

ABSTRAK

Siahaan, Lysnawati. 2025. Pengaruh pembelajaran terdiferensiasi dengan model *connecting, organizing, reflecting, extending* terhadap pemahaman konsep matematis siswa SMP kelas VIII. Skripsi. Tanjungpinang: Program Studi Pendidikan Matematika, Fakultas Keuruan dan Ilmu Pendidikan, Universitas Maritim Raja Ali Haji. Pembimbing I: Alona Dwinata, S. Pd., M.Sc. Pembimbing II: Febrian, S.Pd., M.Sc.

Kata Kunci: Pembelajaran Terdiferensiasi, *Connecting, Organizing, Reflecting, Extending*, Pemahaman Konsep Matematis.

Penelitian ini bertujuan untuk mengetahui pengaruh pembelajaran terdiferensiasi dengan model *connecting, organizing, reflecting, extending* terhadap kemampuan pemahaman konsep matematis siswa di SMP N 13 Bintan. Penelitian ini menggunakan pendekatan kuantitatif dengan jenis kuasi eksperimen dan desain *non-equivalent control group*. Populasi pada penelitian ini adalah seluruh siswa kelas VIII SMP N 13 Bintan yang berjumlah 111 orang. Sampel pada penelitian ini terdiri dari dua kelas yaitu kelas VII.1 dan VIII.4 yang dipilih melalui teknik *cluster sampling*. Teknik pengumpulan data yang digunakan yaitu tes, dan observasi. Instrumen yang digunakan terdiri atas instrumen utama instrumen tes kemampuan pemahaman konsep matematis, serta instrumen pendukung berupa lembar observasi, 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 kelas eksperimen sebesar 64,13 lebih tinggi dari pada rata-rata kemampuan akhir pemahaman konsep matematis siswa kelas kontrol sebesar 53,54. Pada *independent sample t-test*, nilai *sig. (2-tailed)* sebesar 0,09. Karena uji yang dilakukan adalah uji satu pihak (uji pihak kanan), maka nilai $sig. = \frac{1}{2} \times 0,09 = 0,045$ dan diketahui $0,045 < 0,05$, 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 *connecting, organizing, reflecting, extending* berpengaruh terhadap kemampuan pemahaman konsep matematis siswa.

ABSTRACT

Siahaan, Lysnawati. 2025. The effect of differentiated learning using the *connecting, organizing, reflecting, extending* model on eighth-grade junior high school students' understanding of mathematical concepts. Thesis. Tanjungpinang: Mathematics Education Study Program, Faculty of Teacher Education and Training, Raja Ali Haji Maritime University. Supervisor I: Alona Dwinata, S.Pd., M.Sc. Supervisor II: Febrian, S.Pd., M.Sc.

Keyword: *Differentiated Learning, connecting, organizing, reflecting, extending, Understanding Mathematical Concepts*

This study aims to determine the effect of differentiated learning with the connecting, organizing, reflecting, extending model on students' mathematical concept understanding ability at SMP N 13 Bintan. This study used a quantitative approach with a quasi-experimental type and a non-equivalent control group design. The population in this study were all VIII grade students of SMP N 13 Bintan which amounted to 111 people. The sample in this study consisted of two classes, namely classes VII.1 and VIII.4 which were selected through cluster sampling technique. The data collection techniques used were tests, and observation. The instruments used consisted of the main instrument, namely the mathematical concept understanding ability test instrument, as well as supporting instruments in the form of observation sheets, learning modules and student worksheets. The data analyzed in the form of qualitative data describing learning activities, as well as quantitative data describing data on the initial and final abilities of students' understanding of mathematical concepts through pretests and posttests in experimental and control classes. The results showed that the average final ability of understanding mathematical concepts of experimental class students of 64.13 was higher than the average final ability of understanding mathematical concepts of control class students of 53.54. In the independent sample t-test test, the sig value was obtained. (2-tailed) of 0.09. Because the test carried out is a one-party test (right party test), the sig value. $= \frac{1}{2} \times 0.09 = 0.045$ and it is known that $0.045 < 0.05$, so H_0 is rejected and H_a is accepted. Therefore, it can be concluded that the average results of students' final ability to understand mathematical concepts in the experimental class are higher than the control class. Based on this, it can be concluded that differentiated learning with the connecting, organizing, reflecting, extending model has an effect on students' mathematical concept understanding ability.