

ABSTRAK

Andre Sitepu: Pengembangan Modul Interaktif Berbasis *Augmented Reality* Berbantuan *Assemblr Edu* Pada Materi Dasar-Dasar Otomotif Kelas X Jurusan Teknik Dan Bisnis Sepeda Motor SMK Negeri 2 Medan. Skripsi. Fakultas Teknik Universitas Negeri Medan. 2024.

Pada mata pelajaran dasar-dasar otomotif, terdapat beberapa permasalahan yang dijumpai dalam proses belajar mengajar seperti media pembelajaran yang sering digunakan berupa buku dengan gambar 2 Dimensi, *power point*, serta kurangnya inovasi maupun teknologi pembelajaran yang menjadikan siswa kurang aktif dalam proses pembelajaran karena aktivitas pembelajaran masih dominan dilakukan oleh guru. Tujuan penelitian ini adalah untuk mengetahui: (1) Melihat hasil pengembangan modul interaktif berbasis *augmented reality* berbantuan *assemblr edu* pada materi dasar-dasar otomotif kelas x jurusan teknik dan bisnis sepeda motor SMK Negeri 2 medan. (2) Untuk mengetahui validitas modul interaktif berbasis *augmented reality* berbantuan *assemblr edu*. (3) Untuk mengetahui kepraktisan modul interaktif berbasis *augmented reality* berbantuan *assemblr edu*.

Penelitian ini dilaksanakan di SMK Negeri 2 Medan, dengan sampel penelitian adalah siswa kelas X TBSM 1 yang berjumlah 30 orang siswa. Metode yang digunakan adalah penelitian *Research and Development* (R&D) dengan model pengembangan 4-D (*four-D*) yang terdiri atas 4 tahap pengembangan, yaitu: (*define, design, develop, disseminate*).

Hasil penelitian menunjukkan bahwa pengembangan modul interaktif berbasis *augmented reality* berbantuan *assemblr edu* yang telah dikembangkan memenuhi kriteria kevalidan “sangat valid” dan kriteria kepraktisan “sangat praktis” dengan rincian berdasarkan penilaian ahli media mendapatkan skor sebesar 5, dari ahli materi sebesar 5, dari ahli desain sebesar 4,5. Kemudian pada tahap praktikalitas dari hasil uji coba perorangan mendapatkan skor sebesar 4,54, dari hasil uji coba kelompok kecil sebesar 4,61, dari hasil uji coba kelompok besar sebesar 4,70. Total skor rata-rata keseluruhan yang diperoleh pada tahap validasi adalah sebesar 4,83 dan total skor rata-rata keseluruhan yang diperoleh pada tahap praktikalitas adalah sebesar 4,61. Hal ini menunjukkan bahwa modul interaktif berbasis *augmented reality* berbantuan *assemblr edu* pada materi dasar-dasar otomotif sangat valid dan sangat praktis digunakan di kelas x jurusan teknik dan bisnis sepeda motor SMK Negeri 2 medan.

Kata Kunci : Modul Interaktif, *Augmented Reality*, *Assemblr Edu*, Dasar-Dasar Otomotif, Validitas, Praktikalitas.

ABSTRACT

Andre Sitepu: Development of an Interactive Module Based on *Augmented Reality* Assisted by *Assemblr Edu* on Automotive Basics Class X Department of Motorcycle Engineering and Business at SMK Negeri 2 Medan. Thesis. Faculty of Engineering, State University of Medan. 2024.

In the subject of automotive basics, there are several problems encountered in the teaching and learning process such as learning media that are often used in the form of books with 2-dimensional drawings, power points, and the lack of innovation and learning technology that makes students less active in the learning process because learning activities are still dominantly carried out by teachers. The purpose of this study is to find out: (1) Looking at the results of the development of an interactive module based on *augmented reality* assisted by *assemblr edu* on the basics of automotive class x of the Department of Engineering and Motorcycle Business of SMK Negeri 2 Medan. (2) To determine the validity of the interactive module based on *augmented reality* assisted by *assemblr edu*. (3) To find out the practicality of interactive modules based on *augmented reality* assisted by *assemblr edu*.

This research was carried out at SMK Negeri 2 Medan, with the research sample being class X students of TBSM 1 which amounted to 30 students. The method used is Research and Development (R&D) research with a 4-D development model consisting of 4 stages of development, namely: (define, design, develop, disseminate).

The results of the study show that the development of an interactive module based on *augmented reality* assisted by *assemblr edu* that has been developed meets the validity criteria of "very valid" and the practicality criterion of "very practical" with details based on the assessment of media experts getting a score of 5, from material experts of 5, from design experts of 4.5. Then in the practicality stage from the results of the individual trial got a score of 4.54, from the results of the small group trial of 4.61, from the results of the large group trial of 4.70. The total overall average score obtained at the validation stage was 4.83 and the total overall average score obtained at the practicality stage was 4.61. This shows that the interactive module based on *augmented reality* assisted by *assemblr edu* on automotive basics is very valid and very practical to use in class x of the Department of Engineering and Motorcycle Business of SMK Negeri 2 Medan.

Keywords: Interactive Module, *Augmented Reality*, *Assemblr Edu*, Automotive Basics, Validity, Practicality.