

# **COOPERATION BETWEEN INDUSTRIES AND EDUCATIONAL INSTITUTIONS IN VOCATIONAL EDUCATION IN THE FIELD OF HEAVY EQUIPMENT**

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## **ABSTRACT**

This study aims to: 1) Determine the formula of competency for heavy equipment mechanic based on industry standard, 2) Determine the qualifications of heavy equipment instructors needed by industry that suits with industry standards, 3) Formulate competence and productive teaching materials that should be taught to create employment in the field heavy equipment, 4) Knowing the implementation of the cooperation program between industries and universities in the Vocational Education field of heavy equipment, and 5) Knowing the opportunities for cooperation between educational institutions and industry engaged in heavy equipment. This research is a survey research conducted in the heavy equipment industry engaged with educational institutions in cooperation with heavy equipment industries such as, PT Thiess Contractors Indonesia, PT United Tractors Indonesia, and PT Trakindo Utama. The results showed that: 1) the competence of heavy equipment mechanic include: implementing occupational safety and health, mastered the basic mechanics of heavy equipment, carry out maintenance and repair of engine, hydraulic system, powertrain, the system of vehicle control, as well as the electrical system of the machine with a minimum level of capable (under supervision); 2) the qualifications of heavy equipment instructors includes: heavy equipment mechanic has level III ability, has the ability to manage training, work experience, and completed training instructors; 3) teaching materials for heavy equipment mechanic training include: basic heavy equipment mechanics and safety, the basic engine, hydraulic basic, basic vehicle control, basic electricity; Further engine system materials, advanced hydraulic system, advanced powertrain systems, vehicle control systems further, advanced electrical systems, product training, as well as electronic machine control; 4) the implementation of the program of cooperation between industry and universities have some patterns with various program activities; 5) opportunities for cooperation between educational institutions and industry turned out to be pretty wide open.

Keyword: Competence, instructors, teaching materials, cooperation