

ABSTRAK

Virgi Frischo Agdo Putra. 2023. Pengembangan Media Pembelajaran Desmos Classroom Activities Yang Memfasilitasi Peserta Didik Kelas VII Di Smp Negeri 2 Yogyakarta Dalam Pemahaman Teorema Pythagoras. Skripsi. Program Studi Pendidikan Matematika, Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam, Fakultas Keguruan dan Ilmu Pendidikan Matematika, Universitas Sanata Dharma Yogyakarta.

Peserta didik masih banyak mengalami kesulitan dalam memahami materi Teorema Pythagoras, sehingga dibutuhkan media pembelajaran yang dapat membantu peserta didik dalam memahami materi Teorema Pythagoras. Salah satu media yang dapat digunakan adalah *Desmos Classroom Activities*. Sehingga, tujuan penelitian ini, yaitu 1) mengembangkan media pembelajaran *Desmos Classroom Activities* dalam pemahaman Teorema Pythagoras dan 2) mengetahui kualitas *Desmos Classroom Activities* pada pemahaman Teorema Pythagoras Kelas VII D SMP Negeri 2 Yogyakarta ditinjau kevalidan, kepraktisan, dan keefektifannya.

Jenis penelitian ini adalah penelitian dan pengembangan (*research and development*) dengan model pengembangan ADDIE (*Analysis, Design, Development, Implementation and Evaluation*). Subjek penelitian ini adalah guru matematika dan 32 peserta didik kelas VII D SMP Negeri 2 Yogyakarta. Teknik pengumpulan data yang digunakan adalah wawancara tak berstruktur, penyebaran kuesioner, dan tes hasil belajar. Teknik analisis data yang digunakan adalah hasil komentar, kritik, dan saran pada kuesioner validasi yang diberikan ahli media dan ahli materi, serta komentar, kritik dan saran pada kuesioner respon dari pendidik dan peserta didik mengenai kepraktisan dan efektivitas media pembelajaran yang telah dikembangkan dianalisis dengan reduksi data, penyajian data, dan verifikasi data. Lembar kevalidan, kepraktisan, dan keefektifan diukur dengan skala Likert dan dianalisis dengan persentase skor. Tes hasil belajar dianalisis dengan kriteria pedoman penilaian soal tes.

Hasil pada penelitian terdiri dari dua, yaitu 1) Terdapat dua aktivitas *Desmos Classroom Activities* dalam meningkatkan pemahaman konsep Teorema Pythagoras dan 2) Kualitas *Desmos Classroom Activities* ditinjau dari tiga aspek yakni kevalidan, kepraktisan, dan keefektifan. Kevalidan *Desmos Classroom Activities* telah divalidasi dan dinyatakan dapat dipergunakan dalam pembelajaran. Kepraktisan *Desmos Classroom Activities* peserta didik telah dinilai dan dinyatakan praktis dan kepraktisan *Desmos Classroom Activities* pendidik telah dinilai dan dinyatakan sangat praktis. Persentase keefektifan pendidik telah dinilai dan diperoleh 87% dengan kriteria sangat efektif dan persentase keefektifan peserta didik yang ditinjau dari hasil tes belajar pada aktivitas pertama diperoleh 80% serta aktivitas kedua diperoleh 53,1% dengan kriteria kurang efektif. Dengan demikian media pembelajaran telah memfasilitasi peserta didik dalam pemahaman Teorema Pythagoras.

Kata Kunci: media pembelajaran, pemahaman teorema Pythagoras, penelitian dan pengembangan.

ABSTRACT

Virgi Frischo Agdo Son. 2023. Development of Desmos Classroom Activities Learning Media that facilitates Class VII Student Participants at Smp Negeri 2 Yogyakarta in Understanding the Pythagorean Theorem. Thesis. Mathematics Education Study Program, Department of Mathematics and Natural Sciences Education, Faculty of Teacher Training and Mathematics Education, Sanata Dharma University Yogyakarta.

Students still have many difficulties in understanding the Pythagorean Theorem material, so learning media is needed that can help students understand the Pythagorean Theorem material. One of the media that can be used is Desmos Classroom Activities. Thus, the objectives of this study, namely 1) developing learning media Desmos Classroom Activities in understanding the Pythagorean theorem and 2) knowing the quality of Desmos Classroom Activities in understanding the Pythagorean theorem Class VII D SMP Negeri 2 Yogyakarta reviewed its validity, practicality, and effectiveness.

This type of research was research and development with ADDIE development model (Analysis, Design, Development, Implementation and Evaluation). The subjects of this research were mathematics teachers and 32 students of class VII D SMP Negeri 2 Yogyakarta. The data collection techniques used were unstructured interviews, questionnaires, and learning outcomes tests. The data analysis technique used was the results of comments, criticisms, and suggestions on the validation questionnaire given by media experts and material experts, as well as comments, criticisms and suggestions on the response questionnaire from educators and students regarding the practicality and effectiveness of the learning media that had been developed analyzed by data reduction, data presentation, and data verification. The validity, practicality, and effectiveness sheets were measured with a Likert scale and analyzed with a percentage score. The learning outcomes test was analyzed with the criteria of the test question assessment guidelines.

Translated with www.DeepL.com/Translator (free version) The results of the study consisted of two, namely 1) There are two Desmos Classroom Activities activities in improving the understanding of the concept of the Pythagorean theorem and 2) The quality of Desmos Classroom Activities in terms of three aspects, namely validity, practicality, and effectiveness. The validity of Desmos Classroom Activities has been validated and declared usable in learning. The practicality of Desmos Classroom Activities learners have been assessed and declared practical and the practicality of Desmos Classroom Activities educators have been assessed and declared very practical. The percentage of educator effectiveness has been assessed and obtained 87% with very effective criteria and the percentage of student effectiveness in terms of learning test results in the first activity was obtained 80% and the second activity was obtained 53.1% with less effective criteria. Thus learning media has facilitated learners in understanding the Pythagorean theorem.

Keywords: learning media, understanding of the Pythagorean theorem, research and development.

