

ABSTRAK

SYAHRINA INTAN: Pengaruh Pendekatan *Contextual Teaching and Learning* Berbantuan Video Animasi 3D berbasis Plotagon terhadap Kemampuan Berpikir Kritis Matematis Siswa. **Program Studi Pendidikan Matematika FKIP Universitas Malikussaleh, 2025.**

Kemampuan berpikir kritis matematis siswa yang rendah disebabkan oleh sejumlah faktor, seperti metode pembelajaran yang masih terpusat pada guru dan minimnya pemanfaatan media pembelajaran dalam penyampaian materi. Salah satu solusi yang dapat diimplementasikan adalah penggunaan pendekatan *contextual teaching and learning* yang berpusat pada siswa dengan dukungan media video animasi 3D. Oleh karena itu, penelitian ini bertujuan untuk mengevaluasi pengaruh penerapan pendekatan *contextual teaching and learning* berbantuan video animasi 3D berbasis plotagon terhadap kemampuan berpikir kritis matematis siswa kelas X SMA Negeri 7 Lhokseumawe pada materi statistika, khususnya submateri ukuran pemusatan data.

Penelitian ini menggunakan pendekatan kuantitatif dengan metode eksperimen *quasi-experimental design* tipe *nonequivalent control group design*. Populasi penelitian adalah siswa kelas X SMA Negeri 7 Lhokseumawe, dengan teknik *purposive sampling* yang menghasilkan kelas X-1 sebagai kontrol dan kelas X-2 sebagai eksperimen. Data dikumpulkan melalui tes kemampuan berpikir kritis matematis, kemudian dianalisis menggunakan uji *independent sample t-test* pada SPSS versi 20 dengan taraf signifikansi 5%.

Berdasarkan hasil uji hipotesis pada tes kemampuan berpikir kritis matematis siswa diperoleh nilai *sig. (2-tailed)* sebesar 0,018. Sesuai dengan kriteria pengujian hipotesis, jika nilai *sig (p-value)* $\leq 0,05$, maka H_0 ditolak dan jika nilai *sig (p-value)* $> 0,05$, maka H_0 diterima. Disimpulkan bahwa hasil uji hipotesis pada penelitian ini adalah H_0 ditolak artinya terdapat pengaruh pendekatan *contextual teaching and learning* berbantuan video animasi 3D berbasis plotagon terhadap kemampuan berpikir kritis matematis siswa.

Kata Kunci: Kemampuan berpikir kritis matematis siswa, pendekatan *contextual teaching and learning*, video animasi 3D berbasis plotagon

ABSTRACT

SYAHRINA INTAN: *The Effect of Plotagon-based 3D Animated Video-Assisted Contextual Teaching and Learning Approach on Students' Mathematical Critical Thinking Skills. Mathematics Education Study Program, FKIP Malikussaleh University, 2025.*

Students' low mathematical critical thinking skills are caused by a number of factors, such as learning methods that are still centered on teachers and the lack of use of learning media in delivering material. One of the solutions that can be implemented is the use of a student-centered contextual teaching and learning approach with the support of 3D animated video media. Therefore, this study aims to evaluate the effect of the application of the contextual teaching and learning approach assisted by plotagon-based 3D animation videos on the mathematical critical thinking ability of grade X students of SMA Negeri 7 Lhokseumawe on statistical material, especially the sub-material of data centering size.

This study uses a quantitative approach with a quasi-experimental design method of nonequivalent control group design. The research population was class X students of SMA Negeri 7 Lhokseumawe, with a purposive sampling technique that produced class X-1 as a control and class X-2 as an experiment. Data was collected through a mathematical critical thinking ability test, then analyzed using an independent sample t-test in SPSS version 20 with a significance level of 5%.

Based on the results of the hypothesis test on the mathematical critical thinking ability test, the student obtained a sig.(2-tailed) by 0,018. According to the hypothesis testing criteria, if the value is sig.(p-value) $\leq 0,05$ then it is rejected and if the value is sig.(p-value) $> 0,05$ then it is accepted. It was concluded that the results of the hypothesis test in this study were rejected, meaning that there was an influence H_0 of the contextual teaching and learning approach assisted by plotagon-based 3D animation videos on students' mathematical critical thinking skills.

Keywords: *Students' mathematical critical thinking skills, contextual teaching and learning approach, plotagon-based 3D animation videos*