

ABSTRAK

Ibnu Hiban (1404944). Pengembangan Bahan Ajar Berbasis *Augmented Reality Software* dan *Smartphone* untuk Pencapaian Kompetensi Dasar Matematis Siswa Tunarungu pada Materi Pengubinan.

Penelitian ini dilatarbelakangi karena adanya masalah pada siswa tunarungu berupa terhambatnya fungsi pendengaran yang mengakibatkan siswa sulit dalam memahami materi matematika yang bersifat abstrak sehingga butuh pemvisualisasian. Berdasarkan hal tersebut, peneliti mencoba mengatasinya dengan merancang bahan ajar berbasis *Augmented Reality Software* dan *Smartphone* yang dapat memvisualisasikan hal yang sifatnya abstrak menjadi kongkret. Tujuan penelitian ini yaitu (1) mendeskripsikan tahapan-tahapan perancangan bahan ajar berbasis *Augmented Reality Software* dan *Smartphone* untuk pencapaian kompetensi dasar matematis siswa tunarungu pada materi pengubinan; (2) melihat keefektifan bahan ajar berbasis *Augmented Reality Software* dan *Smartphone* untuk pencapaian kompetensi dasar matematis siswa tunarungu pada materi pengubinan; (3) mengetahui respons siswa terhadap bahan ajar berbasis *Augmented Reality Software* dan *Smartphone* untuk pencapaian kompetensi dasar matematis siswa tunarungu pada materi pengubinan. Perancangan bahan ajar ini menggunakan metode *Research and Development* dengan model pengembangan mengacu kepada ADDIE (*Analysis, Design, Development, Implementation, Evaluation*). Sumber informasi dalam penelitian ini yaitu siswa-siswi tunarungu kelas VIII semester ganjil tahun ajaran 2018/2019 di salah satu Sekolah di Kota Bandung dan Kota Cimahi yang berjumlah masing-masing 5 orang. Data dikumpulkan melalui instrumen tes berupa soal uraian dan instrumen non-tes berupa wawancara dan angket. Hasil penelitian ini menginformasikan bahwa (1) tahapan-tahapan perancangan bahan ajar ini meliputi: tahap analisis, tahap perancangan, tahap pengembangan, tahap implementasi dan tahap evaluasi; (2) bahan ajar ini efektif dalam pencapaian kompetensi dasar matematis siswa tunarungu pada materi pengubinan dengan indikator ketuntasan pembelajaran secara individu dan klasikal (3) siswa memberikan respons positif terhadap bahan ajar ini dengan kategori sangat baik.

Kata kunci : Bahan Ajar, *Augmented Reality*, Siswa Tunarungu, Pengubinan

Ibnu Hiban, 2018

**PENGEMBANGAN BAHAN AJAR BERBASIS AUGMENTED REALITY SOFTWARE DAN SMARTPHONE
UNTUK PENCAPAIAN KOMPETENSI DASAR MATEMATIS SISWA TUNARUNGU PADA MATERI
PENGUBINAN**

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

ABSTRACT

Ibnu Hiban (1404944). *The Development of Augmented Reality Software and Smartphone Based Teaching Material for Mathematical Basic Competencies Achievement of Deaf Students in Tessellation.*

This research is motivated by the problem of deaf students in the form of obstruction of the hearing function which causes them to rely more on visual functions. It makes students have difficulties in understanding abstract mathematical material so that they need visualization. Based on the problem, the researcher tried to overcome it by designing an Augmented Reality software and smartphone based teaching material that can visualize abstract things to concrete. The aims of this research are (1) to describe the stages of designing Augmented Reality software and smartphone based teaching material for mathematical basic competencies achievement of deaf students in tessellation; (2) to see the effectiveness of the Augmented Reality software and smartphone based teaching material for mathematical basic competencies achievement of deaf students in tessellation; (3) to know the students' responses to the Augmented Reality software and smartphone based teaching material for mathematical basic competencies achievement of deaf students in tessellation; The designing of this teaching material uses Research and Development method with the development model that refers to ADDIE (Analysis, Design, Development, Implementation, Evaluation). The information resources in this research are deaf students in grade VIII of odd semester in academic year 2018/2019 in one of the schools in Bandung and also one in Cimahi that each consists of five students. Data collected through test instruments in the form of an essay test and non-test instruments in the form of interviews and questionnaires. The results of this research inform that (1) the stages of designing this teaching material include: analysis stage, design stage, development stage, implementation stage, and evaluation stage; (2) this teaching material is effective in mathematical basic competencies achievement of deaf students in tessellation with the indicators of individual and classical learning completeness; (3) students give positive responses to the teaching material with a very good category..

Keywords: *Teaching Material, Augmented Reality, Deaf Student, Tessellation*

Ibnu Hiban, 2018

PENGEMBANGAN BAHAN AJAR BERBASIS AUGMENTED REALITY SOFTWARE DAN SMARTPHONE
UNTUK PENCAPAIAN KOMPETENSI DASAR MATEMATIS SISWA TUNARUNGU PADA MATERI
PENGUBINAN

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu