

ABSTRAK

Afwanil Huda Nst : Pengembangan Perangkat Pembelajaran Melalui Model Pembelajaran Discovery Learning Untuk Meningkatkan Kemampuan Koneksi Matematika Dan Kemandirian Belajar Siswa SMA Negeri 1 Binjai.

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Tujuan penelitian ini adalah menghasilkan perangkat pembelajaran berbasis melalui model pembelajaran Discovery Learning yang valid, praktis, dan efektif sehingga mampu meningkatkan kemampuan koneksi dan kemandirian belajar siswa.

Penelitian ini adalah penelitian pengembangan (development research) yang menggunakan model pengembangan Dick and Carrey. Objek penelitian adalah perangkat pembelajaran seperti buku guru, buku siswa, RPP, LKPD dan soal tes kemampuan koneksi pada mata pelajaran matematika pada materi pokok Transformasi Geometri menggunakan model pembelajaran Discovery Learning. Subjek penelitian ini adalah siswa kelas XI IPA 2 dan XI IPA 3 SMA Negeri 1 Binjai Tahun Pembelajaran 2020/2021. Instrumen pada penelitian ini terdiri atas; (1) kevalidan: lembar validasi terhadap terhadap buku guru, buku siswa, RPP, LKS, soal tes kemampuan Koneksi dan angket kemandirian belajar untuk para ahli. (2) kepraktisan: lembar penilaian kepraktisan oleh guru dan siswa terhadap perangkat pembelajaran (3) keefektifan: lembar respon siswa terhadap perangkat pembelajaran, tes kemampuan koneksi dan angket kemandirian belajar siswa.

Perangkat pembelajaran matematika yang dikembangkan telah memenuhi kriteria kevalidan, kepraktisan dan keefektifan. Ditinjau kevalidan, nilai validitas validasi RPP dengan rata-rata total 4,38, hasil validasi buku guru dengan rata-rata total 4,30, hasil validasi Buku siswa dengan rata-rata total 4,32, hasil validasi LKPD dengan rata-rata total 4,33, validasi tes kemampuan koneksi siswa dapat digunakan revisi kecil dan tanpa revisi menurut para ahli. Ditinjau dari kepraktisan: nilai rata-rata kepraktisan perangkat pembelajaran pada uji coba I dari guru sebesar 3,1 dan berada pada kategori cukup. Pada uji coba II dari guru sebesar 3,7 dan berada pada kategori baik. Ditinjau dari keefektifan, dari ketuntasan belajar siswa secara kalsikal sudah mencapai 87,50%. Terjadi peningkatan kemampuan koneksi siswa dengan menggunakan perangkat pembelajaran yang dikembangkan, nilai rata-ratanya meningkat dari uji I sebesar 72,22 menjadi 80,03 pada uji coba II. Skor rata-rata tiap indikator kemampuan koneksi juga meningkat dari uji coba I ke uji coba II. Kemandirian belajar matematika siswa juga terjadi peningkatan, pada uji coba I 81,19 meningkat menjadi 87,31 uji coba II dan keseluruhan aspek motivasi belajar matematika siswa skornya meningkat dari uji coba I ke uji coba II.

Kata Kunci: Perangkat Pembelajaran, Model Discovery Learning, Model Pengembangan Dick and Carry, Kemampuan Koneksi Matematika dan Kemandirian Belajar

ABSTRACT

Afwanil Huda Nst: Development of Learning Tools through the Discovery Learning Model to Improve the Ability of Mathematical Connection and Learning Independence of Students of SMA Negeri 1 Binjai

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The purpose of this study is to produce learning tools based on the Discovery Learning learning model that are valid, practical, and effective so that they can improve students' connection skills and learning independence. This study is a development research using the Dick and Carrey development model.

The object of research is learning tools such as teacher's books, student books, lesson plans, student worksheets and connection ability test questions in mathematics on the subject matter of Geometry Transformation using the Discovery Learning learning model. The subjects of this study were students of class XI IPA 2 and XI IPA 3 Senior High School 1 Binjai in the academic year 2020/2021. The instruments in this study consisted of; (1) validity: validation sheets against teacher books, student books, lesson plans, worksheets, connection ability test questions and independent learning questionnaires for experts. (2) practicality: practicality assessment sheets by teachers and students on learning devices (3) effectiveness: student response sheets to learning devices, connection ability tests and student learning independence questionnaires.

Mathematics learning tools developed have met the criteria of validity, practicality and effectiveness. In terms of validity, the validity value of the RPP validation with a total average of 4.38, the results of the validation of the teacher's book with a total average of 4.30, the results of the validation of student books with a total average of 4.32, the results of the validation of the student worksheet with a total average 4.33, the validation of the student connection ability test can be used small revisions and without revisions according to experts. In terms of practicality: the average value of the practicality of learning tools in the first trial from the teacher was 3.1 and was in the sufficient category. In the second trial the teacher was 3.7 and was in the good category. Judging from the effectiveness, the students' learning completeness has calcically reached 87.50%. There was an increase in the connection ability of students using the developed learning tools, the average value increased from the first test of 72.22% to 80.03% in the second trial. The average score for each indicator of connection ability also increased from trial I to trial II. The students 'mathematics learning independence also increased, in the first trial 81.19 increased to 87.31 in the second trial and the overall aspects of the students' motivation to learn mathematics scored an increase from trial I to trial II.

Keywords: Learning Tools, Discovery Learning Model, Dick and Carry Development Model, Mathematical Connection Ability and Learning Independence