

ABSTRAK

NURHASANA. Pengembangan Perangkat Pembelajaran berbasis Pendekatan *Open-Ended* berbantuan Aplikasi *Virtual Manipulative* untuk Meningkatkan Kemampuan Berpikir Kreatif dan *Self Efficacy* Siswa. Tesis. Medan: Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan, 2020.

Penelitian ini bertujuan untuk: 1) Untuk mengetahui kualitas perangkat pembelajaran berbasis pendekatan *Open-ended* berbantuan aplikasi *Virtual manipulative* yang dikembangkan terhadap peningkatan kemampuan berpikir kreatif dan *self efficacy* siswa. 2) Untuk mengetahui peningkatan kemampuan berpikir kreatif siswa dengan menggunakan perangkat pembelajaran berbasis pendekatan *Open-ended* berbantuan aplikasi *Virtual manipulative* yang dikembangkan. 3) Untuk mengetahui peningkatan *self efficacy* siswa setelah menggunakan perangkat pembelajaran berbasis pendekatan *Open-ended* berbantuan aplikasi *Virtual manipulative* yang dikembangkan.. Penelitian ini merupakan penelitian pengembangan dengan menggunakan model pengembangan Dick and Carey yang dilakukan dalam sepuluh tahap. Perangkat Pembelajaran yang dihasilkan dari penelitian ini adalah: Buku Siswa (BS) dan Lembar Kerja Peserta Didik (LKPD). Dari hasil uji coba I dan uji coba II diperoleh: 1) perangkat pembelajaran berbasis pendekatan *Open-ended* berbantuan aplikasi *Virtual manipulative* yang dikembangkan telah memenuhi kriteria valid, praktis, dan efektif ditinjau dari kriteria masing-masing; 2) Peningkatan kemampuan berpikir kreatif siswa adalah 4 siswa (12,5%) mengalami peningkatan kemampuan berpikir kreatif dengan kategori “Tinggi”, 17 siswa (53,13%) mengalami peningkatan dengan kategori “Sedang” dan 11 siswa (34,38%) mengalami peningkatan dengan kategori “Rendah”. Peningkatan aspek elaborasi dan originality yang termasuk dalam kategori rendah pada uji coba I berhasil di tingkatkan menjadi kategori “Sedang” pada uji coba II sehingga keempat aspek kemampuan berpikir kreatif termasuk dalam kategori sedang. 3) Peningkatan *self efficacy* siswa adalah 2 siswa (6,25%) mengalami peningkatan dengan kategori “Tinggi”, 16 siswa (50,00%) mengalami peningkatan dengan kategori “Sedang” dan 14 siswa (43,75%) mengalami peningkatan dengan kategori “Rendah”. Peningkatan indikator *level* yang termasuk dalam kategori rendah pada uji coba I berhasil ditingkatkan pada uji coba II sehingga keempat indikator tersebut termasuk dalam kategori sedang.

Kata kunci :Pengembangan Perangkat Pembelajaran, Model Dick and Carey, *Open-ended*, *Virtual manipulative*, Kemampuan berpikir kreatif, *Self efficacy*.

ABSTRACT

NURHASANAH. Developing of Learning Tools based on an Open-Ended Approach assisted by Virtual Manipulative Applications to Improve Students' Creative Thinking Ability and Self Efficacy. Thesis. Medan: Postgraduate Mathematics Education Study Program, Universitas Negeri Medan, 2020.

This study aims to: 1) To determine the quality of learning tools based on the Open-ended approach with the help of virtual manipulative applications developed to increase students' creative thinking skills and self-efficacy. 2) To determine the increase in students' creative thinking abilities by using learning tools based on the Open-ended approach assisted by the developed virtual manipulative application. 3) To determine the increase in student self-efficacy after using learning tools based on the Open-ended approach assisted by the developed virtual manipulative application. This research is a development research using the Dick and Carey development model which was carried out in ten stages. Learning tools produced from this study are: Student Books (BS) and Student Worksheets (LKPD). From the results of trial I and trial II, it was obtained: 1) learning tools based on the Open-ended approach assisted by the virtual manipulative application developed had met the criteria of being valid, practical, and effective in terms of their respective criteria; 2) The increase in students' creative thinking abilities was 4 students (12.5%) experienced an increase in their creative thinking skills in the "High" category, 17 students (53.13%) experienced an increase in the "Medium" category and 11 students (34.38%) has increased with the "Low" category. The increase in elaboration and originality aspects which were included in the low category in the first trial was successfully upgraded to the "Medium" category in the second trial so that the four aspects of creative thinking skills were included in the medium category. 3) The increase in student self-efficacy is 2 students (6.25%) have increased with the "High" category, 16 students (50.00%) have increased with the "Medium" category and 14 students (43.75%) have increased with category "Low". The increase in level indicators which were included in the low category in the first trial was successfully increased in the second trial so that the four indicators were included in the medium category.

Keywords: Learning Tool Development, Dick and Carey Model, Open-ended, Virtual Manipulative, Creative Thinking Ability, Self-efficacy.