

ABSTRAK

PENGARUH PEMBELAJARAN *FLIPPED LEARNING* TERHADAP
HASIL BELAJAR FISIKA MATERI ENERGI TERBARUKAN DAN
TINGKAT MOTIVASI BELAJAR SISWA SMA NEGERI 1 KALASAN

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Penelitian ini bertujuan untuk mengetahui: (1) pengaruh model *Flipped learning* terhadap hasil belajar fisika kelas kontrol dan kelas eksperimen SMA Negeri 1 Kalasan, (2) perbandingan tingkat motivasi belajar fisika kelas kontrol dan kelas eksperimen SMA Negeri 1 Kalasan. Jenis penelitian yang digunakan adalah deskriptif kuantitatif dengan desain penelitian *Design Static Group Pretest-Posttest* yang dilaksanakan pada tanggal 20 Maret – 7 Mei 2024.

Subjek dalam penelitian ini adalah siswa kelas XE 1 dan XE 3 SMA Negeri 1 Kalasan yang berjumlah 64 siswa. Dalam pengambilan sampel kelas XE 1 menerapkan model *Flipped learning* sedangkan kelas XE 3 menerapkan model ceramah aktif. Instrumen yang digunakan berupa soal *pretest* dan *posttest* untuk mengetahui pengaruh metode *Flipped learning* terhadap hasil belajar fisika pada materi energi terbarukan dan menggunakan angket motivasi belajar untuk mengetahui tingkat motivasi belajar

Hasil penelitian menunjukkan bahwa: (1) Model pembelajaran *Flipped learning* dapat meningkatkan hasil belajar peserta didik kelas eksperimen pada materi energi terbarukan. Dengan nilai $t = -14,131$, dan $p = 0,000 < \alpha = 0,05$ menunjukkan hasil yang *signifikan* dan nilai rata-rata *pretest* 35,88 dan rata-rata *posttest* 67,84, bahkan peningkatannya lebih tinggi dari model ceramah aktif. (2) Terdapat perbedaan tingkat motivasi belajar siswa setelah mengikuti proses belajar, sangat termotivasi dan termotivasi di kelas eksperimen (87,4%) lebih tinggi dibandingkan kelas kontrol (59,4).

Kata Kunci: model *Flipped learning*, model ceramah aktif, motivasi belajar, energi terbarukan

ABSTRACT

*THE EFFECT OF FLIPPED LEARNING ON PHYSICS LEARNING
OUTCOMES FOR RENEWABLE ENERGY TOPICS AND LEVEL OF
LEARNING MOTIVATION AMONG STUDENTS AT SMA NEGERI 1 KALASAN*

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This study aims to know: (1) the effect of the Flipped learning model on the physics learning outcomes of control class and experimental class at SMA Negeri 1 Kalasan, (2) the comparison of physics learning motivation level of control class and experimental class at SMA Negeri 1 Kalasan. The type of research used is descriptive quantitative with a Static Group Pretest-Posttest Design was conducted from March 20 to May 7, 2024.

The subjects in this study were students of classes XE 1 and XE 3 at SMA Negeri 1 Kalasan, consisting of 64 students. In sampling, class XE 1 applied the Flipped learning model, while class XE 3 applied the active lecture model. The instruments used were pretest and posttest questions to determine the effect of the Flipped learning method on physics learning outcomes in renewable energy materials, and used a learning motivation questionnaire to determine the level of learning motivation.

The results showed that: (1) The Flipped learning model can improve the learning outcomes of students in the experimental class on renewable energy topics, with $t = -14.131$ and $p = 0.000 < \alpha = 0.05$ indicating significant results, and an average pretest score of 35.88 and a posttest average of 67.84, which is even higher than the active lecture model. (2) There are differences in student's learning motivation level after participating the learning process, highly motivated and motivated students in the experimental class (87.4%) are higher compared to the control class (59.4%).

Keywords: *Flipped learning model, active lecture model, learning motivation, renewabel energy*