

# **DEVELOPMENT OF MODULE MEDIA OF LESSONS USING MACHINE FOR BASIC OPERATION OF GRADE X OF VOCATIONAL SENIOR HIGH SCHOOL OF MUHAMMADIYAH 3 OF YOGYAKARTA**

**By:**

**Arif Muhlisin  
10503245005**

## **ABSTRACT**

The purpose of this research is to develop module media of lessons using machine for basic operation, find feasibility of module media and effectiveness of use of module media of lessons using machine for basic operation of Grade X of Vocational Senior High School of Muhammadiyah 3 of Yogyakarta.

This research is categorized as research and development conducted in department of machinery engineering of Vocational Senior High School of Muhammadiyah 3 of Yogyakarta. The object of research was the developments of module media of lessons using machine for basic operation. The stages of module media development used machine for basic operation of lessons using machine for basic operation started by (1) identifying problems, (2) collecting data, (3) designing product, (4) Validating design, (5) revising design, (6) Trial and error I and II, (7) revision, (8) effectiveness test, (9) end product. The data were collected by questionnaires and pretest-posttest questions. The data were analyzed descriptively-quantitatively and results of pretest and posttest were compared between TP1 Degree X using extracurricular lecture method and TP2 Degree X of learning using module media.

The results of research were development of module media of lessons using machine for basic operation. Module media which had been developed were found good, based on material expert with mean value of 3.8 or 76%, assessment of media expert with mean value of 3.42 or 68.4, trial and error I with mean value of 3.77 or 75.3% and trial and error II with mean value of 4.12 or 82.4%. Then, module media which were found good were tested for effectiveness of students. The results after the implementation is the effectiveness in students of module media of lessons using machine for basic operational. The average score of the posttest in class X TP 2 which uses module is 75,55. Mean while, the average score of the posttest in class X TP 1 which uses lecturing method is 68,30. So that, from the data, it can be concluded that learning using module media was more effective than extracurricular lecture method.

**Keywords:** development, media, module, learning material, using machine for basic operation.