

ABSTRAK

Pratiwi, N. K. R. (2025). Pengaruh Model Pembelajaran Inkuiri terbimbing berbantuan media PhET *Simulations* terhadap Motivasi dan Hasil Belajar Siswa. Tesis Pendidikan IPA Program Studi S2 Pendidikan IPA Universitas Pendidikan Ganesha.

Tesis ini sudah disetujui oleh Pembimbing I Dr. A. A. Istri Agung Rai Sudiatmika, M.Pd dan Pembimbing II Prof. Dr. Ni Made Pujani, M.Pd.

Kata-kata kunci: Model Pembelajaran Inkuiri Terbimbing, PhET *Simulations*, Motivasi Belajar, dan Hasil Belajar.

Penelitian ini bertujuan untuk: (1) mendeskripsikan dan menjelaskan perbedaan motivasi dan hasil belajar IPA secara bersama antara siswa yang belajar menggunakan model inkuiri terbimbing berbantuan media PhET *Simulations* dan yang belajar menggunakan model inkuiri terbimbing, (2) mendeskripsikan dan menjelaskan perbedaan motivasi belajar antara siswa yang belajar menggunakan model inkuiri terbimbing berbantuan media PhET *Simulations* dan yang belajar menggunakan model inkuiri terbimbing, dan (3) mendeskripsikan dan menjelaskan perbedaan hasil belajar IPA antara siswa yang belajar menggunakan model inkuiri terbimbing berbantuan media PhET *Simulations* dan yang belajar menggunakan model inkuiri terbimbing. Penelitian ini adalah penelitian *quasi eksperimental* (eksperimen semu) dengan jenis rancangan *non-equivalent pretest posttest control group design*. Populasi penelitian adalah semua siswa kelas VIII SMP Negeri 4 Petang Tahun Pelajaran 2023/2024 sebanyak 3 kelas (75 siswa), dengan sampel sebanyak 2 kelas (50 siswa). Prosedur pengambilan sampel penelitian menggunakan teknik *cluster random sampling*. Variabel penelitian ini adalah motivasi dan hasil belajar siswa yang dikumpulkan menggunakan metode angket (kuesioner) dan tes. Data motivasi dan hasil belajar dianalisis menggunakan teknik analisis statistik deskriptif dan statistik inferensial. Statistik deskriptif digunakan untuk mendeskripsikan hasil rata-rata motivasi dan hasil belajar siswa sedangkan statistik inferensial untuk menguji hipotesis penelitian menggunakan uji MANOVA. Berdasarkan hasil analisis, ditemukan hasil sebagai berikut; (1) secara simultan, terdapat perbedaan signifikan motivasi dan hasil belajar siswa yang belajar menggunakan model pembelajaran inkuiri terbimbing berbantuan media PhET *Simulations* dengan model pembelajaran inkuiri terbimbing ($p=0,000<0,05$), (2) terdapat perbedaan signifikan motivasi belajar siswa yang belajar menggunakan model pembelajaran inkuiri terbimbing berbantuan media PhET *Simulations* dengan model pembelajaran inkuiri terbimbing ($p=0,006<0,05$), (3) terdapat perbedaan signifikan hasil belajar siswa yang belajar menggunakan model pembelajaran inkuiri terbimbing berbantuan media PhET *Simulations* dengan model pembelajaran inkuiri terbimbing ($p=0,000<0,05$). Kelompok siswa yang belajar menggunakan model pembelajaran inkuiri terbimbing berbantuan media PhET *Simulations* menunjukkan motivasi dan hasil belajar siswa lebih unggul dibandingkan kelompok siswa yang belajar dengan model pembelajaran inkuiri terbimbing.

ABSTRACT

Pratiwi, N. K. R. (2025). *The Effect of PhET Simulations-Assisted Guided Inquiry Learning Model on Student Motivation and Learning Outcomes*. Science Education Thesis, Master of Science Education Study Program, Universitas Pendidikan Ganesha.

This thesis has been approved by 1st Advisor: Dr. A. A. Istri Agung Rai Sudiatmika, M.Pd and 2nd Advisor: Prof. Dr. Ni Made Pujani, M.Pd.

Keywords: Guided Inquiry Learning Model, PhET *Simulations*, Motivation, Learning Outcomes.

This study was conducted to: (1) describe and explain the differences in motivation and science learning outcomes together between students who study using the PhET *Simulations* assisted by guided inquiry model and those who study using the guided inquiry model, (2) describe and explain differences in learning motivation between students who study using the PhET *Simulations* media-assisted guided inquiry model and those who study using the guided inquiry model, and (3) describe and explain the difference in science learning outcomes between students who study using the PhET *Simulations*-media-assisted guided inquiry model and those who study using the guided inquiry model. This study was quasi-experimental research with a non-equivalent pretest posttest control group design. The research population was all 3 class VIII students of SMP Negeri 4 Petang for the academic year 2023/2024 (75 students), with a sample of 2 classes (50 students). The research sample collection procedure uses a cluster random sampling technique. The variables of this study were motivation and learning outcomes which were collected using the questionnaire methods and test. Motivation data and learning outcomes were analyzed using descriptive statistical analysis techniques and inferential statistics. Descriptive statistics are used to describe the average results of student motivation and learning outcomes while inferential statistics are used to test research hypotheses using the MANOVA test. Based on the results of the analysis, the following results were found. (1) simultaneously, a significant difference in the motivation and learning outcomes of students who learned using the PhET *Simulations* assisted by guided inquiry learning model and the guided inquiry learning model ($p = 0,000 < 0,05$), (2) a significant difference in the learning motivation of students who learn using the PhET *Simulations* assisted by guided inquiry learning model and the guided inquiry learning model ($p = 0,006 < 0,05$), and (3) a significant difference in the learning outcomes of students who learn using assisted by guided inquiry learning model of PhET *Simulations* and the guided inquiry learning model ($p = 0,000 < 0,05$). The group of students who studied using the PhET *Simulations*-media-assisted guided inquiry learning model showed that student motivation and learning outcomes were superior to the group of students who learned with the guided inquiry learning model.