

ABSTRAK

RAESA NOVANDIKA HIDAYAT. 2025. **Pengembangan Media Pembelajaran Interaktif Matematika Berbasis *Web Google Sites* Berbantuan *Geogebra* Untuk Mengeksplor Kemampuan Abstraksi Reflektif**. Pascasarjana Pendidikan Matematika. Universitas Siliwangi.

Tujuan penelitian ini menghasilkan media pembelajaran interaktif matematika berbasis *web Google Sites* berbantuan *GeoGebra* untuk mengeksplor kemampuan abstraksi reflektif pada materi bangun ruang kubus. Subjek penelitian ini adalah 1 orang dosen matematika, 2 orang ahli materi, 2 orang ahli media, dan 14 orang mahasiswa semester 6 Program Studi Pendidikan Guru Madrasah Ibtidaiyah Institut Agama Islam Tasikmalaya (IAIT) Kota Tasikmalaya. Metode yang digunakan adalah penelitian dan pengembangan (*Research and Development*). Teknik pengumpulan datanya yaitu observasi, wawancara tidak terstruktur, angket dan tes kemampuan abstraksi reflektif. Instrumen yang digunakan lembar validasi ahli materi, ahli media, dan soal tes kemampuan abstraksi reflektif. Penelitian ini menghasilkan media pembelajaran berbasis *Google Sites* berbantuan *GeoGebra* menggunakan model Luther Sutopo yang terdiri dari 6 tahapan, yaitu: (1) *Concept*, yaitu analisis kebutuhan yang menunjukkan kesulitan mahasiswa dalam memahami konsep jarak pada kubus dalam kemampuan abstraksi reflektif; (2) *Design*, meliputi perancangan media dan penyusunan instrumen tes; (3) *Material Collecting*, yaitu pengumpulan materi, video, gambar, serta penyusunan konten berdasarkan indikator kemampuan; (4) *Assembly*, pembuatan media berbasis *website*; (5) *Testing*, melalui uji alpha oleh ahli yang menyatakan media valid, serta uji beta oleh mahasiswa dengan tingkat kelayakan sebesar 97,2%; dan (6) *Distribution*, yaitu pendistribusian media yang telah dikembangkan. Selain itu diperoleh nilai *Effect Size* sebesar 2,06 yang termasuk dalam kategori “*Strong Effect*” menunjukkan bahwa media pembelajaran yang dikembangkan memiliki pengaruh yang sangat besar terhadap peningkatan kemampuan abstraksi reflektif mahasiswa.

Kata kunci: media pembelajaran, *Google Sites*, kemampuan abstraksi reflektif.

ABSTRACT

RAESA NOVANDIKA HIDAYAT. 2025. **Development of *Web-based Math Interactive Learning Media Google Sites* Assisted by Geogebra to Explore Reflective Abstraction Ability**. Pascasarjana Pendidikan Matematika. Universitas Siliwangi.

The purpose of this research is to produce interactive learning media for mathematics based on Google Sites web with GeoGebra assistance to explore the ability of reflective abstraction on cube building material. The subjects of this study were 1 mathematics lecturer, 2 material experts, 2 media experts, and 14 students of the 6th semester of the Madrasah Ibtidaiyah Teacher Education Study Programme at the Tasikmalaya Islamic Institute (IAIT) Tasikmalaya City. The method used is research and development. The data collection techniques are observation, unstructured interviews, questionnaires and reflective abstraction ability tests. The instruments used were material expert validation sheets, media experts, and reflective abstraction ability test questions. This research produces Google Sites-based learning media assisted by GeoGebra using the Luther Sutopo model which consists of 6 stages, namely: (1) Concept, which is a needs analysis that shows students' difficulties in understanding the concept of distance in cubes in reflective abstraction ability; (2) Design, including media design and preparation of test instruments; (3) Material Collecting, which is the collection of materials, videos, images, and preparation of content based on ability indicators; (4) Assembly, making website-based media; (5) Testing, through alpha testing by experts who stated that the media was valid, as well as beta testing by students with a feasibility level of 97.2%; and (6) Distribution, which is the distribution of media that has been developed. In addition, an Effect Size value of 2.06 was obtained, which is included in the "Strong Effect" category, shows that the learning media developed has a very large influence on improving students' reflective abstraction skills.

Keywords: learning media, *Google Sites*, reflective abstraction skills.