

**THE EFFECT OF PROBLEM BASED LEARNING MODEL ASSISTED BY
SIMULATION DEMONSTRATION DEMONSTRATION
ON STUDENTS' HIGHER ORDER THINKING
SKILLS OF OPTICAL TOOLS TOPICS**

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ABSTRACT

This study research aims to know the effect of Problem Based Learning model assisted by simulation demonstration on students' Higher Order Thinking Skills of optical tools topics in SMA Negeri 7 Medan. This research method uses *quasi-experiment*. The population of this study is all classes grade XI in SMA Negeri 7 Medan T.P 2021/2020. This study sampling is using Purposive sampling which consisted of two classes, control class consist of 25 students applied conventional learning model and experimental class consist of 25 students applied problem based learning model assisted by simulation demonstration. Instruments that used to measure Higher Order Thinking Skills are 10 question of Essay Test. Before the learning is done given a pretest whose purpose is to see the similarity of the initial ability of the student's learning outcomes. In the Pre-Test results were conducted a Two-Tailed T test hypothesis with normal and homogeneous conditions as perquisites. Based on the result of Two-Tailed T test the initial ability of students are same. After being given treatment for applying different learning models in both classes, researchers gave the Post-Test. The Post-Test result using One-Tailed T test has significant different, it means there is the effect of Problem Based Learning model assisted by simulation demonstration on students' Higher Order Thinking Skills on Optical Tools for grade XI in SMA Negeri 7 Medan.

Keywords: *Problem Based Learning, Higher Order Thinking Skills, Simulation, Optical Tools*