIGH STUDENTS' MATHEMATICAL REASONING

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The research studies "*The Influence of Brain-Based Learning Approach on The Ability Enhancement of Junior High Students' Mathematical Reasoning.*" The research used a quasi-experiment method in the Cube and Beam Discussion, carried out at 8th Grade Class of the Kartika XIX-1 Junior High School during the second semester of 2013/2014 educational year. It is aimed at: (1) knowing if the ability enhancement of the junior high students' mathematical reasoning taking the brain-based learning is higher than that of the junior high students taking a conventional learning and (2) knowing how students respond to the brain-based learning approach. The research used the non-equivalent control group design. Samples were not randomised. The research instruments were the test instrument of student mathematical reasoning (both pre- and post-test) and the non-test instrument (questionnaire, daily journals, and observation sheets). The research reveals that the ability enhancement of the students' mathematical reasoning in the experimental classroom is higher than that of the control classroom. The students' response (attitude) toward brain-based learning approach and their mathematical reasoning are good.

Key words: *Brain based learning approach*, students' mathematical reasoning

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Pengaruh Pendekatan Brain Based Learning Terhadap Peningkatan Kemampuan Penalaran Matematis

Siswa Smp

ABSTRAK

PENGARUH PENDEKATAN *BRAIN BASED LEARNING* TERHADAP PENINGKATAN KEMAMPUAN PENALARAN MATEMATIS SISWA SMP

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Penelitian ini mengkaji “Pengaruh Pendekatan *Brain Based Learning* terhadap Peningkatan Kemampuan Penalaran Matematis Siswa SMP”. Metode penelitian yang digunakan adalah kuasi eksperimen pada pokok bahasan Kubus dan Balok yang dilaksanakan di kelas VIII SMP Kartika XIX-1 Bandung semester genap tahun ajaran 2013/2014. Tujuan dari penelitian ini adalah: 1) mengetahui apakah peningkatan kemampuan penalaran matematis siswa yang mengikuti pembelajaran dengan pendekatan *brain based learning* lebih tinggi daripada siswa yang mengikuti pembelajaran dengan pendekatan konvensional; 2) mengetahui bagaimana sikap siswa terhadap pembelajaran dengan pendekatan *brain based learning*. Desain penelitian yang digunakan dalam penelitian ini adalah *the nonequivalen control group design*. Pengambilan sampel tidak dilakukan secara acak. Instrumen yang digunakan pada penelitian ini adalah instrumen tes kemampuan penalaran matematis siswa (pretes dan postes) dan instrumen nontes (angket, jurnal harian, dan lembar observasi). Hasil penelitian menunjukkan bahwa peningkatan kemampuan penalaran matematis siswa di kelas eksperimen lebih tinggi daripada siswa di kelas kontrol. Sikap siswa terhadap pembelajaran dengan pendekatan *brain based learning* dan kemampuan penalaran matematis tergolong baik.

Kata kunci: Pendekatan *brain based learning*, Kemampuan Penalaran Matematis Siswa

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