

# PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS FLIPPED LEARNING PADA MATA KULIAH PRAKTIK ENGINE MANAGEMENT SYSTEM

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## ABSTRACT

This study aims to determine; (1) material needed by students before participating in the Engine Management System (EMS) practice, (2) the results of the development of learning media based on flipped learning in EMS practice, (3) the feasibility of learning media based on flipped learning in EMS practice and, (4 ) the effect of learning media based on flipped learning on EMS practice on students' positive attitudes in the Department of Automotive Engineering FT UNY.

This research uses a research and development (RND) method. The research was carried out through 5 stages; (1) the needs analysis stage, (2) the product design stage, (3) the product development stage, (4) the product implementation stage, and (5) the product evaluation stage. This research used documentation and questionnaires so as to get the data. Data were then analyzed with quantitative descriptive to see the feasibility of the media, as well as independent sample T tests to check the effectiveness of the media.

The results showed that; (1) materials needed before the EMS practice were understanding knowledge of On Board Diagnosis (OBD), DLC terminals, how to access Diagnostic Trouble Code (DTC), interpret DTC, and correct/ eliminate DTC; (2) developed flipped learning media is online learning media through "*besmart application*" that is composed of greetings material, text material in the form of practical worksheets, theoretical presentations on practice material, web articles, video tutorials of EMS practice, pretest questions, and report assignments after EMS practice; (3) the results of the feasibility test of flipped learning media showed that the media can be said to be feasible to use and get responses from users in good gradation. (4) flipped learning system on the EMS practice also has an influence on positive attitudes for students when practicing EMS.

Kata Kunci: *learning media, flipped learning, positive attitude*