

PENGEMBANGAN MEDIA PEMBELAJARAN DASAR-DASAR OTOMOTIF SUB POKOK SISTEM REM BERBASIS TRAINER

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ABSTRAK

Penelitian ini bertujuan untuk mengembangkan media pembelajaran berbasis trainer pada sub pokok sistem rem, mengetahui tingkat kelayakan media pembelajaran, serta mengetahui tingkat kepraktisan media yang dikembangkan. Penelitian ini dilatarbelakangi oleh terbatasnya media pembelajaran praktik yang dapat membantu mahasiswa memahami materi sistem rem pada mata kuliah Dasar-Dasar Otomotif di Program Studi Pendidikan Teknik Mesin Universitas Pendidikan Ganesha. Penelitian ini menggunakan metode *Research and Development* (R&D) dengan model pengembangan 4D (Four-D Model) yang meliputi tahap *Define*, *Design*, *Develop*, dan *Disseminate*. Namun, penelitian ini hanya dilaksanakan sampai tahap *Develop*. Subjek penelitian terdiri atas dua ahli desain, dua ahli manufaktur, 15 mahasiswa pada uji kelompok kecil, dan 30 mahasiswa pada uji kelompok besar. Data dikumpulkan menggunakan angket dan dianalisis dengan teknik analisis deskriptif kuantitatif. Hasil penelitian menunjukkan bahwa validitas isi instrumen memperoleh nilai 0,926 dengan kategori sangat tinggi. Hasil validasi ahli desain memperoleh persentase 91,81% dan ahli manufaktur 91,25%, sehingga media pembelajaran termasuk kategori sangat layak. Hasil uji kepraktisan memperoleh persentase 85,80% pada kelompok kecil dan 89,90% pada kelompok besar dengan kategori sangat praktis. Dengan demikian, media pembelajaran berbasis trainer pada sub pokok sistem rem dinyatakan valid, sangat layak, dan sangat praktis untuk digunakan sebagai media pembelajaran pada mata kuliah Dasar-Dasar Otomotif.

Kata kunci: media pembelajaran, trainer, sistem rem, dasar-dasar otomotif, penelitian dan pengembangan.

DEVELOPMENT OF A TRAINER-BASED LEARNING MEDIA FOR BASIC AUTOMOTIVE ENGINEERING ON THE BRAKE SYSTEM SUBTOPIC

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ABSTRACT

This study aimed to develop a trainer-based learning media for the brake system subtopic, determine the feasibility level of the learning media, and identify the practicality level of the developed media. The study was motivated by the limited availability of practical learning media that could assist students in understanding brake system materials in the Basic Automotive Engineering course at the Mechanical Engineering Education Study Program, Universitas Pendidikan Ganesha. This study employed a Research and Development (R&D) method using the 4D (Four-D) development model, which consists of the stages of Define, Design, Develop, and Disseminate. However, this research was conducted only up to the Develop stage. The research subjects consisted of two design experts, two manufacturing experts, 15 students in the small-group trial, and 30 students in the large-group trial. Data were collected using questionnaires and analyzed using quantitative descriptive analysis techniques. The results showed that the content validity of the instrument obtained a value of 0.926, which falls into the very high category. The validation results from the design experts achieved a percentage of 91.81%, while the manufacturing experts achieved 91.25%; therefore, the learning media was categorized as highly feasible. The practicality test results obtained percentages of 85.80% in the small-group trial and 89.90% in the large-group trial, both of which were categorized as highly practical. Thus, the trainer-based learning media for the brake system subtopic is declared valid, highly feasible, and highly practical for use as a learning medium in the Basic Automotive Engineering course.

Keywords: learning media, trainer, brake system, basic automotive engineering, research and development.