

ABSTRACT

Ardi Patchouli Manurung, IDN 4203111143 (2025). The Effect of Open-Ended Approach Assisted With Kahoot Application Towards Mathematical Reasoning Ability of Senior High School.

The mathematical reasoning ability at SMAN 5 Pematangsiantar, which remains relatively low, has become a challenge in the mathematics learning process. The objective of this study is to provide a comprehensive description of the effect of the Open-Ended approach, facilitated by the Kahoot application, on enhancing students' mathematical reasoning abilities. The present research constitutes a quasi-experimental study. The research design employed a control class and an experimental class. The data collection technique was executed through the implementation of pre-tests and post-tests. The population of this study comprised all 11th-grade students of SMA Negeri 5 Pematangsiantar, with a total of 340 students distributed across 10 classes. The sample of this study comprised 68 students, with 34 students in each of two classes: class XI-4 as the experimental class and XI-5 as the control class, which were selected purposively. The data set was subjected to rigorous analysis using a series of statistical tests, including the normality test, homogeneity test, and t-test. The utilization of SPSS revealed that the data exhibited a normal distribution and homogeneity. The significance level of the t-test was smaller than $\alpha = 0.05$ so H_0 rejected and H_1 was accepted. Thus, it can be concluded that the mathematical reasoning ability of students taught using the Open-Ended approach is better compared to students taught with the direct instruction model.

Keywords : Open-Ended Approach, Mathematics Reasoning Ability, Effect

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Kemampuan penalaran matematika di SMA Negeri 5 Pematangsiantar, yang masih relatif rendah, telah menjadi tantangan dalam proses pembelajaran matematika. Tujuan penelitian ini adalah untuk memberikan gambaran komprehensif tentang pengaruh pendekatan Open-Ended, yang difasilitasi oleh aplikasi Kahoot, dalam meningkatkan kemampuan penalaran matematika siswa. Penelitian ini merupakan studi quasi-eksperimental. Desain penelitian menggunakan kelas kontrol dan kelas eksperimen. Teknik pengumpulan data dilakukan melalui pelaksanaan pre-test dan post-test. Populasi penelitian ini terdiri dari seluruh siswa kelas XI SMA Negeri 5 Pematangsiantar, dengan total 340 siswa yang tersebar di 10 kelas. Sampel penelitian ini terdiri dari 68 siswa, dengan 34 siswa di masing-masing dua kelas: kelas XI-4 sebagai kelas eksperimen dan XI-5 sebagai kelas kontrol, yang dipilih secara purposif. Data dianalisis secara ketat menggunakan serangkaian uji statistik, termasuk uji normalitas, uji homogenitas, dan uji t. Penggunaan SPSS menunjukkan bahwa data memiliki distribusi normal dan homogenitas. Nilai signifikansi uji t lebih kecil dari $\alpha=0,05$, sehingga H_0 ditolak dan H_1 diterima. Dengan demikian, dapat disimpulkan bahwa kemampuan penalaran matematis siswa yang diajarkan menggunakan pendekatan Open-Ended lebih baik dibandingkan dengan siswa yang diajarkan dengan model instruksi langsung.

Kata Kunci : Open-Ended Approach, Mathematics Reasoning Ability, Effect