

ABSTRAK

Cindi Elvani. Pengaruh Model *Problem Based Learning* dengan Pembelajaran Diferensiasi terhadap Kemampuan Berpikir Kritis dan Kemampuan Pemecahan Masalah. Tesis. Medan : Pogram Studi Pendidikan Fisika, Pascasarjana Universitas Negeri Medan, Juli 2024.

Penelitian bertujuan untuk melihat pengaruh model *Problem Based Learning* (PBL) dengan pembelajaran diferensiasi terhadap kemampuan berpikir kritis dan kemampuan pemecahan masalah siswa pada materi suhu dan kalor dikelas XI SMA. Jenis penelitian *quasi experiment*. Populasi dalam penelitian adalah 210 siswa kelas XI MIPA SMA Swasta Budi Agung Medan T.A 2023/2024. Sampel penelitian terdiri dari dua kelas, yaitu kelas XI MIA 1 (kelas eksperimen) dan XI MIA 2 (kelas kontrol) diambil dengan teknik *simple random sampling*, masing-masing kelas berjumlah 35 siswa. Instrumen tes digunakan berbentuk *essay* untuk mengukur kemampuan berpikir kritis dan kemampuan pemecahan masalah siswa. Teknik analisis data digunakan dengan uji *manova*, uji *N-gain* dan uji *effect size*. Nilai rata-rata postes kemampuan berpikir kritis kelas eksperimen adalah 74,91 dan kelas kontrol adalah 53,43. Nilai rata-rata postes kemampuan pemecahan masalah kelas eksperimen adalah 75,37 dan kelas kontrol adalah 52,91. Hasil penelitian diperoleh rata-rata postes kelas eksperimen lebih besar dibandingkan dengan kelas kontrol. Hasil uji *manova* data postes menunjukkan adanya perbedaan signifikan, berarti terdapat pengaruh PBL dengan pembelajaran diferensiasi terhadap kemampuan berpikir kritis dan kemampuan pemecahan masalah siswa. Peningkatan *N-gain* kemampuan berpikir kritis pada kelas eksperimen adalah 64% (kategori sedang) dan kemampuan pemecahan masalah adalah 60% (kategori sedang). Nilai uji *effect size* kemampuan berpikir kritis sebesar 2,22 (kategori efek sangat besar) dan kemampuan pemecahan masalah sebesar 2,23 (kategori efek sangat besar) menunjukkan bahwa terdapat pengaruh sangat besar model PBL dengan pembelajaran diferensiasi terhadap kemampuan berpikir kritis dan kemampuan pemecahan masalah.

Kata kunci : Kemampuan Berpikir Kritis, Kemampuan Pemecahan Masalah, Pembelajaran Diferensiasi, *Problem Based Learning*

ABSTRACT

Cindi Elvani. The Influence of the Problem Based Learning Model with Differentiated Learning on Critical Thinking Ability and Problem Solving Ability. Thesis. Medan: Physics Education Study Program, Medan State University Postgraduate, July 2024.

The research aims to see the effect of the Problem Based Learning (PBL) model with differentiated learning on students' critical thinking abilities and problem solving abilities on temperature and heat material in class XI SMA. This type of quasi-experimental research. The population in the study was 210 students of class XI MIPA Budi Agung Private High School Medan T.A 2023/2024. The research sample consisted of two classes, namely class XI MIA 1 (experimental class) and The test instrument used is in the form of an essay to measure students' critical thinking and problem solving abilities. Data analysis techniques were used with the Manova test, N-gain test and effect size test. The average post-test score for critical thinking skills in the experimental class was 74.91 and the control class was 53.43. The average post-test score for problem solving ability in the experimental class was 75.37 and the control class was 52.91. The research results showed that the post-test average for the experimental class was greater than that of the control class. The results of the post-test data MANOVA test showed that there were significant differences, meaning that there was an influence of PBL with differentiated learning on students' critical thinking and problem solving abilities. The increase in N-gain in critical thinking abilities in the experimental class was 64% (medium category) and problem solving ability was 60% (medium category). The effect size test value for critical thinking ability is 2.22 (very large effect category) and problem solving ability is 2.23 (very large effect category) indicating that there is a very large influence of the PBL model with differentiated learning on critical thinking ability and problem solving ability.

Keywords: Critical Thinking Ability, Differentiated Learning, Problem Based Learning, Problem Solving Ability