

ABSTRAK

RISKI SAHRIDA NASUTION. Pengembangan Soal Matematika Model *PISA* Pada Konten *Space and Shape* Untuk Mengukur Kemampuan Penalaran Matematis Siswa SMP Negeri 1 Padangsidimpuan. Tesis. Medan: Program Pascasarjana Universitas Negeri Medan, Agustus 2019.

Penelitian ini bertujuan untuk menghasilkan soal matematika model *PISA* konten *Space and Shape* yang valid dan praktis melihat prosedur pengembangan soal dan mengukur kemampuan penalaran matematis siswa. Metode yang digunakan dalam penelitian ini adalah metode penelitian pengembangan. Penelitian ini memerlukan dua tahap yaitu preliminary dan tahap *formative evaluation* yang meliputi *self evaluation*, *expert reviews*, *one-to-one*, *small group*, dan *field test*. Teknik pengumpulan data yang digunakan berdasarkan walktrough, dokumen, tes dan angket. Setelah melalui tahap *one-to-one*, *small group*, dan validasi secara deskriptif, soal diujicobakan pada tahap *field test* di kelas VIII SMP N 1 Padangsidimpuan. Hasil tes secara keseluruhan dengan nilai rata-rata kemampuan penalaran matematis 56,07, termasuk pada kategori kemampuan penalaran matematis yang cukup, walaupun masih ada siswa yang masuk pada kategori kemampuan penalaran kurang. Dari hasil ini juga dapat dikatakan bahwa soal serupa *PISA* yang dikembangkan dikategorikan dalam kriteria valid dan praktis serta memiliki efek potensial terhadap kemampuan penalaran matematis siswa.

Kata Kunci: kemampuan penalaran, *PISA*, soal matematika, *space and shape*

ABSTRACT

RISKI SAHRIDA NASUTION. Developing Mathematics Problems Based On Pisa Level Of Space And Shape To Measure Students' Mathematical Reasoning Ability In Smp Negeri 1 Padangsidempuan. Thesis. Medan. Postgraduate Universitas Negeri Medan. Oktober 2019

This research aims to produce mathematics problems based on PISA level content of Space and Shape with valid and practical procedures of developing problems and measure students' mathematical reasoning ability. The method used in this research is the development research method. This research consist of two stages, namely preliminary and formative evaluation stages which include self evaluation, expert reviews, one-to-one, small groups, and field tests. Data collection techniques are based on walk-throughs, documents, tests and questionnaires. After going through the one-to-one, small group, and descriptive validation stages, the questions were tested in the field test stage in class VIII of SMP N 1 Padangsidempuan. The results show an average value of mathematical reasoning ability is 56.07 and it is categorized in sufficient mathematical reasoning ability, although there are still students who categorized in low. From these results, it can be said that developed PISA level questions are categorized in valid and practical criteria and have a potential effect on students' mathematical reasoning abilities.

Keywords: Development Research, Mathematical Reasoning Ability, PISA Model Mathematical Problem, Space and Shape.