

ABSTRAK

Marcella Nindita Putri. 2026. Pengembangan Media Pembelajaran Berbantuan *Amplify Classroom* Pada Materi Garis Singgung Lingkaran dengan Model Pembelajaran *Discovery Learning* untuk Peserta Didik Kelas XI. Skripsi. Program Studi Pendidikan Matematika, Jurusan Pendidikan Matematika dan Pengetahuan Alam, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sanata Dharma, Yogyakarta.

Penelitian ini bertujuan untuk 1) Mendeskripsikan prosedur pengembangan media *Amplify Classroom* berpendekatan *discovery learning* pada materi garis singgung lingkaran untuk memfasilitasi pemahaman matematis peserta didik 2) Mengetahui tingkat kevalidan dan kepraktisan media digital *Amplify Classroom* dengan model pembelajaran *discovery learning* yang dikembangkan sehingga dapat digunakan pada materi garis singgung lingkaran di kelas XI 3) Menganalisis tingkat kevalidan, kepraktisan, dan keefektifan penggunaan media digital *Amplify Classroom* dengan model pembelajaran *discovery learning* yang dikembangkan terhadap pemahaman matematis peserta didik kelas XI.

Jenis penelitian yang digunakan adalah penelitian dan pengembangan (*Research and Development*) dengan model ADDIE yang terdiri atas lima tahap, yaitu *Analysis*, *Design*, *Development*, *Implementation*, dan *Evaluation*. Penelitian dilaksanakan di SMA Negeri 1 Depok dengan subjek penelitian peserta didik kelas XI-F4. Teknik pengumpulan data yang digunakan meliputi wawancara, observasi, kuesioner, dan tes hasil belajar. Analisis data yang digunakan adalah analisis validitas dan analisis kepraktisan dengan instrumen kuisisioner, serta analisis keefektifan melalui tes hasil belajar.

Hasil penelitian menunjukkan bahwa: 1) Pada prosedur pengembangan media dilakukan lima tahapan, yaitu a) Tahap analisis meliputi analisis kebutuhan pembelajaran, karakteristik peserta didik, serta permasalahan yang ditemukan selama proses pembelajaran matematika; b) Tahap desain meliputi penentuan aplikasi dan model pembelajaran, penyusunan aktivitas pembelajaran, prinsip desain, dan *storyboard*, serta merancang desain tampilan media; c) Tahap pengembangan meliputi pembuatan aktivitas pembelajaran pada *Amplify Classroom*, penyusunan modul ajar dan instrumen penelitian; d) Tahap implementasi media pembelajaran dilakukan kepada peserta didik kelas XI F-4 SMA Negeri 1 Depok; e) Tahap evaluasi dilakukan untuk mengetahui kualitas media pembelajaran melalui analisis hasil validasi, angket kepraktisan, serta tes hasil belajar peserta didik 2) Media pembelajaran berbantuan *Amplify Classroom* yang dikembangkan memenuhi kriteria sangat valid berdasarkan hasil validasi ahli materi dengan persentase 81,65% dan ahli media dengan persentase 82,3%. Dari aspek kepraktisan, media memperoleh persentase 70,93% berdasarkan penilaian peserta didik dan 81,33% berdasarkan penilaian guru, sehingga termasuk dalam kategori praktis 3) Dari aspek keefektifan, hasil tes belajar menunjukkan bahwa seluruh peserta didik mampu mencapai indikator pemahaman konsep matematis pada materi garis singgung lingkaran dengan rata-rata 96,78. Dengan demikian, media yang dikembangkan dinyatakan valid, praktis, dan efektif untuk digunakan dalam pembelajaran matematika pada materi garis singgung lingkaran.

Kata kunci: aktivitas pembelajaran, *Amplify Classroom*, *discovery learning*, garis singgung persekutuan luar, garis singgung persekutuan dalam.



ABSTRACT

Marcella Nindita Putri. 2026. *The Development of Amplify Classroom-Assisted Learning Materials on the Topic of Tangents to Circles Using the Discovery Learning Model for Year 11 Students*. Undergraduate thesis. Mathematics Education Programme, Department of Mathematics and Natural Sciences Education, Faculty of Teacher Training and Educational Sciences, Sanata Dharma University, Yogyakarta.

This study aimed to: 1) Describe the procedure for developing Amplify Classroom learning media integrated with the discovery learning model on the topic of tangent lines to a circle to facilitate students' mathematical understanding 2) Determine the validity and practicality levels of the developed Amplify Classroom digital learning media integrated with the discovery learning model 3) Analyze the validity, practicality, and effectiveness of the developed Amplify Classroom digital learning media integrated with the discovery learning model in improving the mathematical understanding of eleventh-grade students.

This study employed a Research and Development (R&D) approach using the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. The research was conducted at SMA Negeri 1 Depok, with students of class XI-F4 as the research subjects. Data were collected through interviews, observations, questionnaires, and learning achievement tests. The data analysis employed includes validity and practicality analyses using questionnaire instruments, as well as an effectiveness analysis based on learning outcome tests.

The research results indicate that: 1) The media development procedure involved five stages: a) The analysis stage, covering the analysis of learning needs, learner characteristics, and issues identified during the mathematics learning process; b) The design stage, involving the selection of the application and learning model, the structuring of learning activities, design principles, and storyboards, as well as the creation of the media's visual layout; c) The development stage, comprising the creation of learning activities within Amplify Classroom and the preparation of teaching modules and research instruments; d) The implementation stage, conducted with Grade XI F-4 students at SMA Negeri 1 Depok; and e) The evaluation stage is conducted to determine the quality of the learning media through an analysis of validation results, practicality questionnaires, and student learning outcome tests 2) The Amplify Classroom-assisted learning media met the "highly valid" criteria based on validation results from subject matter experts 81.65% and media experts 82.3%. Regarding practicality, the media achieved a score of 70.93% based on student assessments and 81.33% based on teacher assessments, placing it in the "practical" category 3) Regarding effectiveness, learning test results showed that all students successfully met the indicators for understanding mathematical concepts related to circle tangents, achieving an average score of 96.78. Thus, the developed media is deemed valid, practical, and effective for use in mathematics instruction on the topic of circle tangents.

Keywords: learning activities, Amplify Classroom, discovery learning, external common tangent, internal common tangent.