

ABSTRAK

Nidaul Khairiyah : **EFEK MODEL *PROJECT BASED LEARNING* DENGAN PENDEKATAN STEM TERHADAP *CRITICAL THINKING, CREATIVE THINKING, COMMUNICATION AND COLLABORATION SKILLS (4Cs)* SISWA**. Tesis. Medan: Program Studi Pendidikan Fisika, Pascasarjana pengaruh model pembelajaran

Penelitian ini bertujuan untuk melihat pengaruh model pembelajaran *Project based learning* berbasis STEM pada materi fluida statis. Jenis penelitian ini adalah *quasi experiment* (eksperimen semu) sebab kelas yang dipakai untuk perlakuan yaitu kelas eksperimen 1 dan kelas eksperimen 2. Dua kelompok belajar dijadikan sampel penelitian yang dibedakan atas kategori kelas eksperimen 1 dengan model pembelajaran *Project based learning* berbasis STEM dan kelas eksperimen 2 dengan model *Project based learning*. Penelitian ini dilakukan di kelas XI semester genap di SMA Swasta Dharma Pancasila Medan. Hasil penelitian menunjukkan bahwa nilai rata-rata kelas eksperimen 1 lebih besar dibandingkan dengan kelas eksperimen 2 dan kelas kontrol diketahui dengan menggunakan uji Manova. Sehingga dapat disimpulkan bahwa terdapat pengaruh yang signifikan model pembelajaran *Project based learning* berbasis STEM terhadap keterampilan 4C pada materi fluida statis.

Kata Kunci : *Project based learning*, STEM, keterampilan 4C



ABSTRACT

Nidaul Khairiyah : **THE EFFECT OF PROJECT BASED LEARNING MODEL WITH STEM TO CRITICAL THINKING, CREATIVE THINKING, COMMUNICATION AND COLLABORATION SKILLS (4Cs) STUDENT.** Thesis. Medan: Physics Education Program, Pascasarjana.

This study aims to determine differences in students' critical thinking, creative thinking, communication and collaboration (4C) skills due to the effect of the application of project based learning (PjBL) applied STEM (Science, Technology, Engeneering and Mathematics), project based learning model and conventional learning. This study aims also to determain the improvement of each 4C skills. This type of research is quasi experimental. The sampel in this study were three classes XI MIA SMA Swasta Dharma Pancasila Medan. The result of study indicate that there are significant effect of critical thinking, creative thinking, communication and collaboration (4C) skills that taught by PjBL applied STEM compared to PjBL and conventional learning on the subject matter fluid static in class XI MIA Semester I of SMA Swasta Dharma Pancasila Medan TP. 2020/2021. The increase of students^ critical thinking was 72% (high), and the increase in the highest and lowest indicators was building basics skills 74% (high) and making strategy and tactics 54% (medium). The increase in students^ creative thinking skills was 70% (high), and the increase in the highest and lowest indicators was flexibility 87% (high) and originality 60% (medium). The increase sudents^ communication skill 81% (high), and the highest and lowest indicators was listen to each other 77% (high) and speak with appropriate intonation 51% (medium). The increarese students^collaboration skill 75% (high), and the highest and lowest indicator was work productively with otherd 81% (high) and adapt to various roles 55% (medium).

Key Word : *Project based learning, STEM, 4Cs Skill*

