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Motor Cycle Tune-Up Learning Material Based on Industrial Competency for Vocational High School

Suryo Hartanto*
Faculty of education, Universitas Riau Kepulauan
Indonesia

Handoko
Faculty of Education, Universitas Riau Kepulauan
Indonesia

Zaenal Arifin
Faculty of Industrial Engineering, Universitas Riau Kepulauan
Indonesia

Asrul Huda
Faculty of electrical engineering, Universitas Negeri padang
Indonesia

Ratih Fordiana
SMK Negeri 5 Batam
Indonesia

Nispida Yeni
SMK Negeri 1 Batam
Indonesia

***Corrosponding author's** Email: suryo@fkip.unrika.ac.id*

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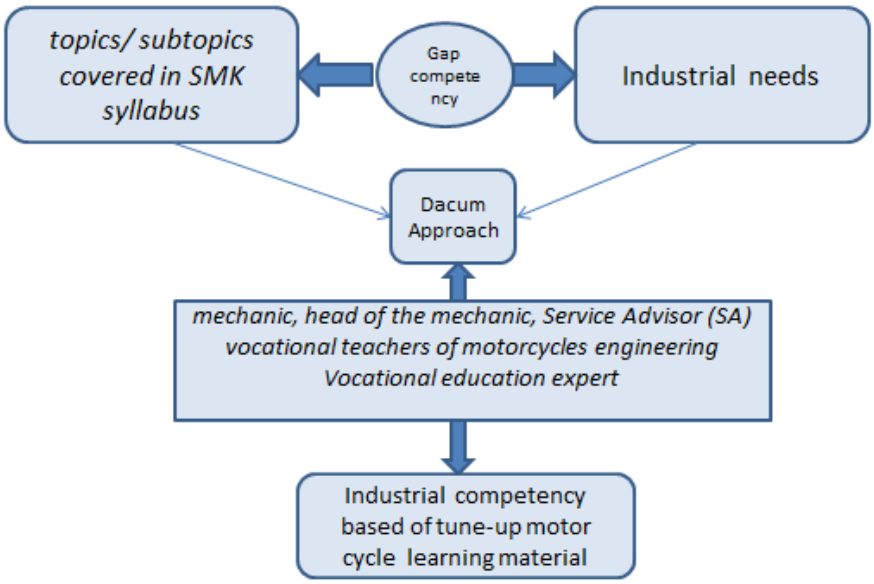
Research Highlights

The research proposed, based on competency industry party needs the learning material of 4-stroke motorcycle tune-up. It requires 65 topics/ subtopics of materials of 4-stroke motorcycle tune-up in motorcycle engineering department of vocational high school need to be adjusted to meet the standard requirements of industrial competency.

Graphical Abstract



Research Objectives

To reduce the gap between the demands of industry-defined capability and the material learned in SMK, it requires the relevance from both parties to bridge the difference. An effort that can be made, such as by having industry assessment on the material that needs to be given to vocational students as prospective workers. This relevance and the evaluation process can assist SMK in preparing ready-to-use graduates. The materials should be tailored

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to the community needs, the workplace needs, as well as it should be fun and interactive to build student skill competencies effectively. The learning materials in SMK presented in various competencies are important for the students' future (Hartanto, 2017, Jalinus, 2017). Those competencies are required to become intelligent Indonesian and competent workers based on the competency standards established by industry and professional associations. The competence of vocational education can be effective if the students in the learning process are taught through a real experience to create behavior, thinking and good actions in the work, (Hartanto; 2018; Keleher; 2011, Martin & Hughes; 2009). This study at revealing the learning materials scope of a 4-stroke engine tune-up among the students of motorcycle engineering in the vocational high school.

Methodology

This research is descriptive quantitative without a hypothesis. The research analysis used DACUM (Developing Curriculum) is the most effective analytical technique. It is usually used by industry practitioners, educators and consultants to identify tasks, jobs ,and information related to jobs and jobs (Norton; 2004, Hartanto; 2017). The research sample consisted of a mechanic, head of the workshop, service advisor at authorized Honda workshop (AHASS) amounted to 24 respondents from 6 workshops, 6 vocational teachers of motorcycle engineering from vocational high schools, so that the total sample was 30 respondents. The questionnaires were to measure the strength and weakness of the material scope of 4-stroke engine motorcycle tune-up using the respondents' opinion about the importance of material presented in the questionnaire. The content validity test was performed by 5 experts.

Results

The respondents' responses on the learning materials for the 4-stroke motorcycles tune up categorized as "very important", "important", "less important", and "unimportant" to each item of the material. Furthermore, their 'answers were divided into "very important" and "important" category with "less important" and "unimportant" categories. It was to separate the learning materials considered important by the respondents which should be learned by the vocational students and the unnecessary one. The data showed that "important and "very

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important" category reached above 50% and 100 subjects/ sub topic material fell into the category of "very important" and "important". This category of "very important" and "important" then compared with the materials of 4-stroke motorcycles tune-up in the current SMK curriculum. The recommended learning materials had not been listed in the SMK curriculum and those were considered very important to be taught to the vocational high school students of motorcycle engineering program.

Findings

Based on the comparison data on the material coverage, it was found that some material did not include yet in the syllabus of 4-stroke motorcycle tune-up subjects of vocational high school. The recent syllabus only covered 35 topics/ subtopics of material while, based on the research result, it should be 100 topics/ subtopics. It means the recommended material that should be added as much as 65 topics/ subtopic.

Acknowledgment

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