

ABSTRAK

IMPLEMENTASI *LEARNING CYCLE 7E* TERINTEGRASI STEM- *DESIGN THINKING* UNTUK MENINGKATKAN KEMAMPUAN *COMPUTATIONAL THINKING* PESERTA DIDIK KELAS XI TOPIK FLUIDA STATIS

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Penelitian ini bertujuan untuk mendeskripsikan efektivitas implementasi *learning cycle 7E* terintegrasi STEM-*design thinking* dalam meningkatkan kemampuan *computational thinking* peserta didik kelas XI topik Fluida Statis. Adapun sampel dalam penelitian ini adalah peserta didik kelas XI-7 sebagai kelas eksperimen dan peserta didik kelas XI-8 sebagai kelas kontrol di SMA Negeri 1 Gedongtataan. Metode penelitian yang digunakan adalah *quasi-experiment design* dengan desain penelitian *nonequivalent control group design*. Terdapat dua variabel penelitian, yaitu variabel bebas (*learning cycle 7E* terintegrasi STEM-*design thinking*) dan variabel terikat (kemampuan *computational thinking* peserta didik). Analisis data diuji dengan menggunakan uji *N-gain*, uji *Independent Sample T-Test* dan uji *effect size*. Hasil uji *N-gain* menunjukkan peningkatan kemampuan *computational thinking* pada kelas eksperimen sebesar 0,71 (tinggi) dan kelas kontrol sebesar 0,53 (sedang). Berdasarkan hasil uji *Independent Sample T-Test* diperoleh nilai *sig. 2-tailed* sebesar 0,000 yang menunjukkan bahwa terdapat perbedaan yang signifikan pada peningkatan kemampuan *computational thinking* peserta didik antara kelas eksperimen dan kontrol. Sedangkan pada uji *effect size* diperoleh hasil nilai *cohen's d* sebesar 1,78 dengan kategori besar. Berdasarkan hasil tersebut, dapat diketahui bahwa implementasi *learning cycle 7E* terintegrasi STEM-*design thinking* pada materi Fluida Statis dapat meningkatkan kemampuan *computational thinking* peserta didik secara signifikan.

Kata kunci: ***Design Thinking*, Fluida Statis, Kemampuan *Computational Thinking*, *Learning Cycle 7E*, STEM**

ABSTRACT

IMPLEMENTATION OF LEARNING CYCLE 7E INTEGRATED WITH STEM-DESIGN THINKING TO IMPROVE COMPUTATIONAL THINKING SKILLS OF CLASS XI STUDENTS ON THE TOPIC OF STATIC FLUIDS

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This reserch aims to describe the effectiveness of the implementation of the 7E learning cycle integrated with STEM-design thinking in improving the computational thinking skills of grade XI students on the topic of Static Fluids. The sample in this study were grade XI-7 students as the experimental class and grade XI-8 students as the control class at SMA Negeri 1 Gedongtataan. The research method used was a quasi-experimental design with a nonequivalent control group design. There were two research variables, namely the independent variable (learning cycle 7E integrated with STEM-design thinking) and the dependent variable (students' computational thinking skills). Data analysis was tested using the N-gain test, the Independent Sample T-Test test and the effect size test. The results of the N-gain test showed an increase in computational thinking skills in the experimental class of 0.71 (high) and the control class of 0.53 (moderate). Based on the results of the Independent Sample T-Test test, a 2-tailed sig. value of 0.000 was obtained, indicating that there was a significant difference in the increase in students' computational thinking skills between the experimental and control classes. Meanwhile, in the effect size test, the results of the Cohen's d value were 1.78 with a large category. Based on these results, it can be seen that the implementation of the 7E learning cycle integrated with STEM-design thinking on Static Fluid material can significantly improve students' computational thinking abilities.

Keywords: Design Thinking, Static Fluids, Computational Thinking Skills, Learning Cycle 7E, STEM