

ABSTRAK

PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS *ANDROID* PADA MATERI CNC *MILLING* KELAS XI DI SMK NEGERI 2 MEDAN

Oleh:

MHD Fadhlan Syahputra

NIM. 5203121001

Universitas Negeri Medan

Penelitian pengembangan media pembelajaran berbasis android pada materi CNC Milling kelas XI di SMK Negeri 2 Medan bertujuan untuk: (1) mengetahui validitas media pembelajaran berbasis *android* pada materi CNC Milling kelas XI di SMK Negeri 2 Medan. (2) mengetahui kepraktisan media pembelajaran berbasis *android* pada materi CNC Milling kelas XI di SMK Negeri 2 Medan. (3) mengetahui keefektifan media pembelajaran berbasis *android* pada materi CNC Milling kelas xi di SMK Negeri 2 Medan. Metode penelitian ini adalah penelitian dan pengembangan (*Research And Development*). Model pengembangan menggunakan model 4D (*Define, Design, Development, Dissemination*). Penelitian ini dilakukan di SMK Negeri 2 Medan. Subjek penelitian adalah ahli media, ahli materi, ahli desain pembelajaran, dan peserta didik jurusan Teknik Pemesinan yang berjumlah 28 orang. Teknik pengumpulan data dilakukan dengan instrumen berupa lembar validasi ahli media, lembar validasi ahli materi, lembar validasi ahli desain pembelajaran, angket kepraktisan media, soal *pretest* dan soal *posttest*. Teknik analisis data menggunakan analisis deskriptif kuantitatif dan kualitatif. Hasil penelitian ini menunjukkan bahwa: (1) media pembelajaran berbasis *android* pada materi CNC Milling kelas XI dinyatakan layak digunakan berdasarkan hasil penilaian ahli media dengan nilai “4,85” dengan kategori “Sangat Valid”, penilaian ahli materi dengan nilai “4,9” dengan kategori “Sangat Valid”, dan penilaian ahli desain pembelajaran dengan nilai “5” dengan kategori “Sangat Valid”. Skor rata – rata penilaian ahli media, materi, dan desain pembelajaran adalah sebesar “4,9” dengan kategori “Sangat Valid”. (2) media pembelajaran berbasis *android* pada materi CNC Milling kelas XI dinyatakan “Praktis” untuk digunakan berdasarkan hasil uji kepraktisan mendapatkan nilai “3,76” dengan kategori “Sangat Positif”. (3) penggunaan media pembelajaran berbasis *android* pada materi CNC Milling kelas XI dinyatakan “Efektif”. Hal ini didasarkan dari perolehan nilai Uji U Mann Whitney dengan H_a diterima bahwasanya terdapat perbedaan hasil belajar siswa yang menggunakan media pembelajaran dengan yang tidak menggunakan media pembelajaran.

Kata kunci: Pengembangan Media, Model 4D, Media Pembelajaran, CNC Milling, *Android*.

ABSTRACT

DEVELOPMENT OF ANDROID-BASED LEARNING MEDIA ON CNC MILLING CLASS XI MATERIAL AT SMK NEGERI 2 MEDAN

Written by:

MHD Fadhlan Syahputra

NIM. 5203121001

State University of Medan

Research on the development of android-based learning media on CNC Milling class XI material at SMK Negeri 2 Medan aims to: (1) determine the validity of android-based learning media on CNC Milling material in class XI at SMK Negeri 2 Medan. (2) determine the practicality of android-based learning media on CNC Milling material in class XI at SMK Negeri 2 Medan. (3) to determine the effectiveness of android-based learning media on CNC Milling material in class xi at SMK Negeri 2 Medan. This research method is research and development (Research And Development). The development model uses the 4D model (Define, Design, Development, Dissemination). This research was conducted at SMK Negeri 2 Medan. The research subjects were media experts, material experts, learning design experts, and students majoring in Mechanical Engineering totaling 28 people. Data collection techniques were carried out with instruments in the form of media expert validation sheets, material expert validation sheets, learning design expert validation sheets, media practicality questionnaires, pretest questions and posttest questions. The data analysis technique used quantitative and qualitative descriptive analysis. The results of this study indicate that: (1) android-based learning media on CNC Milling class XI material is declared feasible to use based on the results of media expert assessment with a value of "4.85" with the category "Very Valid", material expert assessment with a value of "4.9" with the category "Very Valid", and learning design expert assessment with a value of "5" with the category "Very Valid". The average score of media, material, and learning design expert assessments is "4.9" with the category "Very Valid". (2) Android-based learning media on CNC Milling class XI material is declared "Practical" to use based on the results of the practicality test getting a score of "3.76" in the "Very Positive" category. (3) the use of Android-based learning media in class XI CNC Milling material was declared "Effective". This is based on the results obtained from the Mann Whitney U Test with H_a and it is accepted that there are differences in the learning outcomes of students who use learning media and those who do not use learning media.

Keywords: Media Development, 4D Model, Learning Media, CNC Milling, Android.