

SARI

Rahmayanti, Ainia. 2020. “Pengembangan Bahan Ajar Fungsi Komposisi berbantuan *VideoScribe* dalam Meningkatkan Kemampuan Penalaran Matematis Siswa”. Pembimbing I : Mochamad Abdul Basir, M.Pd., Pembimbing II : Dyana Wijayanti, Ph.D.

Kata Kunci : Pengembangan, Bahan Ajar, Video Pembelajaran, *VideoScribe*, Fungsi Komposisi, Kemampuan Penalaran.

Penelitian ini bertujuan untuk: (1) menghasilkan bahan ajar berbentuk video pembelajaran pada materi fungsi komposisi berbantuan *videoscribe*, (2) mengetahui kelayakan bahan ajar berbentuk video pembelajaran pada materi fungsi komposisi ditinjau dari presentase kevalidan bahan ajar oleh validator dan guru matematika, serta respon dan hasil tes siswa terhadap bahan ajar yang telah dikembangkan.

Metode penelitian yang digunakan ialah metode penelitian dan pengembangan dengan desain model pengembangan *Stephen M. Alessi* dan *Stanley R. Trollip* (2001). Dengan langkah-langkah pengembangan diantaranya: (1) perencanaan : mengidentifikasi ruang lingkup, mengumpulkan sumber-sumber, dan menghasilkan gagasan; (2) desain : mengembangkan isi gagasan utama, membuat *storyboard*, dan mempersiapkan *script*; dan (3) pengembangan : memproduksi video dan audio, menyiapkan materi pendukung, melakukan uji *alpha*, dan melakukan uji *beta*. Subjek penelitian yang digunakan adalah beberapa siswa dalam kelompok kecil. Teknik analisis data yang digunakan adalah deskriptif kualitatif.

Hasil penelitian menunjukkan bahwa: (1) bahan ajar berbentuk video pembelajaran pada materi fungsi komposisi berbantuan *videoscribe* ; (2) bahan ajar fungsi komposisi mendapatkan penilaian kelayakan berdasarkan dosen ahli dan guru matematika diperoleh hasil “Sangat Valid” dengan presentase rerata penilaian 82,4% dari aspek materi, diperoleh hasil “Sangat Valid” dengan presentase rerata penilaian 87,2% dari aspek media, berdasarkan penilaian oleh siswa didapat respon siswa yang “Positif” dengan presentase rerata penilaian 70%, dan hasil tes siswa dalam kelompok kecil mendapatkan rerata perolehan skor 69,6 yang masuk dalam kategori “Baik”. Hal ini menunjukkan bahwa bahan ajar fungsi komposisi berbantuan *videoscribe* dalam meningkatkan kemampuan penalaran matematis siswa layak digunakan dalam proses pembelajaran oleh guru dan siswa di SMA/MA.

ABSTRACT

Rahmayanti, Ainia. 2020. "Development of Teaching Materials on Composite Function Materials assisted *VideoScribe* in Improving Students' Mathematical Reasoning Ability". Advisor I : Mochamad Abdul Basir, M.Pd., Advisor II : Dyana Wijayanti, Ph.D.

Keywords: Development, Teaching Materials, Learning Videos, VideoScribe, Composition Function, Reasoning Ability.

The purpose of this research were: (1) to produce teaching materials on the composite function materials in instructional videos, (2) to determine the appropriateness of teaching materials on the composite function material in instructional videos in term of the validity percentage of teaching materials by the validator and mathematics teacher, as well as the student responses and test results.

The research method used was a research and development method with the development design of Stephen M. Alessi and Stanley R. Trollip (2001). The development steps were as follows: (1) planning: identifying scope, gathering sources, and generating ideas; (2) design: developing the content of the main idea, making a storyboard, and preparing a script; and (3) development: producing video and audio, preparing supporting materials, conducting alpha tests, and conducting beta tests. The research subjects used were several students in small groups. The data analysis technique used was descriptive qualitative.

The results showed that: (1) the teaching materials on the composite function material assisted with videoscribe in video instructional; (2) the composition function teaching materials get an appropriateness assessment based on expert lecturers and mathematics teachers, the material aspects were "Very Valid" with a mean percentage of 82.4%, the media aspect were "Very Valid" with a mean percentage of 87.2%, based on the assessment by students, the students' responses were "positive" with a mean percentage of 70%, and the test results of students in small groups got an average score of 69.6 which was included in the "Good" category. This shows that the teaching materials for the composition function assisted by videoscribe in improving students' mathematical reasoning abilities are appropriate for use in the learning process by teachers and students in SMA / MA.