ABSTRAK

NUR SAHARA. Pengembangan Perangkat Pembelajaran Berbasis Pendekatan Matematika Realistik untuk Meningkatkan Kemampuan Representasi Matematis dan *Self Efficacy* Siswa SMA Kota Padangsidimpuan. Tesis. Medan Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan. 2015.

Penelitian ini bertujuan untuk mengetahui: 1) efektivitas perangkat pembelajaran yang dikembangkan berbasis pendekatan matematika realistic terhadap kemampuan representasi matematik dan *self efficacy* siswa, 2) peningkatan kemampuan representasi matematik dan *self efficacy*siswa terhadap perangkat pembelajaran yang dikembangkan berbasis pendekatan matematika realistik, 3) respon siswa terhadap pembelajaran menggunakan perangkat pembelajaran yang dikembangkan berbasis pendekatan matematika realistikdan 4) respon siswa terhadap pembelajaran berbasis pendekatan matematika realistik.Penelitian ini merupakan penelitian pengembangan (*research and development*), produk yang dihasilkan dalam penelitian ini adalah buku pegangan guru, buku siswa lembar kerja siswa , rencana pelaksanaan pembelajaran (RPP), dan instrumen-instrumen sepertiobservasi aktivitas siswa, angket respon siswa dan guru, pedoman wawancara dan pengamatan sikap siswa.Pengembangan instrumen dan bahan ajar berbasis pendekatan pembelajaran matematika realistik ini menggunakan model 4-D yang dikembangkan oleh Thiagarajan, Semmel dan Semmel. Yang meliputi proses tahapan *define*, *desaign*, *develop*, dan *disseminate*. Namun dalam penelitian ini pengembangan bahan ajar berbasis pendekatan matematika realistik ini sampai tahap diseminate.Subjek dalam penelitian ini adalah siswa kelas XI-1 SMA Negeri 4Padangsidimpuan. Dari hasil uji coba lapangan I dan uji coba lapangan II diperoleh: 1) bahan ajar yang memenuhi kriteria kevalidan dengan predikat sangat valid, 2) bahan ajar yang praktis berdasakan hasil revisi dari tim ahli, hasil observasi pada saat proses pembelajaran dan hasil wawancara, serta 3) memenuhi kriteria keefektifan pencapaian persentase waktu ideal, hasil tes kemampuan representasi matematis memenuhi ketuntasan, dan dari hasil angket respon guru dan siswa.

Kata Kunci: Bahan Ajar, Pendekatan Matematika Realistik, Model Pengembangan 4-D, Kemampuan Representasi Matematis.

ABSTRACT

NUR SAHARA. Software Development Based Learning Approach to Improve Ability Realistic Mathematics Mathematical Representation and Self Efficacy Padangsidimpuan CityHigh School Students. Thesis.Field Mathematics Education Graduate Program, State University of Medan. 2015.

This study aims to determine: 1) the effectiveness of the learning device that was developed based on a mathematical approach to the realistic representation of mathematical ability and self-efficacy of students, 2) increasing the representation of mathematical ability and self-efficacy of students towards learning device that was developed based on realistic mathematics approach, 3) student response learning to use a device that was developed based approach to learning math realistikdan 4) The students' response to realistic mathematics-based learning approach. This research is the development (research and development), the product produced in this research is the textbook teacher, student book student worksheets, lesson plan (RPP), and instruments such as student activity observation, questionnaire responses of students and teachers, interview guidelines and observation attitudes. Instrument development and teaching materials based on realistic mathematics learning approach using 4-D models developed by Thiagarajan, and Semmel Semmel. Which includes the process stages define, desaign, develop, and disseminate. However, in this study the development of teaching materials based on realistic mathematics approach is to stage diseminate. Subjects in this study were students of class XI-1 SMAN 4 Padangsidimpuan. From the results of the first field trials and field trials II obtained: 1) instructional materials that meet the criteria of validity of the predicate is very valid, 2) practical teaching materials Based on the results of the revision of a team of experts, the results of observations during the learning process and interviews, as well as 3) meets the criteria for the percentage of time the effectiveness of achieving the ideal, mathematical representation abilities test results meet the thoroughness, and the results of the questionnaire responses of teachers and students.

Keywords: Subjects, Realistic Mathematics Approach, 4-D Model Development, Mathematical Representation Ability.