

ABSTRAK

Penelitian ini dilaksanakan pada salah satu SLB Negeri di Kota Bandung dengan responden siswa tunarungu kelas VIII. Penelitian ini merupakan penelitian dan pengembangan menggunakan model R&D Borg & Gall (1983) yang dimodifikasi sesuai kebutuhan penelitian. Penelitian ini terdiri dari 5 tahap yaitu: (1) studi pendahuluan; (2) perencanaan; (3) pengembangan; (4) uji lapangan; (5) evaluasi. Penelitian ini dilatarbelakangi oleh kesulitan siswa dalam memahami konsep matematika pada materi bilangan bulat negatif dan operasinya. Guru membutuhkan suatu media untuk membantu dan menjembatani siswa dalam memahami konsep ini. Oleh karena itu, dibuat suatu bahan ajar berbantuan media *Augmented Reality Software* dan *smartphone* untuk membantu pembelajaran matematika bagi siswa tunarungu. Tujuan dari penelitian ini yaitu: (1) mendeskripsikan rancangan bahan ajar berbantuan *Augmented Reality Software* dan *smartphone* untuk pencapaian kompetensi dasar matematis pada anak tunarungu; (2) mengetahui efektivitas rancangan bahan ajar berbantuan *Augmented Reality Software* dan *smartphone* untuk pencapaian kompetensi dasar matematis pada anak tunarungu. Hasil analisis dari penelitian ini menunjukkan: (1) terdapat beberapa revisi bahan ajar dan media pembelajaran dari tahap desain sampai tahap produk hasil revisi; (2) terdapat pengaruh positif bagi guru atau praktisi dalam pembelajaran menggunakan bahan ajar berbantuan *Augmented Reality Software* dan *smartphone*; (3) secara umum, siswa menunjukkan respons positif terhadap pembelajaran matematika menggunakan bahan ajar berbantuan media *Augmented Reality Software* dan *smartphone*; (4) terdapat beberapa kendala pada pengembangan bahan ajar dan media, seperti menyesuaikan desain awal *Augmented Reality* dengan materi, mengalokasikan waktu saat pembelajaran, memperbaiki *bug* atau error pada media *Augmented Reality*.

Kata kunci: Tunarungu, Bahan Ajar, *Augmented Reality*, Bilangan Bulat Negatif

ABSTRACT

This research was conducted in one of the public school for children with special needs in Bandung. The respondents for this research are deaf students in eight grade. This research is a research and development model's using R&D by Borg & Gall's model (1983) which is modified according to research needs. This research consists of 5 stages: (1) preliminary study; (2) planning; (3) development; (4) field test; (5) evaluation. This research is motivated by students' difficulties in understanding the mathematical concepts on negative integers material and its operation. Teachers require a medium to help and bridge the students in understanding some concepts. Therefore, a teaching material supported by Augmented Reality Software and smartphone medium to help learning mathematics for deaf students. The purpose of this research are: (1) to describe the design of teaching materials supported by Augmented Reality Software and smartphone for deaf students achievement in basic mathematical competence; (2) to know the effectiveness of the design of teaching materials supported by Augmented Reality Software and smartphone for deaf students achievement in basic mathematical competences. The results of the analysis of this study show: (1) there are several revisions of learning materials and medium from the design stage to the revised product stage; (2) there is a positive influence for teachers or practitioners in learning using teaching materials supported by Augmented Reality Software and smartphone; (3) in general, students show positive responses to mathematics learning using teaching materials supported by Augmented Reality Software and smartphone medium; (4) there are some obstacles to the development of teaching materials and medium, such as adjusting the initial design of Augmented Reality with materials, allocating time during the lesson, fixing bugs or errors on Augmented Reality medium.

Keywords: Deaf Students, Teaching Materials, Augmented Reality, Negative Integers