

ABSTRAK

Blasius Trisna Hermawan. 2018. Membandingkan Metode Eksperimen Terbimbing dan Simulasi PhET (*Physics Education Technology*) dalam Meningkatkan Hasil Belajar dan Motivasi pada materi Hukum Hooke di SMA N 1 Sentolo Siswa Kelas XI. 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) perbedaan hasil belajar peserta didik dengan metode eksperimen terbimbing dan simulasi PhET tentang hukum Hooke; (2) Sejauh mana pemahaman peserta didik mengenai materi penelitian dengan metode eksperimen terbimbing dan simulasi PhET; dan (3) ada tidaknya perbedaan peningkatan motivasi belajar peserta didik pada kelas eksperimen terbimbing dan simulasi PhET. Jenis penelitian ini adalah eksperimental kuantitatif. Penelitian dilaksanakan di SMA N 1 Sentolo.

Subyek penelitian adalah peserta didik kelas X MIA 2 dan X MIA 3 yang terdiri dari 64 siswa. Penelitian ini menggunakan dua kelas eksperimen yang diberikan *treatment* berbeda, yaitu metode eksperimen terbimbing dan simulasi PhET. Instrumen yang digunakan untuk pengambilan data yaitu: tes tertulis (*pre-test* dan *post-test*), angket motivasi, angket afektif dan psikomotorik peserta didik. Hasil belajar berdasarkan *pre-test* dan *pos-test* dianalisis secara statistik menggunakan program SPSS 22, sedangkan motivasi peserta didik dianalisis dengan presentase frekuensi jumlah peserta didik.

Hasil penelitian menunjukkan bahwa penerapan metode eksperimen terbimbing lebih meningkatkan hasil belajar siswa dibandingkan kelas simulasi PhET dan motivasi belajar peserta didik pada kelas simulasi PhET tidak lebih tinggi dari kelas XI MIA SMAN 1 Sentolo.

Kata Kunci: metode eksperimen terbimbing, metode simulasi PhET, hasil belajar, motivasi belajar.

ABSTRACT

Blasius Trisna Hermawan. 2018. *Comparing The Guided Experimental Method and Computer Simulation with PhET (Physics Education Technology) Program to Improving Study Outcome and Motivations on the Hooke Law Subject at SMA N 1 Sentolo XI Grade. Thesis. Physics Education Study Program. Department of Mathematics and Science Education. Faculty of Teachers Training and Education. Sanata Dharma University , Yogyakarta.*

The research was intended to know: (1) the difference between of students study result with guided experimental method and PhET simulation on Hooke law subject; (2) to find out students understanding of the research subject with guided experimental method and PhET simulation; and (3) to compare the increase motivation student at guided experimental method class and PhET simulation class. This research takes form of quantitative experimental and it runs in SMA N 1 Sentolo.

The subjects of this research are students in XI MIA 2 and 3 that consists of 64 students. This research uses two experimental groups and gives two different treatments: guided experimental method and PhET simulation. Instruments that used in this research to collect experimental data are written test (pre-test and post-test), motivation questionnaire, and cognitive and psikomotoric questionnaire. The results from the pre-test and post-test have been statistically analyzed using SPSS 22, while students motivations based on the motivation questionnaire have been analyzed with students presentation frequency.

The results of this research show that the application of the guided experimental method increasly the study result and motivations of students class PhET simulation is not higher than motivation student for class XI MIA of SMA N 1 Sentolo.

Keywords: *guide experimental method, PhET simulation, study result, and study motivation.*