

ABSTRAK

Siska Maria Matondang: “Pengembangan Multimedia Pembelajaran Interaktif Instalasi Motor Listrik Berbasis Proyek di SMK Negeri 1 Percut Sei Tuan.” Tesis. Program Pascasarjana Universitas Negeri Medan. 2021.

Penelitian ini bertujuan menghasilkan produk multimedia interaktif Instalasi Motor Listrik berbasis proyek untuk peserta didik sekolah menengah kejuruan program keahlian Teknik Instalasi Tenaga Listrik sesuai kurikulum 2013. Produk ini dikembangkan menggunakan pendekatan Research and Development (R&D) yang mengacu pada model Borg and Gall dimana masing-masing tahapannya saling berhubungan. menghasilkan produk pengembangan dan mengadaptasi model *Multimedia Development Life Cycle Luther (Concept-Design-Material Collecting-Assembly-Testing-Distribution)* untuk pengembangan produknya. Subjek penelitian dalam penelitian ini adalah ahli desain materi, ahli desain media, ahli desain pembelajaran, dan peserta didik. Hipotesis yang diajukan dari penelitian ini adalah bahwa produk multimedia interaktif ini layak dan efektif untuk digunakan dalam proses pembelajaran Instalasi Motor Listrik. Pengumpulan data dilakukan melalui angket validasi ahli dan respon peserta didik serta *posttest* sebagai instrumen hasil belajar. Kelayakan produk multimedia diperoleh melalui pengujian dan validasi dimana rata-rata persentase hasil penilaian ahli materi, media dan desain pembelajaran adalah sebesar 86,32%, sedangkan rata-rata persentase hasil peserta didik pada uji coba perorangan dan kelompok adalah sebesar 83,91% yang termasuk dalam kriteria penilaian “sangat baik”. Hasil uji efektivitas produk dilakukan menggunakan data uji hasil belajar pada uji hipotesis penelitian melalui uji-t satu pihak kanan pada taraf signifikansi $\alpha = 0,05$ dan derajat kebebasan $df = 62$, sehingga diperoleh $t_{hitung} > t_{tabel}$ yaitu $3,85 > 1,67$, yang berarti terdapat peningkatan hasil belajar peserta didik yang belajar menggunakan multimedia interaktif untuk pelajaran Instalasi Motor Listrik dibandingkan dengan hasil belajar peserta didik yang belajar dengan metode pembelajaran klasikal. Demikian penggunaan produk multimedia interaktif Instalasi Motor Listrik berbasis proyek layak dan efektif untuk digunakan dalam proses pembelajaran serta dapat meningkatkan hasil belajar peserta didik.

Kata kunci : multimedia pembelajaran interaktif, pembelajaran berbasis proyek, instalasi motor listrik

ABSTRACT

Siska Maria Matondang: “The Development of Interactive Multimedia Project-Based Electric Motor Installation at SMK Negeri 1 Percut Sei Tuan.” Tesis. Postgraduate Program Universitas Negeri Medan. 2021.

This study aims to produce an interactive learning multimedia product Electric Motor Installation based on project-based learning for vocational high school students of the Electrical Power Installation Engineering expertise program according to the 2013 curriculum. This product was developed using the Research and products and adapt Luther's Multimedia Development Life Cycle (Concept-Design-Material Collecting-Assembly-Testing-Distribution) model for product development. The research subjects in this study were material design experts, media design experts, instructional design experts, and students. The hypothesis proposed from this study is that this interactive learning multimedia product is feasible and effective for use in the learning process of Electric Motor Installation. Data collection was carried out through expert validation questionnaires and student responses and post-test as an instrument of learning outcomes. The feasibility of multimedia products is obtained through testing and validation where the average percentage of the results of the evaluation of material, media, and learning design experts is 86.32%, while the average percentage of student results in individual and group trials is 83.91% which includes within the “very good” rating criteria. The results of the product effectiveness test were carried out using the learning outcome test data on the research hypothesis test through the one tail right side t-test at the significance level $\alpha = 0.05$ and the degrees of freedom $df = 62$, so that $t_{count} > t_{table}$ was obtained, namely $3.85 > 1.67$, which means that there is a significant enhancement in the learning outcomes of students who learn using interactive multimedia learning for the subject of Electrical Motor Installation compared to the learning outcomes of students who learn using classical learning methods. Thus the use of interactive learning multimedia products Electric Motor Installation based on project-based learning is feasible and effective for use in the learning process and can improve student learning outcomes.

Keywords: *interactive multimedia learning, project-based learning, electric motor installation*