DEVELOPING MODULE USING *MASTERCAM* AS A SIMULATOR MEDIA ON THE SUBJECT OF PROGRAMMED NC/CNC MACHINES AT SMK NEGERI 2 KLATEN

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ABSTRACT

This study aim to develop the learning media in the form of prototype modules using *Mastercam* as a simulator media on the subject of programmed NC/CNC machine, to improve students learning skills at SMK Negeri 2 Klaten, and to determine the feasibility of the *Mastercam* module as a simulator media the CNC practice subject at SMK Negeri 2 Klaten.

This research uses the approach of research and development (RnD). Time of the study started on July 3th 2009 – January 28th 2012 (for three years), was done at SMK Negeri 2 Klaten. Object of this study is development *Mastercam* simulator module that includes basic materials of using *Mastercam* and components using CNC machines. Stages used in this study includes: (1) preliminary study phase (2) early product development stage (3)expert validation stage (4) limited test phase I (5) stage revision I (6) limited test phase II (7) stage revision II (8) limited test phase III (9) revision (10) the final product. Methods of data colletion using quantitave descriptive analysis technique that translates the percentage distribution of score and percentage of feasibility category specified scale.

Based on feasibility testing *Mastercam* simulator module which has been develop, according to the expert of learning media get feasibility 95%; from the expert of material of the lecturer get feasibility 93,33%; while from the expert of material of the teacher get feasibility 93,33%; from early product test get feasibility 65,62%; from limited test I get feasibility 83,33%; from limited test II get feasibility 71,04%; while limited test III get feasibility 75,30%. Based on the feasibility percentage from test expert, peers and students of SMK Negeri 2 Klaten as users prove that *Mastercam* simulator module which has been develop feasible for use in the practice of learning CNC at SMK Negeri 2 Klaten.

Key words: *developing, module, Mastercam simulator*