

**THE EFFECT OF USING MACROMEDIA FLASH IN PHYSICS LEARNING WITH
DIRECT INSTRUCTION MODEL TO STUDENTS' LEARNING OUTCOMES
OF HEAT AND TEMPERATURE SUBJECT IN GRADE X
MAN 2 MODEL MEDAN ACADEMIC YEAR 2015/2016**

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ABSTRACT

Learning media is a tool or technique that is used to deliver message (subject matter), so that will able to stimulate students' interests, attention, anxious, thinking and feeling in learning process to attain the aim of learning. This research intent on knowing the effect of using learning media in this study using macromedia flash in physics learning to students' learning outcomes of heat and temperature subject in grade X MAN 2 Model Medan academic year 2015/2016.

The kind of this research is quasi experiment with research design is two group pre-test and post-test. Population of this research is all of natural science students in grade X that is consisted of 10 classes there is homogeny. Sample in this research is X NS 1 as Experimental class and X NS 8 as control class that taken by random sampling technique, each sample class have 42 students. The instrument test of this research is learning outcomes test that is consisted of 15 multiple choice question with 5 answer choices and all of question is taken from national standard test. Hypothesis test that is used one party t test.

Based on the data that got the average score of pretest in experimental class is 68.09 with standard of deviation is 13.86 and the average score of pretest in control class is 59.09 with standard of deviation is 16.83. in normality test of experimental class of pretest that get $L_{count} < L_{table}$ ($0.1236 < 0.1367$), whereas in control class $L_{count} < L_{table}$ ($0.1098 < 0.1367$), so that both of classes are normal distributed.

In homogeny test of pretest of both samples there is $F_{count} < F_{table} = 1.473 < 1.682$ then the data pretest both homogeneous samples. After giving treatment in both samples, experimental class is learning by using macromedia flash. And control class, learning without any learning media that get the result of average score in experimental class is 80.62 with standard of deviation is 9.68 and the average score of control class is 70.69 with standard deviation is 10.65. the result of one party t test of post-test that gained $t_{count} > t_{table}$ that is $3.149 > 1.663$, thus, there is effect to students' learning outcomes by using macromedia flash in physics learning of heat and temperature subject in grade X MAN 2 Model Medan A.Y. 2015/2016.

Keywords : Macromedia Flash, Direct Instruction (DI) Learning Model, Students' Learning Oucomes, Heat And Temperature.