

**The Effect of Problem Based Learning Model Using Animation toward Student's Critical Thinking Skill about Heat and Temperature at Grade X-Science in First Public Senior High School of Tebing Tinggi Academic Year 2015/2016**

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**ABSTRACT**

Critical thinking is general term of cognitive skills and intellectual disposition needed to effectively identify, analyze, and evaluate argument and truth claims. Critical thinking is one gold standard of problem based learning model. This research aimed to know and describe the effect of problem based learning toward students' critical thinking skill about heat and temperature.

This research employed a quasi experimental pretest and posttest with control design. The populations were 60 students grade X-science in SMA N 1 Tebing Tinggi academic year 2015/2016. The samples consist of two classes, one class with 30 students as experiment class and one class as control class with 30 students, while the sampling technique used cluster random sampling. Research instrument used essay test of critical thinking ability. The data obtained in the study were analyzed by the computer program SPSS 18.

Animation is used as an appropriate scaffolding of the material to help students build a mental framework about concepts. The result showed that student's critical thinking ability in experiment class which had been treated with problem based learning model with animation had been significantly different from control class which had been treated with conventional learning. In addition, the improvement of critical thinking skill in PBL class was greater than in control class. This meant implementation problem based learning has a significant effect toward student's critical thinking skill.

**Keyword:** Critical thinking, problem based learning, quasi experimental and Animation