

ABSTRAK

PENGARUH MODUL PEMBELAJARAN BERBASIS *PROBLEM BASED LEARNING* TERHADAP PENALARAN MATEMATIS SISWA SMA NEGERI 13 MEDAN

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Dalam dunia pendidikan di Indonesia, rata-rata siswa memiliki kesulitan dalam menyelesaikan soal-soal matematika terutama yang berhubungan dengan penalaran matematis siswa. Kurangnya penalaran matematis siswa juga dipengaruhi oleh beberapa faktor, salah satunya proses pembelajaran yang monoton, serta metode pembelajaran yang konvensional. Penelitian ini bertujuan untuk mengetahui sejauh apa pengaruh modul pembelajaran berbasis *problem based learning* terhadap penalaran matematis siswa. Jenis penelitian ini menggunakan *Quasi Eksperimental*. Desain yang digunakan yaitu *pretest-posttest control group design*. Populasi dalam penelitian ini berjumlah 720 siswa dan sampel penelitian ini berjumlah 70 siswa. Pengumpulan data dilakukan dengan menggunakan SPSS Versi 25 dan tes penalaran matematis berupa esai (uraian) yang disusun sesuai dengan indikator penalaran matematis, yaitu mengajukan dugaan, melakukan manipulasi matematika, menarik kesimpulan, menyusun bukti, memberikan alasan atau bukti terhadap kebenaran solusi, dan menarik kesimpulan dari pernyataan. Adapun hasil penelitian, yaitu pada uji analisis regresi memperoleh nilai sig. < 0,05 yaitu sebesar 0,000. Hal tersebut menunjukkan bahwa hipotesis H_0 ditolak dan H_a diterima. Dan pada uji N-Gain, memperoleh nilai peningkatan pada kelas eksperimen sebesar 0,52. Sehingga dapat disimpulkan bahwa terdapat adanya pengaruh modul pembelajaran berbasis *problem based learning* dengan kategori sedang.

Kata kunci : modul pembelajaran, *problem based learning*, penalaran matematis

ABSTRACT

INFLUENCE OF LEARNING MODULE BASED ON *PROBLEM BASED LEARNING* TOWARDS MATHEMATICAL REASONING OF THE STUDENTS OF SMA NEGERI 13 MEDAN

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In the world of education in Indonesia, the average students have difficulties in solving mathematical problems, especially those related to the students' mathematical reasoning. The lack of the students' mathematical reasoning is also influenced by several factors, one of which is the monotonous learning process, and conventional learning methods. This study aims to determine the extent to which the influence of learning module based on *problem-based learning* towards the students' mathematical reasoning. This type of research uses *Quasi Experimental*. The design used is *pretest-posttest control group design*. The population in this study was 720 students and the sample of this study was 70 students. Data collection was carried out using SPSS Version 25 and the mathematical reasoning test in the form of an essay (description) which was arranged according to the indicators of mathematical reasoning, namely submitting conjectures, carrying out mathematical manipulations, drawing conclusions, compiling evidence, providing reasons or evidence for the truth of the solution, and drawing conclusions from the statements. The results of the study, namely the regression analysis test obtained a sig. < 0.05 value of 0.000. This indicates that the hypothesis H_0 is rejected and H_a is accepted. And in the N-Gain test, the increase value in the experimental class was 0.52. So it can be concluded that there is an influence of the learning module based *problem-based learning* with a moderate category.

Keywords: learning module, *problem based learning*, mathematical reasoning

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