

## ABSTRAK

**FITRIA RAHMADHANI. Pengembangan Bahan Ajar Berbasis Model Pembelajaran Inkuiri Untuk Meningkatkan Kemampuan Metakognisi dan *Self-Directed Learning* Matematis Siswa SMP Negeri 30 Medan.** Tesis. Medan: Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan, 2018.

Penelitian ini bertujuan untuk: 1) memperoleh bahan ajar matematika berbasis model pembelajaran inkuiri yang memenuhi kriteria valid, praktis, dan efektif; 2) mendeskripsikan peningkatan kemampuan metakognisi siswa yang diajar dengan menggunakan bahan ajar yang dikembangkan berbasis model pembelajaran inkuiri; 3) mendeskripsikan peningkatan *Self-Directed Learning* siswa yang diajar dengan menggunakan bahan ajar yang dikembangkan berbasis model pembelajaran inkuiri. Penelitian ini merupakan penelitian pengembangan menggunakan model pengembangan *4-D* yang telah dimodifikasi. Dari hasil penelitian ini diperoleh bahwa: 1) bahan ajar berbasis model pembelajaran inkuiri yang dikembangkan valid. Bahan ajar berbasis model inkuiri yang dikembangkan praktis ditinjau dari: a) kevalidan bahan ajar oleh para ahli yang menyatakan bahan ajar dapat digunakan dengan sedikit revisi atau tanpa revisi dan b) keterlaksanaan bahan ajar yang digunakan di kelas termasuk dalam kategori tinggi. Bahan ajar berbasis model inkuiri yang dikembangkan efektif ditinjau dari: a) aktivitas siswa telah memenuhi batas toleransi yang telah ditetapkan; b) respon siswa terhadap bahan ajar positif dengan nilai rata-rata yang diperoleh pada uji coba I sebesar 82,50; pada uji coba II sebesar 89,83%; dan pada tahap penyebaran sebesar 90,72%; c) pencapaian tes kemampuan metakognisi tuntas secara klasikal mencapai 75% siswa mendapatkan nilai minimal B-. 2) Peningkatan kemampuan metakognisi siswa dengan menggunakan bahan ajar berbasis model pembelajaran inkuiri dilihat pada tahap penyebaran yaitu dari nilai pretest dan posttest. Berdasarkan data yang didapat dari tahap penyebaran diperoleh hasil peningkatan kemampuan metakognisi siswa dengan menggunakan rumus *N-Gain* sebesar 0,33 dengan kategori “sedang”. 3) Peningkatan *Self-Directed Learning* siswa dengan menggunakan bahan ajar berbasis model pembelajaran inkuiri dilihat pada tahap penyebaran yaitu dari nilai pretest dan posttest. Berdasarkan data yang didapat dari tahap penyebaran diperoleh hasil peningkatan *Self-Directed Learning* siswa dengan menggunakan rumus *N-Gain* sebesar 0,38 dengan kategori “sedang”.

**Kata Kunci:** Pengembangan Bahan Ajar, Model pembelajaran Inkuiri, Kemampuan Metakognisi, dan *Self-Directed Learning*

## ABSTRACT

**FITRIA RAHMADHANI. The Development of Learning Material Based Inquiry Models to Improve The Ability of Metacognition and *Self-Directed Learning Mathematis* of Students in SMP Negeri 30 Medan.** Thesis. Medan: The Study Program of Mathematics Education Post Graduate of State University of Medan, 2018.

This study aims to : 1) Retrieve the learning material of mathematics based inquiry models that meet the criteria of valid, practical, and effective; 2) Describe the improvement of metacognition ability that was taught by using the learning materials that developed based inquiry models; 3) Describe the improvement of students' *Self-Directed Learning* that were taught by using the learning materials based inquiry models. This study is a development research using the 4-D models that has been modification. From the research result retrieved that : 1) Learning materials based inquiry models that developed was valid. The learning materials based inquiry models that developed was practical, seen from : a) The validation of learning materials by the experts stated that the learning materials can be use with a little revisions or without any revisions and b) The implementation of the learning materials was in a high category. The learning materials based inquiry models that developed was effective, seen from : a) The students' activities have met the limit of tolerance that has been set; b) The students' response against the learning materials was positive with the average value that retrieved in the 1<sup>st</sup> test as 82,50; at the 2<sup>nd</sup> test was 89,83%; and at the stage of dissemination as 90,72%; c) The achievement of metacognition ability test was complete classically as 75% of students get B-. 2) The improvement of students' metacognition ability by using learning materials based inquiry models seen at the stage of dissemination that was from the pretest and posttest value. Based on the data that retrieved from the stage of dissemination get the improvement result of students' metacognition ability by using the formula of N-Gain about 0,33 with a medium category. 3) The improvement of students' *Self-Directed Learning* with the use of learning materials based inquiry models at the stage of dissemination that was from pretest and posttest value. Based on the data from the stage of dissemination retrieved the improvement result of students' *Self-Directed Learning* by using the formula of N-Gain was about 0,38 with a medium category.

**Keywords :** The Development of Learning Materials, Inquiry Models, The Ability of Metacognition, and *Self-Directed Learning*