

ABSTRAK

ADVENTA SINTA MARITO (NIM: 8186176009). “Pengaruh Model *Problem Based Learning* Berbantuan *E-Book* Terhadap Kemampuan Proses Sains dan Kemampuan Pemecahan Masalah Pada Materi Fluida Statis” Tesis: Program Studi Pendidikan Fisika Pascasarjana Universitas Negeri Medan, 2023.

Penelitian ini bertujuan untuk mengetahui pengaruh menggunakan model *problem based learning* berbantuan *e-book* terhadap kemampuan pemecahan masalah dan keterampilan proses sains fisika siswa. Jenis penelitian ini merupakan eksperimen semu dengan desain *two group pretest-posttest design*. Populasi dalam penelitian ini adalah seluruh siswa kelas X T.A 2021-2022 yang terdiri dari 2 kelas dengan jumlah 65 siswa. Kelas X-IA 1 sebagai kelas eksperimen yang menggunakan model *problem based learning* dan kelas X-IA 2 sebagai kelas kontrol menggunakan pembelajaran konvensional. Instrumen penelitian menggunakan test dalam bentuk esai kemampuan pemecahan masalah sebanyak 5 soal dan 5 soal esai untuk keterampilan proses sains yang telah divalidkan. Analisis data menggunakan uji *Multivariate Analysis of Variance (Manova)*. Hasil analisis data yang dilakukan bahwa: 1) Ada pengaruh model *problem based learning* berbantuan *e-book* terhadap kemampuan pemecahan masalah dan keterampilan proses sains fisika siswa, 2) kemampuan pemecahan masalah dan keterampilan proses sains siswa yang diajarkan menggunakan *model problem based learning* berbantuan *e-book* lebih baik dibandingkan yang diajarkan menggunakan pembelajaran konvensional.

Kata Kunci: *Problem Based Learning*, *E-book*, Kemampuan Pemecahan Masalah, Keterampilan Proses Sains.



Abstract

ADVENTA SINTA MARITO (NIM: 8186176009). "The Effect of Using a Problem Based Learning Model Supported by E-Book on Students Physics Problem Solving Ability and Science Process Ability". Thesis: Postgraduate Physics Education Study Program, State University of Medan, 2023.

This research purposed to determine the effect of using a problem based learning model based on e-books on students' problem solving abilities and physics science process skills. This type of research is a quasi-experiment with a two group pretest-posttest design. The population in this study were all students of class X T.A 2021-2022 which consisted of 2 classes with a total of 65 students. Class X-IA 1 as an experimental class using a problem based learning model and class X-IA 2 as a control class using conventional learning. The research instrument used a test in the form of a problem-solving ability essay as many as 5 questions and 5 essay questions for validated science process skills. Data analysis used the Multivariate Analysis of Variance (Manova) test. The results of data analysis carried out are that: 1) There is an effect of the problem based learning model assisted by e-books on the problem solving ability and physics science process skills of students, 2) the problem solving ability and science process skills of students who are taught using the problem based learning model assisted by e-books. books are better than those taught using conventional learning.

Keywords: Problem Based Learning, E-book, Problem Solving Ability, Science Process Skills.

