# ABSTRAK

**Maulida Hafni. Pengembangan Pembelajaran Interaktif Berbasis *Discovery Learning* Untuk Meningkatkan Kemampuan Representasi Matematis dan *Self-Efficacy* Siswa MAN 1 Medan.** Tesis. Medan: Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan. 2021.

Penelitian ini bertujuan untuk: 1) Menemukan pembelajaran interaktif berbasis *discovery learning* yang valid, praktis dan efektif dalam meningkatkan kemampuan representasi matematis dan *self-efficacy* siswa; 2) Mendeskripsikan peningkatan kemampuan representasi matematis siswa dengan menggunakan pembelajaran interaktif berbasis *discovery learning*; 3) Mendeskripsikan peningkatan kemampuan *self-efficacy* siswa dengan menggunakan pembelajaran interaktif berbasis *discovery learning*. Penelitian ini merupakan penelitian pengembangan yang dilakukan dalam dua tahap, yaitu tahap pertama pengembangan pembelajaran interaktif melalui model pembelajaran *discovery learning* dengan menggunakan model pengembangan 4-D Thiagarajan dan tahap kedua mengujicobakan pembelajaran interaktif melalui model pembelajaran *discovery learning* yang dikembangkan di kelas X IIS 1 dan X IIS 2 MAN 1 Medan. Dari hasil uji coba I dan uji coba II diperoleh: 1) pembelajaran interaktif melalui model pembelajaran *discovery learning* yang dikembangkan telah memenuhi kriteria valid, praktis dan efektif ditinjau dari kriteria masing-masing; 2) pencapaian kemampuan representasi matematis siswa menggunakan perangkat pembelajaran berbasis *discovery learning* meningkat, ditinjau ketuntasan klasikal *posttest* uji coba I sebesar 68,75% meningkat menjadi 87,50% pada uji coba II; 3) kemampuan *self-efficacy* siswa menggunakan perangkat pembelajaran berbasis *discovery learning* meningkat, ditinjau dari ketuntasan klasikal *posttest* uji coba I sebesar 68,75% meningkat menjadi 87,50% pada uji coba II; Berdasarkan hasil penelitian disarankan agar Bagi peneliti lain yang berminat mengadakan penelitian serupa hendaknya melakukan penelitian pada sekolah lain sehingga akan diperoleh gambaran lebih lanjut mengenai kepraktisan pembelajaran interaktif berbasis *discovery learning* pada materi trigonometri.



**Kata kunci**: Pengembangan pembelajaran interaktif, model 4-D, *discovery learning,* kemampuan representasi, *self-efficacy*

## ABSTRACT

**Maulida Hafni. Development of Interactive Learning Based on *Discovery Learning* to Improve Representation Skills and Self-Efficacy Students in MAN 1 Medan.** Thesis. Medan: Postgraduate Program in Mathematics Education State University of Medan. 2021.

This study aims to: 1) Finding interactive learning with discovery learning that are valid, practical and effective in improving students' mathematical representation skills and self-efficacy;2) Describe the increase in students' mathematical representation ability using interactive learning with discovery learning;3) Describe the increase in students' self-efficacy abilities by using interactive learning with discovery learning. This research is a development research conducted in two stages, namely the first stage of developing interactive learning through the discovery learning using the Thiagarajan 4-D development model and the second stage of testing the interactive learning based discovery learning developed in class X IIS 1 and X IIS 2 MAN 1 Medan. From the results of trial I and trial II obtained: 1) the learning device based discovery learning developed has met the valid, practical and effective criteria in terms of their respective criteria; 2) the achievement of students' mathematical representation ability using learning tools based discovery learning increased, in terms of posttest classical completeness of the first trial of 68.75% increased to 87.50% in the second trial; 3) the ability of students' self-efficacy to use learning tools based discovery learning approach increased, in terms of the classical completeness of the posttest trial I by 68.75%, increasing to 87.50% in the second trial. Based on the research results, it is suggested that other researchers who are interested in conducting similar research should conduct research at other schools so that they will obtain a further picture of the practicality of the interactive learning based discovery learning in the trigonometric material.



**Keywords:** Development of interactive learning, 4-D models, discovery learning, representation skills, self-efficacy