

## ABSTRAK

**Sri Arfani Hs (8196175002).** Efektivitas Model *Guided Discovery Learning* Berbantuan Virtual Simulasi PhET untuk meningkatkan Pemahaman Konsep dan Minat Siswa Pada Materi Getaran dan Gelombang.

Penelitian ini bertujuan untuk mengetahui Efektivitas model pembelajaran *guided discovery learning* berbantuan virtual simulasi PhET untuk meningkatkan pemahaman konsep dan minat belajar siswa pada materi getaran dan gelombang di kelas VIII MTsN 2 Medan dan untuk melihat korelasi antara pemahaman konsep dan minat belajar siswa. Jenis Penelitian adalah *quasi experiment* dengan desain penelitian *Two Group Pretest-postest*. Hasil penelitian diperoleh nilai rata-rata pretes kelas eksperimen 47,5 dan kelas kontrol adalah 37. Sampel berdistribusi normal dan homogen. Hasil post test nilai rata-rata kelas eksperimen 77 dan kelas kontrol nilai rata-rata 54,6 kedua data normal dan homogen serta analisis hipotesis statistik menunjukkan bahwa terdapat perbedaan rata-rata dari kedua kelas, berarti ada pengaruh model pembelajaran *guided discovery learning* berbantuan virtual simulasi PhET dalam meningkatkan pemahaman konsep siswa. Untuk mengetahui keefektifan implementasi model *guided discovery learning* berbantuan virtual PhET terhadap pemahaman konsep dan minat belajar siswa, menggunakan skor Ngain dengan interpretasi keefektifan pemahaman konsep adalah 57 % cukup efektif dan minat belajar siswa 73% cukup efektif. Hubungan minat belajar dan pemahaman konsep siswa memiliki korelasi dengan nilai 0,805 yang diinterpretasikan memiliki derajat hubungan kuat dan bentuk hubungan positif yang berarti semakin tinggi minat siswa maka semakin tinggi juga pemahaman konsep siswa.

**Kata Kunci :** *Guided Discovery Learning, PhET pemahaman konsep, minat siswa*

## ABSTRACT

**Sri Arfani Hs (8196175002).** Effectiveness Of The Guided Discovery Learning Model Based Virtual Simulation Phet To Improve Concepts Understanding And Students Interest On Vibration And Waves

This study aims to determine the effectiveness of the guided discovery learning model assisted by virtual PhET simulations to improve students' understanding of concepts and learning interest in vibration and wave material in class VIII MTsN 2 Medan and to see the correlation between conceptual understanding and student learning interest. This type of research is a quasi-experimental with a Two Group Pretest-posttest research design. The results of the study obtained that the average pretest value for the experimental class was 47.5 and for the control class was 37. The samples were normally distributed and homogeneous. The post-test results for the experimental class average score of 77 and the control class average value of 54.6 for both normal and homogeneous data and statistical hypothesis analysis show that there is a difference in the average of the two classes, meaning that there is an influence of the guided discovery learning model assisted by virtual PhET simulations in increasing students' understanding of concepts. To determine the effectiveness of the implementation of the PhET virtual assisted guided discovery learning model on understanding concepts and students' learning interests, using the Ngain score with an interpretation of the effectiveness of understanding concepts is 57% quite effective and students' learning interest is 73% quite effective. The relationship between learning interest and students' understanding of concepts has a correlation with a value of 0.805 which is interpreted as having a degree of strong relationship and a positive relationship, which means that the higher the students' interest, the higher the students' understanding of concepts.

*Keywords: Guided Discovery Learning, PhET concept understanding, student interest*