

ABSTRACT

Lathifah Yulyanisa. 18205018. "Development of PISA-Oriented Problem Based Learning media to Improve the Mathematical Problem Solving Ability of grade VII Junior High School Students". Thesis of Master of Mathematics Education Study Program, Faculty of Mathematics and Natural Sciences, Padang State University.

Students' mathematical problem solving abilities are not optimal. Learning in schools has not accustomed students to solving non-routine questions and questions of the PISA type. The purpose of this study was to produce a PISA-oriented problem-based learning mathematics learning media to improve students' mathematical problem solving abilities. The hope to be achieved was the selection and use of appropriate mathematics learning media. Learning media has not facilitated the achievement of the learning process of students in constructing knowledge independently which results in low student problem solving. Then developed a mathematical learning media based on problem-based learning oriented to the PISA model to improve the problem-solving abilities of grade VII junior high school students that were valid, practical and effective.

This type of research was development research using the Plomp model consisting of 3 stages, namely preliminary research, prototype phase, and assessment phase. The research subjects were students of class VII Junior High School number 2 Tilatang Kamang. In the preliminary research phase, needs analysis, curriculum analysis, student analysis, and concept analysis are carried out. In the prototype phase, the design of lesson plans and student work worksheets based on problem-based learning oriented to the PISA model was applied for algebraic form material. then a formative evaluation was applied to determine the validity and practicality of the product. In the assessment phase, an assessment was applied using practicality and effectiveness tests.

The results showed that the PBL-based mathematics learning media oriented to the PISA model was valid, practical based on the validation results of the expert review, teacher response questionnaires, student responses. The effectiveness seen from the level of completeness of the students' final test results reached an average of 66.67%.

Key words: Problem Based Learning (PBL), valid, practical, effective, learning media

ABSTRAK

Lathifah Yulyanisa. 18205018. “Pengembangan Perangkat Pembelajaran Berbasis *Problem Based Learning* Berorientasi PISA untuk Meningkatkan Kemampuan Pemecahan Masalah Matematis Peserta Didik SMP Kelas VII”. Tesis Program Studi Magister Pendidikan Matematika Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Negeri Padang.

Kemampuan pemecahan masalah matematis peserta didik belum optimal. Pembelajaran di sekolah belum membiasakan peserta didik menyelesaikan soal-soal non-rutin dan soal-soal bertipe PISA. Tujuan dari penelitian ini adalah menghasilkan perangkat pembelajaran matematika berbasis *problem based learning* berorientasi PISA untuk meningkatkan kemampuan pemecahan masalah matematis peserta didik. Harapan yang ingin dicapai adalah pemilihan dan penggunaan perangkat pembelajaran matematika yang tepat. Perangkat pembelajaran yang ditemui di lapangan belum memfasilitasi tercapainya proses pembelajaran peserta didik dalam mengkonstruksikan pengetahuan secara mandiri yang mengakibatkan rendahnya pemecahan masalah peserta didik. Maka dikembangkanlah perangkat pembelajaran matematika berbasis *problem based learning* berorientasi model PISA untuk meningkatkan kemampuan pemecahan masalah peserta didik kelas VII sekolah menengah pertama yang valid, praktis dan efektif.

Jenis penelitian adalah penelitian pengembangan dengan menggunakan model Plomp terdiri dari 3 tahap, yaitu yaitu *preliminary research*, *prototype phase*, dan *assessment phase*. Subjek penelitian adalah peserta didik kelas VII SMPN 2 Tilatang Kamang. Pada fase *preliminary research* dilakukan analisis kebutuhan, analisis kurikulum, analisis peserta didik, dan analisis konsep. Pada fase *prototype* dilakukan perancangan RPP dan LKPD berbasis *problem based learning* berorientasi model PISA untuk materi bentuk aljabar. kemudian dilakukan evaluasi formatif untuk menentukan kevalidan dan kepraktisan produk. Pada fase *assesment* dilakukan penilaian dengan uji praktikalitas dan efektivitas.

Hasil penelitian menunjukkan perangkat pembelajaran matematika berbasis PBL berorientasi model PISA valid, praktis berdasarkan hasil validasi dari *expert review*, angket respon guru, respon peserta didik. Efektivitas dilihat dari tingkat ketuntasan hasil tes akhir peserta didik mencapai rata-rata 66,67%.

Kata Kunci: *problem based learning*, valid, praktis, efektif, perangkat pembelajaran