ABSTRAK

Rizky Ramadhan: Pengembangan Media Pembelajaran Interaktif Berbasis Video Tutorial Mastercam Pada Mata Pelajaran Konsentrasi Keahlian Teknik Pemesinan Elemen Teknik Pemesinan Nonkonvensional Kelas XI Teknik Mesin SMK Negeri 1 Percut Sei Tuan. Medan. Skripsi. Fakultas Teknik Universitas Negeri Medan. 2024.

Penelitian ini bertujuan untuk mengembangkan media pembelajaran interaktif berbasis video tutorial mastercam pada mata pelajaran konsentrasi keahlian teknik pemesinan elemen teknik pemesinan nonkonvensional Kelas XI Teknik Mesin SMK Negeri 1 Percut Sei Tuan.

Penelitian ini menggunakan metode penelitian dan pengembangan atau lebih sering disebut Research and Development (R&D) dengan model ADDIE (*Analysis, Design, Development, Implementation, and Evaluation)*. Media dikembangkan dengan aplikasi Canva. Tahap pengumpulan data meliputi: (1) Uji kevalidan (a) ahli materi, (b) ahli media, dan (c) ahli desain pembelajaran, (2) Uji Kepraktisan (a) penilaian guru dan (b) penilaian siswa (perorangan, kelompok kecil, dan kelompok besar), (2) Uji Efektifitas yaitu *Pre-test* dan *Post-test.*

Hasil Penelitian menunjukkan bahwa media pembelajaran interaktif berbasis video tutorial mastercam pada mata pelajaran konsentrasi keahlian teknik pemesinan elemen teknik pemesinan nonkonvensional Kelas XI Teknik Mesin SMK Negeri 1 Percut Sei Tuan mendapat penilaian (1) Uji Kevalidan (a) ahli materi adalah 0.83 dengan kualifikasi validitas sangat tinggi, (b) ahli media adalah 1 dengan kualifikasi validitas sangat tinggi, (c) ahli desain pembelajaran adalah 0.96 dengan kualifikasi validitas sangat tinggi, (2) Uji Kepraktisan (a) penilaian tiga orang guru dengan rata-rata adalah 0.88 dengan kualifikasi sangat praktis (b) penilaian peserta didik perorangan adalah 0.9 dengan kualifikasi sangat praktis, penilaian peserta didik kelompok kecil adalah 0.89 dengan kualifikasi sangat praktis, penilaian peserta didik kelompok besar adalah 0.88 dengan kualifikasi sangat praktis, (3) Uji Efektifitas, rata-rata nilai *pre-test* adalah 12,96 dan rata-rata nilai *post-test* adalah 16,96. Dilihat dari hasil nilai *pre-test* dan *post-test* terjadi peningkatan nilai sebesar 4 atau 30,85%, Sedangkan Kriteria Ketuntasan Minimal (KKM) adalah 71 maka presentase ketuntasan dari keseluruhan siswa berdasar yang mengikuti tes adalah 25 siswa atau 89,29%. Hasil perhitungan dengan rumus Uji-T Berpasangan (*paired t-test*) maka Ha diterima dan Ho ditolak yang artinya ada perbedaan yang signifikan dan nilai N-Gain didapat 0,57 maka dikategorikan efektivitas sedang. Dengan itu, media pembelajaran interaktif yang dikembangkan terbukti efektif dalam meningkatkan hasil belajar siswa.

Kata kunci : Media pembelajaran interaktif, Video tutorial mastercam, Konsentrasi keahlian

ABSTRACT

Rizky Ramadhan: ***Development of Interactive Learning Media Based on Mastercam Video Tutorials in the Concentration Subject of Machining Engineering Skills Elements of Unconventional Machining Techniques Class XI Mechanical Engineering SMK Negeri 1 Percut Sei Tuan. Medan. Essay. Medan State University Faculty of Engineering.*** **2024.**

This research aims to develop interactive learning media based on MasterCam video tutorials in the concentration subject of machining engineering skills in non-conventional machining engineering elements in Class XI Mechanical Engineering at SMK Negeri 1 Percut Sei Tuan.

This research used research and development methods or more often called Research and Development (R&D) with the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model. Media developed with the Canva application. The data collection stage includes: (1) Validity test (a) material expert, (b) media expert, and (c) learning design expert, (2) Practicality test (a) teacher assessment and (b) student assessment (individual, group small, and large groups), (2) Effectiveness Test, namely Pre-test and Post-test.

The research results show it the interactive learning media based on MasterCam video tutorials in the machining engineering expertise concentration subject, non-conventional machining engineering elements in Class high, (b) media expert is 1 with very high validity qualifications, (c) learning design expert was 0.96 with very high validity qualifications, (2) Practicality Test (a) assessment of three teachers with an average of 0.88 with very high qualifications practical (b) assessment of individual students was 0.9 with very practical qualifications, assessment of small group students was 0.89 with very practical qualifications, assessment of large group students was 0.88 with very practical qualifications, (3) Effectiveness Test, average pre score -test was 12.96 and the average post-test score was 16.96. Judging from the results of the pre-test and post-test scores, there was an increase in scores of 4 or 30.85%. Meanwhile, the Minimum Completeness Criteria (KKM) was 71, therefor the percentage of completeness of all students based on those who took the test was 25 students or 89.29%. The results of calculations using the Paired T-Test formula show that Ha was accepted and Ho was rejected, which means there was a significant difference and the N-Gain value was 0.57, therefor it was categorized as moderate effectiveness. With it, the interactive learning media developed has proven to be effective in improving student learning outcomes.

Keywords: *Interactive learning media, Mastercam video tutorials, Concentration of expertise*