

ABSTRAK

Fadwa Syahida, NIM 4181111012 (2018). Pengembangan Bahan ajar Interaktif Berbasis Model Pembelajaran PBL untuk Meningkatkan Kemampuan Penalaran Matematis Siswa.

Penelitian ini bertujuan untuk mengembangkan suatu bahan ajar interaktif berupa *e-book* berbasis model pembelajaran PBL yang valid, praktis, dan efektif untuk meningkatkan kemampuan penalaran matematis siswa kelas VIII SMP pada materi relasi dan fungsi. Instrumen penelitian yang digunakan pada penelitian ini adalah lembar validasi media bahan ajar interaktif, lembar validasi materi bahan ajar interaktif, lembar validasi Rencana Pelaksanaan Pembelajaran (RPP), tes kemampuan penalaran matematis, lembar validasi tes, angket respon guru dan angket respon siswa. Setelah bahan ajar interaktif, RPP, dan tes kemampuan penalaran matematis dinyatakan valid oleh para ahli dilakukan uji coba lapangan. Hasil uji coba lapangan menunjukkan bahwa: (1) Bahan ajar interaktif yang dikembangkan telah memenuhi kategori kevalidan berdasarkan penilaian validator dengan rata-rata 4,75 untuk media dan 4,81 untuk materi dengan kategori sangat valid. Rencana Pelaksanaan Pembelajaran (RPP) berbasis model pembelajaran PBL yang dikembangkan telah memenuhi kategori kevalidan berdasarkan penilaian validator dengan rata-rata 4,89 dengan kategori sangat valid, dan tes kemampuan penalaran matematis yang dikembangkan telah memenuhi kategori kevalidan berdasarkan penilaian validator dengan rata-rata 4,94 dengan kategori sangat valid; (2) Bahan ajar interaktif yang dikembangkan telah memenuhi kategori kepraktisan melalui hasil angket respon guru yang menunjukkan persentase sebesar 91%, dan hasil angket respon siswa menunjukkan persentase sebesar 86%. Hasil angket guru dan siswa berada dalam kategori sangat praktis; (3) Bahan ajar interaktif yang dikembangkan telah memenuhi kriteria keefektifan dengan: a) siswa yang tuntas belajar sebanyak 26 siswa dari total 30 siswa dan persentasenya sebesar 87%; b) lebih dari 65% siswa mencapai 75% tujuan pembelajaran yang dirumuskan. Uji N-gain menunjukkan bahwa kemampuan penalaran matematis siswa meningkat setelah melakukan pembelajaran menggunakan bahan ajar interaktif berbasis model pembelajaran PBL yang

dikembangkan dengan peningkatan sebesar 0,72 yang termasuk dalam kategori tinggi.

Kata Kunci: Bahan ajar interaktif, model pembelajaran PBL, kemampuan penalaran matematis, relasi dan fungsi.



THE
Character Building
UNIVERSITY

ABSTRACT

Fadwa Syahida, NIM 4181111012 (2018). Development of Interactive Teaching Materials Based on PBL Learning Models to Improve Students' Mathematical Reasoning Ability.

This research aims to develop an interactive teaching material in the form of an e-book based on a valid, practical, and effective PBL learning model to improve the mathematical reasoning ability of grade VIII junior high school students on relation and function subject. The research instruments used in this study are interactive teaching material media validation sheets, interactive teaching material validation sheets, Learning Implementation Plan (RPP) validation sheets, mathematical reasoning ability tests, test validation sheets, teacher response questionnaires and student response questionnaires. After the interactive teaching materials, RPP, and mathematical reasoning ability tests were declared valid by experts, field trials were carried out. The results of field trials show that: (1) the interactive teaching materials developed have fulfilled the validity category based on validator assessments with an average of 4.75 for media and 4.81 for materials with very valid categories. The learning implementation plan, based on the PBL learning model developed have fulfilled the validity category based on validator assessment with an average of 4.89 with a very valid category, and the mathematical reasoning ability test developed have fulfilled the validity category based on validator assessment with an average of 4.94 with a very valid category; (2) the interactive teaching materials developed have fulfilled the practicality category through the results of the teacher response questionnaire which showed a percentage of 91%, and the student response questionnaire results showed a percentage of 86%. The results of the teacher and student questionnaires are in the very practical category; (3) the interactive teaching materials developed have fulfilled the effectiveness criteria by: a) students who completed learning as many as 26 students out of a total of 30 students and the percentage was 87%; b) more than 65% of students achieve 75% of the learning objectives formulated. The N-gain test showed that students' mathematical reasoning ability improved after learning using an interactive

teaching technique based on the PBL learning model developed with an increase of 0.72 which was included in the high category.

Keywords: Interactive teaching materials, PBL learning models, mathematical reasoning skills, relation and function.



THE
Character Building
UNIVERSITY