

ABSTRAK

Fitrisa Arman 2025. “Penerapan Model Pembelajaran *Problem Solving* Untuk Meningkatkan Kemampuan Pemahaman Konsep Matematis Siswa Pada Materi Logaritma” Di Bawah Bimbingan **Dr. Ardiana, S, Si, M, Si. Dan Dr. Mustafa A.H. Ruhama, S.Pd., M.Se.**

Penelitian ini bertujuan untuk mengetahui 1) Kemampuan Pemahaman Konsep Matematis (KPKM) Siswa Sebelum dan Setelah Diterapkan Model Pembelajaran *Problem Solving* pada Materi Logaritma. 2) Penerapan model *problem solving* terhadap KPKM siswa pada materi logaritma. Penelitian ini menggunakan jenis penelitian eksperimen semu dengan *nonequivalent control group design*. Sampel penelitian ini adalah siswa kelas X-F dan X-E SMA Negeri 5 Kota Ternate berjumlah 30 siswa. Teknik pengumpulan data pada penelitian ini menggunakan instrumen tes berupa soal uraian sebanyak 2 nomor yang memuat tiga indikator KPKM, dan dokumentasi. Data yang diperoleh dianalisis secara deskriptif dan inferensial. Analisis deskriptif untuk menjelaskan gambaran KPKM siswa setelah diterapkan model *Problem Solving*. Analisis inferensial untuk menarik kesimpulan berdasarkan hasil pengujian hipotesis penelitian. Hasil penelitian diperoleh: 1) KPKM Siswa Kelas X-F SMA Negeri 5 Kota Ternate sebelum diterapkan model *problem solving* terdapat 28 siswa dengan persentase (93,34%) masuk pada kategori rendah, 1 siswa dengan persentase (3,33%) masuk kategori sedang, 1 siswa dengan persentase (3,33%) masuk kategori tinggi. Setelah diterapkan model *Problem Solving* terdapat 23 siswa (76,66%) masuk pada kategori tinggi, 3 siswa (10,00%) pada kategori sedang, dan 4 siswa (13,33%) pada kategori rendah. 2) Peningkatan KPKM Siswa setelah diterapkan pembelajaran dengan model *problem solving* pada materi logaritma dalam kategori tinggi dilihat dari hasil kualifikasi nilai N-Gain yaitu sebesar 0,74 dan diperkuat oleh hasil uji hipotesis yang menunjukkan bahwa nilai signifikansi KPKM siswa maka hipotesis diterima berarti model *problem based learning* secara signifikan dapat meningkatkan kemampuan pemahaman konsep matematis siswa.

Kata kunci: Kemampuan Pemahaman Konsep Matematis, *Problem solving*, Logaritma.

ABSTRACT

Fitrisa Arman 2025. "Application of the Problem Solving Learning Model to Improve Students' Understanding of Mathematical Concepts in Logarithm Material" Under the Guidance of **Dr. Ardiana, S, Si, M, Si. And Dr. Mustafa A.H. Ruhama, S.Pd., M.Se.**

This research aims to determine 1) Students' Mathematical Concept Understanding (KPKM) Ability Before and After Applying the Problem Solving Learning Model to Logarithm Material. 2) Application of the problem solving model to KPKM students on logarithm material. This research uses a quasi-experimental type of research with nonequivalent control group design. The sample for this research was 31 students in classes X-F and X-E of SMA Negeri 5 Ternate City. The data collection technique in this study used a test instrument in the form of 2 numbered description questions containing three KPKM indicators, and documentation. The data obtained were analyzed descriptively and inferentially. Descriptive analysis to explain the picture KPKM of students after applying the Problem Solving model. Inferential analysis to draw conclusions based on the results of research hypothesis testing. The research results obtained: 1) KPKM Class X-F students of SMA Negeri 5 Ternate City before the problem solving model was implemented, there were 28 students with a percentage (93.34%) in the low category, 1 student with a percentage (3.33) is in the medium category, and 1 student with a percentage (3.33) is in the high category. After applying the Problem Solving model, there were 23 students (76.66%) in the high category, 3 students (10.00%) in the *medium* category, and 4 students (13.33%) in the low category. 2) The increase in KPKM of students after implementing learning with a problem solving model on logarithm material in the high category is seen from the results of the qualification N-Gain value, which is 0.74 and is strengthened by the results of hypothesis testing which shows that the student's significance value KPKM is $0.000 < \alpha = 0.05$ then the hypothesis is accepted, meaning the problem based learning model can significantly improve students' ability to understand mathematical concepts.

Key words: Ability to understand mathematical concepts, problem solving, logarithms.