

## ABSTRAK

Pakpahan, Nicolaus, 2024. Pengaruh Penggunaan *Scaffolding* Pada Pembelajaran *Team Assisted Individualization* (TAI) Terhadap Kemampuan Pemahaman Konsep Matematis Berdasarkan *Self Regulation* Pada Materi Barisan Dan Deret, Prodi Magister Pendidikan Matematika, Pascasarjana Universitas Jambi, Pembimbing : (I) Prof. Drs. Damris M, M.Sc. Ph.D. (II) Prof. Dr. Drs. Kamid, M.Si.

Latar belakang pada penelitian ini ditemukan kemampuan pemahaman konsep matematis peserta didik rendah dalam menyelesaikan soal-soal matematika. Untuk itu dilakukan penelitian dengan tujuan untuk mengetahui: 1. Pengaruh penggunaan *scaffolding* pada pembelajaran *team assisted individualization* (TAI) terhadap kemampuan pemahaman konsep matematis siswa, 2. Pengaruh *self regulation* siswa terhadap kemampuan pemahaman konsep matematis siswa, serta 3. Interaksi penggunaan *scaffolding* pada pembelajaran *team assisted individualization* (TAI) dan *self regulation* siswa ditinjau dari kemampuan pemahaman konsep matematis materi barisan dan deret. Penelitian ini merupakan penelitian eksperimen yang menggunakan *The Pretest Posttest Design with Nonequivalent Groups*. Populasi pada penelitian ini seluruh peserta didik kelas X SMAS Xaverius 1 Jambi tahun ajaran 2023/2024 sebanyak 326 siswa yang terbagi menjadi 9 kelas. Sampel yang digunakan adalah kelas XE2 yang terdiri dari 37 siswa, kelas XE3 terdiri dari 36 siswa, dan kelas XE5 yang terdiri dari 36 siswa. Teknik dalam pengambilan sampel menggunakan *simple random sampling*. Instrument yang digunakan dalam penelitian ini merupakan lembar observasi untuk model pembelajaran, angket *Self Regulation* dan tes pemahaman konsep matematis. Data yang diperoleh dalam penelitian ini dianalisis menggunakan uji ANOVA dua jalur. Hasil penelitian untuk hipotesis pertama diperoleh nilai *sig*  $0,000 < 0,05$ . Untuk hipotesis kedua diperoleh nilai *sig*  $0,000 < 0,05$ . Untuk hipotesis ketiga diperoleh nilai *sig*  $0,030 < 0,05$ . Ketiganya menunjukkan terdapat pengaruh model pembelajaran, *Self Regulation*, interaksi terhadap kemampuan pemahaman konsep matematis peserta didik. Dengan ini dapat disimpulkan sebagai berikut. 1) Terdapat pengaruh penggunaan *scaffolding* pada pembelajaran *team assisted individualization* (TAI) terhadap kemampuan pemahaman konsep matematis siswa, 2) Terdapat pengaruh *self regulation* siswa terhadap kemampuan pemahaman konsep matematis siswa, 3) Terdapat interaksi penggunaan *scaffolding* pada pembelajaran *team assisted individualization* (TAI) dan *self regulation* siswa ditinjau dari kemampuan pemahaman konsep matematis materi barisan dan deret.

Kata kunci: Pembelajaran *team assisted individualization*, *scaffolding*, *self regulation*, kemampuan pemahaman konsep matematis

## ABSTRAK

Pakpahan, Nicolaus, 2024. The Effect of Scaffolding Use in Team Assisted Individualization (TAI) Learning on Mathematical Concept Understanding Ability Based on Self-Regulation on Sequence and Series Material, Master of Mathematics Education Study Program, Postgraduate Program, University of Jambi, Supervisor: (I) Prof. Drs. Damris M, M.Sc. Ph.D. (II) Prof. Dr. Drs. Kamid, M.Si.

The background of this study was found that students' mathematical concept understanding ability was low in solving mathematics problems. For this reason, a study was conducted with the aim of determining: 1. The effect of scaffolding use in team assisted individualization (TAI) learning on students' mathematical concept understanding ability, 2. The effect of student self-regulation on students' mathematical concept understanding ability, and 3. The interaction of scaffolding use in team assisted individualization (TAI) learning and students' self-regulation in terms of mathematical concept understanding ability of sequence and series material. This research is an experimental study using The Pretest Posttest Design with Nonequivalent Groups. The population in this study were all students of class X SMAS Xaverius 1 Jambi in the 2023/2024 academic year, totaling 326 students divided into 9 classes. The sample used was class XE2 consisting of 37 students, class XE3 consisting of 36 students, and class XE5 consisting of 36 students. The sampling technique used simple random sampling. The instruments used in this study were observation sheets for learning models, Self-Regulation questionnaires, and mathematical concept understanding tests. The data obtained in this study were analyzed using a two-way ANOVA test. The results of the study for the first hypothesis obtained a value of  $sig\ 0.000 < 0.05$ . For the second hypothesis, a value of  $sig\ 0.000 < 0.05$  was obtained. For the third hypothesis, a value of  $sig\ 0.030 < 0.05$  was obtained. All three show that there is an influence of the learning model, Self Regulation, interaction on the ability to understand mathematical concepts of students. With this, it can be concluded as follows. 1) There is an influence of the use of scaffolding in team assisted individualization (TAI) learning on students' ability to understand mathematical concepts, 2) There is an influence of student self-regulation on students' ability to understand mathematical concepts, 3) There is an interaction between the use of scaffolding in team assisted individualization (TAI) learning and student self-regulation in terms of the ability to understand mathematical concepts of sequences and series material.

Keywords: Team assisted individualization learning, scaffolding, self-regulation, ability to understand mathematical concepts