ABSTRAK

Herman Setiadi. NIM 8196122006. Pengembangan Multimedia Interaktif Berbasis *Project Based Learning* Untuk Meningkatkan Hasil Belajar Dasar Listrik Dan Elektronika. Program Pascasarjana Magister Teknologi Pendidikan. Universitas Negeri Medan.

Tujuan penelitian ini untuk (1) Mengetahui kelayakan multimedia interaktif berbasis *project based learning* dalam meningkatkan hasil belajar dasar listrik dan elektronika.(2) Mengetahui keefektifan kelayakan multimedia interaktif berbasis *project based learning* dalam meningkatkan hasil belajar dasar listrik dan elektronika. Jenis Penelitian ini adalah penelitian *R & D* dengan menggunakan model pengembangan ADDIE. Adapun subjek dari penelitian ini terdiri dari dua orang ahli materi, dua orang ahli media pembelajaran, dua orang ahli desain pembelajaran, dan siswa kelas X SMK Negeri 1 Bandar Masilam yang berjumlah 50 orang. Sebagai objek dalam penelitian ini respon siswa terhadap media pembelajaran dan tes hasil belajar siswa.

Hasil penelitian menunjukkan (1) uji ahli materi pembelajaran berada pada klasifikasi sangat baik (90%), (2) uji ahli media pembelajaran berada pada klasifikasi sangat baik (89,2%), (3) uji ahli desain pembelajaran berada pada klasifikasi sangat baik (92,2%). Berdasarkan hasil tes belajar diketahui rata-rata nilai kelas kontrol sebesar 77,23 dan kelas eksperimen sebesar 88,37 dan kedua kelas memiliki selisih nilai sebesar 11,14. Hasil Pengajuan Hipotesis membuktikan bahwa (1) multimedia interaktif berbasis *project based learning* layak digunakan (2) terdapat perbedaan yang signifikan antara hasil belajar siswa yang menggunakan multimedia interaktif berbasis *project based learning* dengan hasil belajar siswa yang menggunakan buku teks. Hal ini ditunjukkan dengan hasil pengolahan data pada hasil posttest diproleh harga $t_{hitung} = 6,63$ Pada taraf signifikan ($\alpha = 0,05$) dengan dk 48 diperoleh $t_{tabel} = 1,648$ sehingga $t_{hitung} > t_{tabel.}$ Efektivitas rata-rata hasil belajar pada penggunaan multimedia interaktif berbasis *project based learning* sebesar 73 %, Sedangkan Kelompok siswa yang tidak menggunakan media sebesar 36%. Dari data ini membuktikan bahwa penggunaan multimedia interaktif berbasis *project based learning* lebih efektif dalam meningkatkan pengetahuan dan kompetensi siswa pada pembelajaran dasar listrik dan elektronika daripada tanpa menggunakan multimedia interaktif berbasis *project based learning* .

Kata Kunci : Multimedia Interaktif. Project Based Learning. Dasar Listrik. Elektronika

ABSTRACT

Herman Setiadi. NIM 8196122006. The Development of Based Interactive Multimedia*Project Based Learning* To Improve Basic Electrical And Electronics Learning Outcomes. Educational Technology Masters Postgraduate Program. Universitas Negeri Medan.

The purpose of this study is to (1) Determine the feasibility of based interactive multimedia project *based learning* in improving learning outcomes of basic electricity and electronics. (2) Knowing the feasibility effectiveness of interactive multimedia-based*project based learning* in improving learning outcomes of basic electricity and electronics. This type of research is research*R & D* by using the ADDIE development model. The subjects of this study consisted of two material experts, two learning media experts, two learning design experts, and 50 grade X students of SMK Negeri 1 Bandar Masilam. As an object in this study, students' responses to learning media and student learning outcomes tests.

The results showed (1) the learning material expert test was in the very good classification (90%), (2) the learning media expert test was in the very good classification (89.2%), (3) the learning design expert test was in the very good classification. good (92.2%). Based on the results of the learning tests, it is known that the average value of the control class is 77.23 and that of the experimental class is 88.37 and the two classes have a difference in value of 6,63. The results of the submission of the hypothesis prove that (1) interactive multimedia is based project *based learning* feasible to use (2) there is a significant difference between the learning outcomes of students who use interactive multimedia-based project *based learning* with the learning outcomes of students who use textbooks. This is indicated by the results of data processing on the posttest results obtained by the value of t_{count} = 6,63, At a significant level ($\alpha = 0.05$) with dk 48 obtained t_{table}= 1,648 until $t_{count} > t_{table.}$The average effectiveness of learning outcomes in the use of interactive multimedia-based project *based learning* by 73%, while the group of students who do not use media is 36%. From this data proves that the use of interactive multimedia is based project *based learning* more effective in increasing students' knowledge and competence in learning basic electricity and electronics than without using interactive multimedia based project *based learning.*

Keywords : Interactive Multimedia. Project Based Learning. Basic Electricity. Electronics