

ABSTRAK

Ambarini, Tasya. 2024. *Pengaruh pembelajaran terdiferensiasi dengan model problem based learning* terhadap kemampuan pemahaman konsep matematis siswa kelas X SMA. Skripsi. Tanjungpinang: Program Studi Pendidikan Matematika, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Maritim Raja Ali Haji. Pembimbing I: Assist. Prof. Dr. Nur Izzati, S.Pd., M.Si. Pembimbing II: Assist. Prof. Nur Asma Riani Siregar, S.Pd., M.Pd.

Kata Kunci: Pembelajaran Terdiferensiasi, *Problem Based Learning*, Pemahaman Konsep Matematis

Penelitian ini bertujuan untuk mengetahui pengaruh pembelajaran terdiferensiasi dengan model *problem based learning* terhadap kemampuan pemahaman konsep matematis siswa di SMA Negeri 6 Tanjungpinang. Penelitian ini menggunakan pendekatan kuantitatif dengan jenis *quasy experimental* dan desain *non-equivalent control group*. Populasi pada penelitian ini adalah seluruh siswa kelas X SMA Negeri 6 Tanjungpinang yang berjumlah 90 orang. Sampel pada penelitian ini terdiri dari dua kelas yaitu kelas X.1 dan X.2 yang dipilih melalui teknik *cluster sampling*. Teknik pengumpulan data yang digunakan yaitu angket, tes, dan observasi. Instrumen yang digunakan terdiri atas instrumen utama berupa angket gaya belajar siswa, instrumen tes kemampuan pemahaman konsep matematis, dan lembar observasi, serta instrumen pendukung berupa modul ajar dan lembar kerja siswa. Data yang dianalisis berupa data kualitatif yang menjelaskan mengenai kegiatan pembelajaran, serta data kuantitatif yang menjelaskan mengenai data kemampuan awal dan akhir pemahaman konsep matematis siswa melalui *pretest* dan *posttest* pada kelas eksperimen dan kelas kontrol. Hasil penelitian diperoleh bahwa rata-rata kemampuan akhir pemahaman konsep matematis siswa sebesar 63,45 lebih tinggi daripada rata-rata kemampuan awal pemahaman konsep matematis siswa sebesar 23,00. Pada *independent sample t-test*, nilai *sig. (2-tailed)* sebesar 0,04. Karena uji yang dilakukan adalah uji satu pihak (uji pihak kanan), maka nilai $sig. = \frac{1}{2} \times 0,04 = 0,02$ dan diketahui $0,02 < 0,05$, sehingga H_0 ditolak dan H_a diterima. Oleh karena itu, dapat disimpulkan bahwa rata-rata hasil kemampuan akhir pemahaman konsep matematis siswa pada kelas eksperimen lebih tinggi daripada kelas kontrol. Berdasarkan hal tersebut, dapat disimpulkan bahwa pembelajaran terdiferensiasi dengan model *problem based learning* berpengaruh terhadap kemampuan pemahaman konsep matematis siswa.

ABSTRACT

Ambarini, Tasya. 2024. *The effect of differentiated learning with the problem based learning model on the ability to understand mathematical concepts in class X SMA*. Thesis. Tanjungpinang: Department of Mathematics Education, The Faculty of Teacher Training and Education, Raja Ali Haji Maritime University. Advisor I: Assist. Prof. Dr. Nur Izzati, S.Pd., M.Si. Advisor II: Assist. Prof. Nur Asma Riani Siregar, S.Pd., M.Pd.

Keyword: Differentiated Learning, Problem Based Learning, Understanding Mathematical Concepts

This research aims to determine the effect of differentiated learning using the problem based learning model on students' ability to understand mathematical concepts at SMA Negeri 6 Tanjungpinang. This research uses a quantitative approach with a quasi-experimental type and a non-equivalent control group design. The population in this study was all class X students of SMA Negeri 6 Tanjungpinang, totaling 90 people. The sample in this study consisted of two classes, namely classes X.1 and X.2 which were selected through cluster sampling techniques. The data collection techniques used were questionnaires, tests and observations. The instruments used consisted of the main instruments in the form of student learning style questionnaires, test instruments for understanding mathematical concepts, and observation sheets, as well as supporting instruments in the form of teaching modules and student worksheets. The data analyzed is qualitative data which explains learning activities, as well as quantitative data which explains data on students' initial and final ability to understand mathematical concepts through pretest and posttest in the experimental class and control class. The research results showed that the average final ability of students' understanding of mathematical concepts was 63.45, higher than the average initial ability of students' understanding of mathematical concepts of 23.00. In the independent sample t-test, the sig value. (2-tailed) of 0.04. Because the test carried out is a one-party test (right-hand test), the sig value. $= \frac{1}{2} \times 0,04 = 0.02$ and it is known that $0.02 < 0.05$, so H_0 is rejected and H_a is accepted. Therefore, it can be concluded that the average result of students' final ability to understand mathematical concepts in the experimental class is higher than the control class. Based on this, it can be concluded that differentiated learning using the problem based learning model has an effect on students' ability to understand mathematical concepts.