

# THE EFFECT OF SCIENCE LEARNING USING PHET INTERACTIVE SIMULATION IN LEARNING MOTIVATION AND MASTERY OF STUDENTS' SCIENCE CONCEPT

by Sabar Nurohman, Allesius Maryanto, Widodo Setiyo Wibowo

## ABSTRACT

This purpose of this research aims to (1) understand the effect of PhET Interactive Simulations media against students' class VIII in SMP N 2 Sewon motivations in rays character matter, (2) understand the effect of PhET Interactive Simulations media against students' class VIII of smp n 2 sewon mastery of concept in rays character matter.

This research is a quasi experimental research using pre-test post-test control group design. The population used in this research were 60 students' of Class VIII in SMP N 2 Sewon Bantul. Sampling is done with cluster random sampling techniques. The sample used in this study was Class VIII D as class experiments using PhET Interactive Simulations and VIII B as control classes. The instruments used in this research were (1) pretest posttest motivational sheets to scale students' motivation and (2) pre-test and posttest questions to rate students's mastery in science concept. Analyzing technique used in this research is two independent sample T Test ( Mann Whitney).

The result of this study showed (1) there is influence of using PhET Interactive Simulation media towards students' motivations, (2) there is influence of using PhET Interactive Simulations media towards students mastery in science concept. The score of two independent sample t test for students motivations and mastery in science concept has Asymp. sig. (2-tailed) 0,036 and 0,000. The influence of PhET interactive simulations media showed by effect sized, for motivations were 0,53922 (middle category) and for mastery in science concept were 1,230666 (high category).

Kata Kunci: *Motivation to learn, Mastery concept of science, PhET Interactive Simulation*