ABSTRAK

SANTI MARIA SIMARMATA. Analisis Kemampuan Pemahaman Konsep Matematika Siswa dalam Penerapan Model *Discovery Learning* berbantuan Matlab. Tesis. Pendidikan Matematika Program Pascasarjana Universitas Negeri Medan.

Penelitian ini bertujuan untuk mengetahui: (1) Tingkat kemampuan pemahaman konsep matematika siswa dalam penerapan model *Discovery Learning* berbantuan Matlab, (2) Proses jawaban tes kemampuan pemahaman konsep matematika siswa dalam penerapan model *Discovery Learning* berbantuan Matlab, (3) Kesulitan kemampuan pemahaman konsep matematika siswa dalam penerapan model *Discovery Learning* berbantuan Matlab. Penelitian ini merupakan penelitian kualitatif dengan pendekatan deskriptif. Berdasarkan data hasil penelitian diperoleh bahwa: (1) Tingkat kemampuan pemahaman konsep matematika siswa dalam penerapan model *Discovery Learning* berbantuan matlab berada pada tingkat sedang. Dari 21 siswa sebanyak 5 siswa tingkat kemampuan pemahaman konsep matematikanya 'tinggi', 14 siswa tingkat kemampuan pemahaman konsep matematikanya 'sedang', dan 2 siswa memiliki tingkat kemampuan pemahaman konsep matematikanya 'rendah', (2) Proses jawaban siswa dalam penerapan model *Discovery Learning* berbantuan matlab ditemukan kesalahan yang lebih sering muncul adalah kesalahan dalam menerapkan konsep/algoritma/strategi penyelesaian dalam memecahkan masalah dan kesalahan menuliskan kembali konsep (definisi), (3) Kesulitan kemampuan pemahaman konsep matematika siswa dalam penerapan model *Discovery Learning* berbantuan matlab diantaranya kesulitan dalam menyatakan ulang konsep, kesulitan dalam mengubah permasalahan matematika dalam bentuk yang lebih sederhana, dan kesulitan dalam mengaplikasikan konsep atau algoritma (rumus).

Kata Kunci: *Kemampuan Pemahaman Konsep Matematika, Discovery Learning, Matlab.*

ABSTRACT

SANTI MARIA SIMARMATA. Analysis of Students' Mathematical Concept Understanding Ability in Application of Matlab-assisted Discovery Learning Model. Thesis. Mathematics Education Graduate Program, State University of Medan.

This study aims to determine: (1) The level of students' ability to understand mathematical concepts in the application of the Matlab-assisted Discovery Learning model, (2) The process of answering the students' mathematical concept understanding ability test in the application of the Matlab-assisted Discovery Learning model, (3) Difficulty in understanding mathematical concepts. students in the application of the Matlab-assisted Discovery Learning model. This research is a qualitative research with a descriptive approach. Based on the research data, it was found that: (1) The level of students' ability to understand mathematical concepts in the application of the Matlab-assisted Discovery Learning model was at a moderate level. Of the 21 students, 5 students had 'high' level of understanding of mathematical concepts, 14 students had 'medium' level of understanding of mathematical concepts, and 2 students had 'low' level of understanding of mathematical concepts, (2) The process of student answers in the application of the Discovery Learning model With the help of MATLAB, it was found that errors that occurred more frequently were errors in applying concepts/algorithms/completion strategies in solving problems and errors in rewriting concepts (definitions), (3) Difficulties in understanding students' mathematical concepts in applying the Matlab-assisted Discovery Learning model including difficulties in stating re-concept, difficulty in changing mathematical problems in a simpler form, and difficulties in applying concepts or algorithms (formulas).

Keywords: Mathematical Concept Understanding Ability, Discovery Learning, Matlab.