

Adela Hana Pramesti. 2024. *Pengaruh PhET Simulation terhadap Berpikir Kritis Siswa Materi Matematika Kelas IV SDN Banyuwajuh 3*. Skripsi, Program Studi Pendidikan Guru Sekolah Dasar, Fakultas Ilmu Pendidikan, Universitas Trunojoyo Madura. Parrisca Indra Perdana, S.Pd, M.Pd.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui bagaimana pengaruh *PhET simulation* terhadap berpikir kritis siswa materi Matematika kelas IV SDN Banyuwajuh 3. Penelitian ini menggunakan metode kuantitatif eksperimental dengan jenis penelitian komparatif, serta menggunakan desain *Quasi Experimental Design* dengan bentuk *Nonequivalent Control Group Design*. Subjek dalam penelitian ini yakni siswa kelas IV SDN Banyuwajuh 3 yang berjumlah 56 siswa. Data dalam penelitian ini dikumpulkan dengan menggunakan angket, lembar observasi dan tes. Instrumen yang digunakan terlebih dahulu melalui proses uji validasi dan reliabilitas untuk mengetahui apakah layak atau tidak digunakan. Uji Prasyarat yang digunakan yakni uji normalitas dan uji homogenitas. Uji hipotesis yang digunakan pada penelitian ini yaitu uji t komparatif dua sampel independen. Berdasarkan hasil analisis data uji-t *pretest* diperoleh nilai Sig.(2-tailed) sebesar 0,360. Berdasarkan nilai signifikansi uji t diperoleh hasil H_0 diterima dan H_a ditolak, sehingga dapat disimpulkan tidak terdapat perbedaan yang signifikan rata-rata *pretest* hasil berpikir kritis siswa awal antara kelas eksperimen dan kelas kontrol. Hasil uji t *posttest* kelas eksperimen dan kelas kontrol diperoleh nilai Sig.(2-tailed) = 0,00 maka berdasarkan kriteria pengujian independen sampel tes jika nilai Sig. (2-tailed) < 0,05 maka H_0 ditolak dan H_a diterima. Kemudian menggunakan taraf signifikansi 0,05 dari hasil perhitungan t_{hitung} , diperoleh hasil $7,727 > 2,004$ dimana lebih besar dari t_{tabel} . Hasil tersebut juga ditunjang dengan hasil observasi dimana persentase hasil observasi aktivitas berpikir kritis siswa kelas eksperimen sebesar 82% > 70% persentase kelas kontrol. Sehingga dapat disimpulkan terdapat pengaruh pada penggunaan media *PhET Simulation* terhadap berpikir kritis siswa materi matematika kelas IV SDN Banyuwajuh 3.

Kata kunci: PhET, Berpikir Kritis, Matematika.

Adela Hana Pramesti. 2024. The Effect of PhET Simulation on Students' Critical Thinking on Grade IV Mathematics Material at SDN Banyuajuh 3. Thesis, Primary School Teacher Education Study Program, Faculty of Education, Trunojoyo University Madura. Parrisca Indra Perdana, S.Pd, M.Pd.

ABSTRAK

This research aims to find out the influence of PhET simulation on students' critical thinking in class IV Mathematics at SDN Banyuajuh 3. This research uses experimental quantitative methods with a comparative research type, and uses a Quasi Experimental Design in the form of Nonequivalent Control Group Design. The subjects in this research were class IV students at SDN Banyuajuh 3, totaling 56 students. The data in this research was collected using questionnaires, observation sheets and tests. The instruments used first go through a validation and reliability test process to find out whether they are suitable for use or not. The prerequisite tests used are the normality test and homogeneity test. The hypothesis test used in this research is the comparative t test of two independent samples. Based on the results of the pretest t-test data analysis, a Sig (2-tailed) value of 0.360 was obtained. Based on the significance value of the t test, the results of H_0 were accepted and H_a was rejected, so it can be concluded that there was no significant difference in the average pretest critical thinking results of initial students between the experimental class and the control class. . The results of the posttest t test for the experimental class and control class obtained a value of Sig. (2-tailed) = 0.00, so based on the independent testing criteria of the test sample if the value of Sig. (2-tailed) < 0.05 then H_0 is rejected and H_a is accepted. Then using a significance level of 0.05 from the results of the tcount calculation, the results obtained are $7.727 > 2.004$ which is greater than t_{table} . These results are also supported by observation results where the percentage of observations of critical thinking activities of experimental class students is $82\% > 70\%$ of the control class percentage. So it can be concluded that there is an influence on the use of PhET Simulation media on students' critical thinking in class IV mathematics at SDN Banyuajuh 3.

Kata kunci: PhET, Critical Thinking, Mathematic.

