ABSTRAK

Lusi Indriyani. 2016. **Pengaruh Penggunaan Simulasi PhET dengan Model*Problem Solving* terhadap Minat Belajar Siswa pada Pembelajaran Tentang Hukum Boyle dan Gay Lussac di Kelas XI IPA SMA Negeri 1 Prambanan dan SMA Negeri 2 Klaten.** Skripsi. Yogyakarta: Pendidikan Fisika, Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sanata Dharma Yogyakarta.

Penelitian ini bertujuan untuk mengetahui(1) minat belajar awal dan akhir siswa XI IPA SMA Negeri 1 Prambanan dan SMA Negeri 2 Klaten dalam mengikuti pembelajaran menggunakan simulasi PhET dengan model pembelajaran *problem solving* untuk pokok bahasan Hukum Boyle-Gay Lussac, (2)apakah pembelajaran tersebut dapat menigkatkan minat belajar siswa.

Sampel penelitian ini adalah siswa/i kelas XI IPA 1 dan XI IPA 4 SMA Negeri 1 Prambanan, serta siswa/i kelas XI IPA 5 dan XI IPA 6 SMA Negeri 2 Klaten. Kelas XI IPA 4 SMA Negeri 1 Prambanan dan XI IPA 5 SMA Negeri 2 Klaten sebagai kelas eksperimen yang diberi *treatment* berupa pembelajaran fisika mengggunakan simulasi PhET dengan model pembelajaran *problem solving*, sedangkan kelas XI IPA 1 SMA Negeri 1 Prambanan dan XI IPA 6 SMA Negeri 2 Klaten sebagai kelas kontrol yang diberi pembelajaran menggunakan metode ceramah. *Instrument* yang digunakan berupa angket minat belajar siswa sebelum dan sesudah pembelajaran fisika. Data minat belajar siswa dalam angket dianalisis secara statistik menggunakan program SPSS 17.

Hasil penelitian menunjukkan bahwa (1) *Mean* minat belajar awal dan akhir siswa kelas XI IPA 4 SMA Negeri 1 Prambanan berturut-turut adalah 24.15 (kurang berminat) dan 26.42 (berminat), sedangkan di kelas XI IPA 5 SMA Negeri 2 Klaten adalah 28.06 (berminat) dan 28.88 (berminat), dengan skor maksimal 40. (2) Berdasarkan uji t-test, peningkatan minat belajar di kelas XI IPA 4 SMA Negeri 1 Prambanan tidak signifikan jika dibandingkan dengan kelas XI IPA 1 (kelas kontrol). Berdasarkan homogenitas, peningkatan minat di kelas eksperimen dan kontrol sama-sama meningkat dari kategri kurang berminat menjadi berminat. Sedangkan di SMA Negeri 2 Klaten, berdasarkan uji *gain score* terhadap minat belajar siswa kelas XI IPA 5 dan 6 diperoleh bahwa selisih minat awal dan akhir di dua kelas adalah signifikan dengan nilai *gain score* untuk kelas eksperimen dan kontrol berturut-turut 0.82 dan 4.10. Berdasarkan homogenitas, minat belajar siswa di kelas eksperimen sebelum dan sesudah tetap dalam kategori beminat, sedangkan di kontrol meningkat dari kategori kurang berminat menjadi berminat.

Kata kunci: simulasi PhET, *problem solving*, minat belajar siswa.

ABSTRACT

Lusi Indriyani. 2016. ***The Application of PhET Simulation with Problem Solving Method in The Specifically Learning of Boyle and Gay Lussac's Law: The Study of Students' Interest in Class 11-Science of Prambanan 1 Senior High School and Klaten 2 Senior High School.*** *Undergraduate Thesis. Yogyakarta: Physics Education, Department of Mathematics and Natural Sciences Education, Faculty of Teacher Training and Education, Sanata Dharma University Yogyakarta.*

The research aims to determine (1) pre and post students' interest in learning physics for class 11-science of Prambanan 1 and Klaten 2 Senior High School to the application of PhET simulation with problem solving learning method for specifically in the subject of Boyle-Gay Lussac's law, (2) what that learning can increase the students' interest in learning physics.

The sample of the research are the students of Class 11-Science 1 and 4 in Prambanan 1 Senior High School and Class 11-Science 5 and 6 in Klaten 2 Senior High School.The Class 11-Science 4 of Prambanan 1 Senior High School and Class 11-Science 5 of Klaten 2 Senior High School were treated as experimental classes in which the PhET simulation with problem solving learning method were applied. Meanwhile, the students of Class 11-Science 1 of Prambanan 1 Senior High School and Class 11-Science 6 Klaten 2 Senior High School were treated as case-control study classes in which the method employed was lecture. Questionnaire was used to see the students' interest in their learning before and after class. The data were analyzed statistically by using SPSS 17.

The result shows that (1) Mean for pre and post students' interest in learning physics of class 11-science 4 of Prambanan 1 Senior High School in succession is 24.15 (less interest) and 26.42 (interest), meanwhile for Class 11-Science 5 of Klaten 2 Senior High School in succession is 28.06 (interest) and 28.88 (interest), maximum score is 40. (2) Based on t-test, increasing of students' interest in class 11-science 4 (experiment class) of Prambanan 1 Senior High School is not significant if compared with class 11-science 1 (control class). Based on homogeneity, increasing of students' interest in experiment and control class is increase from less interest became interest. While in Klaten 2 Senior High School, based on gain score test to students' interest in class 11-science 5 and 6 gotten difference of pre and post in both of class is significant with gain score value for experiment class is 0.82 and for control class in 4.10. Based on homogeneity, students' interest in experiment class is not change that is still in interest but in control class increasing from less interest became interest.

Keywords: PhEt simulation, problem solving, students' learning interest