ABSTRAK

Dita Trisna Panjaitan (NIM : 8226176009). Pengaruh Model PjBL terintegrasi STEAM terhadap Keterampilan Berpikir Kritis dan Berpikir Kreatif Siswa. Tesis. Medan : Pogram Studi Pendidikan Fisika, Pascasarjana Universitas Negeri Medan, 2024.

Penelitian ini bertujuan untuk melihat pengaruh *project based learning* (PjBL) terintegrasi STEAM terhadap keterampilan berpikir kritis dan kreatif siswa pada materi fluida statis di kelas XI SMA. Jenis penelitian ini *quasi experiment*. Populasi penelitian adalah seluruh siswa kelas XI SMA N 1 Kisaran T.A 2023/2024 yang terdiri dari 7 kelas. Sampel penelitian ini terdiri dari dua kelas, yaitu kelas XI MIA 2 (kelas eksperimen) dan kelas X MIA 1 (kelas kontrol) yang diambil dengan teknik *simple random sampling*, masing masing kelas berjumlah 36 orang. Instrumen tes yang digunakan berbentuk essay yang masing-masing mengukur keterampilan berpikir kritis dan kreatif siswa. Teknik analisis data yang digunakan dengan uji manova, N-gain dan uji korelasi. Nilai rata-rata pretes keterampilan berpikir kritis kelas eksperimen sebesar 36,66 dan kelas kontrol sebesar 36,61. Nilai rata-rata pretes berpikir kreatif kelas eskperimen sebesar 27,5 dan pada kelas kontrol sebesar 25,27. Hasil uji manova data pretes menunjukkan kelas eksperimen dan kelas kontrol memiliki kemampuan awal yang sama. Nilai rata-rata postes keterampilan berpikir kritis kelas eksperimen sebesar 78,6 dan kelas kontrol sebesar 67,6. Nilai rata-rata postes berpikir kreatif kelas eskperimen sebesar 77,9 dan pada kelas kontrol sebesar 63,3. Berdasarkan hasil penelitian diperoleh rata-rata postes kelas eksperimen lebih besar dibandingkan dengan kelas kontrol. Hasil uji manova data postes menunjukkan adanya perbedaan yang signifikan, yang berarti terdapat pengaruh PjBL terintegrasi STEAM terhadap berpikir kritis dan kreatif siswa. Peningkatan N-gain keterampilan berpikir kritis pada kelas eksperimen sebesar 66% (kategori sedang) dan berpikir kreatif sebesar 60% (kategori sedang). Nilai uji korelasi sebesar 0,552 (kategori sedang) menunjukkan bahwa terdapat hubungan yang positif keterampilan berpikir kritis dengan berpikir kreatif.

Kata kunci : *project based learning*, STEAM, berpikir kritis, berpikir kreatif

ABSTRACT

Dita Trisna Panjaitan (NIM: 8226176009). The Influence of the STEAM-integrated PjBL Model on Students' Critical Thinking and Creative Thinking Skills. Thesis. Medan: Physics Education Study Program, Medan State University Postgraduate, 2024.

This research aims to see the effect of STEAM integrated project based learning (PjBL) on students' critical and creative thinking skills in fluid statics material in class XI SMA. This type of research is quasi-experimental. The research population was all class XI students of SMA N 1 Kisaran T.A 2023/2024 consisting of 7 classes. The research sample consisted of two classes, namely class XI MIA 2 (experimental class) and class X MIA 1 (control class). The test instruments used are in the form of essays, each of which measures students' critical and creative thinking skills. The data analysis technique used was the Manova test, N-gain and correlation test. The average critical thinking skills pretest score for the experimental class was 36.66 and the control class was 36.61. The average creative thinking pretest score for the experimental class was 27,5 and for the control class was 25.27. The results of the pretest data MANOVA test showed that the experimental class and control class had the same initial abilities. The average post-test score for critical thinking skills in the experimental class was 78.6 and the control class was 67.6. The average posttest score for creative thinking in the experimental class was 77.9 and in the control class it was 63.3. Based on the research results, it was found that the posttest average for the experimental class was greater than that of the control class. The results of the post-test data MANOVA test showed a significant difference, which means that there is an influence of STEAM integrated PjBL on students' critical and creative thinking. The increase in N-gain in critical thinking skills in the experimental class was 66% (medium category) and creative thinking was 60% (medium category). The correlation test value of 0.552 (medium category) shows that there is a positive relationship between critical thinking skills and creative thinking.

Keywords: project-based learning, STEAM, critical thinking, creative thinking