

ABSTRAK

Juniatri, Maria Goreti (2020), Pengaruh Model Pembelajaran *Brain Based Learning* dan Kemampuan Berpikir Kritis terhadap Hasil Belajar Fisika Siswa Kelas X SMA Negeri 1 Komodo. Tesis, Pendidikan IPA, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Pendidikan Ganesha.

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Kata-kata kunci : model pembelajaran *Brain Based Learning*, hasil belajar, kemampuan berpikir kritis

Penelitian ini bertujuan untuk mendeskripsikan dan menjelaskan (1) perbedaan hasil belajar fisika antara siswa yang belajar dengan menerapkan model pembelajaran *brain-based learning* dan model pembelajaran konvensional, (2) pengaruh interaksi antara model pembelajaran dan kemampuan berpikir kritis terhadap hasil belajar fisika. Siswa kelas X SMA Negeri 1 Komodo tahun pelajaran 2019/2020 sejumlah 120 orang dan terbagi ke dalam 4 kelas menjadi populasi penelitian ini. Pemilihan sampel menggunakan *random asigment* dengan cara undian. Berdasarkan hasil pengundian diperoleh sampel, yaitu satu kelompok siswa kelas X MIA 3 sebagai kelompok eksperimen dan satu kelompok siswa Kelas X MIA 4 sebagai kelompok kontrol dan jumlah sampel yang digunakan adalah dua kelas dengan jumlah siswa 60 orang. Reliabilitas tes hasil belajar dan kemampuan berpikir kritis secara berurutan adalah sebesar 0,688 dan 0,632 berada pada kategori tinggi. Pengujian hipotesis penelitian menggunakan Uji F melalui Anava dua jalur. Hasil penelitian menunjukkan: (1) terdapat perbedaan signifikan hasil belajar fisika antara siswa yang mengikuti *brain-based learning* dengan konvensional. Nilai signifikan dari model pembelajaran adalah 0,000 ($0,000 < 0,05$). Siswa yang menggunakan model *brain based learning* memperoleh nilai rata-rata 86,56 dengan standar deviasi 8,05, sedangkan siswa yang belajar dengan menggunakan model pembelajaran konvensional memperoleh nilai rata-rata hasil belajar fisika 67,22 dengan standar deviasi 7,74; (2) tidak terdapat pengaruh interaksi yang signifikan antara model pembelajaran *brain-based learning* dan kemampuan berpikir kritis terhadap hasil belajar fisika siswa. Nilai signifikan dari variabel interaksi model pembelajaran dengan kemampuan berpikir kritis adalah 0,690 ($0,690 > 0,05$). Berdasarkan temuan tersebut dapat disimpulkan bahwa terdapat pengaruh signifikan model pembelajaran *brain based learning* terhadap hasil belajar fisika dan tidak terdapat pengaruh interaksi yang signifikan antara model pembelajaran *brain-based learning* dan kemampuan berpikir kritis terhadap hasil belajar fisika siswa.

ABSTRACT

Juniatri, Maria Goreti (2020), The Effect of the Brain Based Learning and Critical Thinking Learning Model on Physics Learning Achievement in Class X SMA Negeri 1 Komodo. Thesis, Natural Sciences, Faculty of Mathematics and Natural Sciences, Ganesha University of Education.

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Key words: learning model, learning achievement, critical thinking

This study aimed to describe and explain (1) the differences in physics learning achievement between students who learned by applying the brain-based learning learning model and students who learned by applying conventional learning models, (2) the interaction effect of between learning models and critical thinking skills towards physics learning achievement. Classes of grade X students of SMA Negeri 1 Komodo in academic year 2019/2020 which was equipped with 120 peoples and divided into four classes as population of this study. The selection of the sample used random assessment by lottery. Based on the results of the draw, the sample was obtained, namely one group of class X MIA 3 students as the experimental group and one group of Class X MIA 4 students as the control group with the number of samples used were 60 people. The results of reliability test and ability of critical thinking are on high category in order is 0,688 and 0,632. The hypothesis tested by used the F test through two-way ANOVA. The criteria used, reject H_0 if the resulting significant number is less than 0.05. The results showed that: (1) there is significant differences in physics learning achievement between students with brain-based learning and students who took conventional learning. The significant value of the learning model is 0.000 ($0.000 < 0.05$). Students who used the brain-based learning model obtained an average score of 86.56 with a standard deviation of 8.05, while students who used the conventional learning model obtained an average score of 67.22 physics learning achievement with a standard deviation of 7.74; (2) there is no significant interaction effect between the brain-based learning model and critical thinking skills on students' physics learning achievement. The significant value of the interaction variable of the learning model with critical thinking skills is 0.690 ($0.690 > 0.05$). Based on these findings, it can be concluded that there is a significant effect of the brain-based learning model on physics learning achievement and there is no significant interaction effect between the brain-based learning learning model and the critical thinking ability on students' physics learning achievement.