

## **ABSTRACT**

### **LEARNING MEDIA BASIC KNOWLEDGE OF MECHANICAL ENGINEERING BASED ON ADOBE FLASH CS3 PROFESSIONAL SOFTWARE IN SMK MUHAMMADIYAH PRAMBANAN**

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This research aims at (1) knowing the design process of computer assisted learning media in SMK Muhammadiyah Prambanan on the subjects of Pengatahuan Dasar Teknik Mesin(PDTM), (2) determining the feasibility of that learning media, (3) examining the effectiveness of the use of instructional media in PDTM subjects in SMK Muhammadiyah Prambanan.

This research is categorized as Research and Development. Testing phase involved the feasibility test of expert validation, limited test, and extensive test. The method to analyze the feasibility of data was a quantitative descriptive analysis techniques disclosed in the distribution of scores and category rating scale that has been determined. The effectiveness of instructional media was tested by using pretest-posttest method with form a multiple-choice written test and to analyze the effectiveness of media data was tested by using Nonparametris Statistics Mann-Whitney U-Test.

The results of this research can be concluded that (1) instructional media created a specification 600x800pixel display resolution with the main file of the application(.exe) file with the overall size of 60,8megabytes. This instructional media through some stage of requirements analysis, design, manufacture initial product, expert validation test, the revised phase 1, product trials, phase 2 revision, and implementation, (2) the results of expert assessment of the media 76,11% to the category of "good", an expert assessment of the material 88,84% with the category of "very good", 77,34% limited test with the category of "very good", and 80,29% test area with "very good" category. Overall feasibility of the learning media are included in the excellent category, (3) of the hypothesis test results of the analysis conducted, there were significant differences in learning outcomes between students that use flash media with students that do not use flash media on subjects of PDTM in SMK Muhammadiyah Prambanan, pretest-posttest difference where the experimental class(42,29) is greater than the difference in pretest-posttest control class(32,27) which means the media that made it effective to be applied at the vocational school.

Key words: learning media, stage engineering, feasibility, effectiveness