

The Curriculum Program Productive Competence at Motorcycle Business Engineering Expertise from Teachers and DU/DI Partners

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Abstract

The challenges of the business and industrial worlds (DU/DI) regarding the competency of SMK graduates. One of the reasons for graduates' non-absorption in the labor market is complaints about their ability. Non-absorption of vocational graduates in the business/industrial world does not imply a lack of work prospects, but rather a lack of graduate competency. The purpose of this research ascertains the level of relevance of the curriculum for the productive program of Motorcycle Business Engineering Skills Competence at SMK Negeri 4 Banda Aceh with the needs of DU/DI, as well as to capture the competencies required by DU/DI for graduates majoring in Motorcycle Business Engineering. A quantitative descriptive method with a survey methodology is used in this investigation. This study's participants were productive teachers of TBSM competence at SMK Negeri 4 Banda Aceh and ATPM workshops that partnered with SMK Negeri 4 Banda Aceh. The Percentage descriptive statistics were employed to analyze the data. According to the findings of this study, the level of applicability of the curriculum for the productive TBSM skill competency program with the need for DU/DI is 92% on average. Initiation of the fact that the curriculum of SMK Negeri 4 Banda Aceh is really relevant.

Keywords: *relevance, productive competence, motorcycle business technique*

Abstrak

Permasalahan dunia usaha dan dunia industri (DU/DI) focus pada kompetensi lulusan SMK. Tidak terserapnya lulusan SMK pada dunia usaha/industri bukan berarti tidak adanya lapangan pekerjaan namun karena rendahnya kompetensi lulusan. Penelitian ini bertujuan untuk mengetahui tingkat relevansi kurikulum program produktif Kompetensi Keahlian Teknik Bisnis Sepeda Motor SMK Negeri 4 Banda Aceh dengan kebutuhan DU/DI serta menjaring kompetensi yang dibutuhkan oleh DU/DI bagi lulusan jurusan Teknik Bisnis Sepeda Motor. Penelitian ini menggunakan metode deskriptif kuantitatif dengan pendekatan survei. Subjek penelitian ini adalah guru-guru produktif kompetensi keahlian TBSM SMK Negeri 4 Banda Aceh dan bengkel ATPM yang menjalin kerja sama dengan SMK Negeri 4 Banda Aceh. Teknik analisa data yang digunakan adalah statistik deskriptif persentase. Hasil penelitian ini menunjukkan bahwa tingkat relevansi kurikulum program produktif kompetensi keahlian TBSM dengan kebutuhan DU/DI memiliki rerata persentase 92%. Ini mengindikasikan bahwa tingkat relevansi kurikulum SMK Negeri 4 Banda Aceh sangat relevan.

Kata kunci: *relevansi, kurikulum, kompetensi produktif, teknik bisnis sepeda motor,*

Introduction

Education, whether formal, non-formal, and informal, can help to improve the quality of human resources. Article 1 of Republic of Indonesia Law Number 20 of 2003 regulating the national education system states that formal education is a structured and tiered educational path beginning with basic education and progressing to secondary school and higher education. Vocational High School (SMK) is one type of secondary school in formal education units that attempts to educate graduates for middle-level jobs in the world of business/industry (DU/DI) and can also proceed to higher levels of education [1]

The existence of vocational schools plays a significant role in workforce preparation by always following market needs, which continue to evolve in tandem with advances in science and technology, as well as the demands of the times. However, concerns from the business/industry (DU/DI) world about the competency of vocational school graduates remain a responsibility that vocational school students must complete [2]. Complaints regarding competency are one of the reasons graduates are not assimilated into the workforce. The lack of employment for vocational school graduates is not owing to a lack of work prospects, but rather to graduates' lack of competency [3].

SMK Negeri 4 Banda Aceh has made efforts to implement vocational education that links and matches the needs of DU/DI, one of which is establishing collaborative relationships with partner institutions from various fields of expertise that are tailored to the skill competencies at SMKN 4 Banda Aceh. DU/DI is a partner institution for SMKN 4 Banda Aceh's Motorcycle Business Engineering (TBSM) expertise competency, namely PT Astra Honda Motor, which can carry out maintenance, care, and repair of Honda type motorbikes in the form of an official Astra Honda Authorized Service Station (AHASS) workshop. SMK Negeri 4 Banda Aceh, particularly the TBSM skills competency, is expected to be able to prepare its students to have productive competencies in accordance with the needs and desires of stakeholders or partners as a result of this relationship.

The productive competences that students must master are organized in a productive program curriculum, which is then translated into fundamental competencies (KD) that serve as reference material in a learning plan [4]. The productive program curriculum is built utilizing a competency approach that is constantly improving in response to advances in science and technology as well as DU/DI needs [2]. As a result, profitable program curricula must be adaptable and always relevant to DU/DI needs [5]. As a result, all stakeholders involved in the implementation of vocational education, such as school administrators, school committees, curriculum wakakulum, teachers, associations, and other partner institutions, must be involved in the preparation of the vocational school curriculum.

According to the findings of direct observations, the construction of the TBSM skills competency curriculum at SMK Negeri 4 Banda Aceh engaged solely school personnel. The new academic year's fundamental competencies (KD) will be taught in accordance with the norms of the Directorate General of Primary and Secondary

Education, with no involvement from DU/DI. Moreover, observations in December 2020 revealed that 66 students have completed the last three years of TBSM skills competency at SMK Negeri 4 Banda Aceh. A search of alumni from the TBSM skills competency revealed that 24 students were working, 21 were continuing their study, 10 were entrepreneurs, and 11 were not documented. However, only ten students operate in accordance with the TBSM skill competency work domain, specifically at the ATPM workshop, which is a partner institution of SMK Negeri 4 Banda Aceh, namely PT. Astra Honda Motor (AHM). The underutilization of graduates in the ATPM workshop and the lack of involvement of all stakeholders in the curriculum creation are major reasons for testing the curriculum's relevance to the needs of the ATPM workshop. Based on the difficulties indicated above, this study was carried out to determine the applicability of the work competency-based curriculum to the needs of the ATPM workshop.

Literature Review

a. Curriculum Relevance

In the context of the curriculum, relevance refers to the adequacy of the implementation and the resulting curricular product in relation to the overall educational objectives. The relevance of the curriculum must be assessed in three ways: (1) the relevance of the curriculum to the student's living environment; (2) the relevance of the curriculum to the demands of future student life; and (3) the relevance of the curriculum to employment. One of the curriculum innovations carried out is the relevance of the curriculum to the world of business/industry so that the curriculum applied in vocational schools trains graduates who have competences in accordance with the demands of the world of work [6].

b. Productive Program Curriculum

According to Minister of Education and Culture Regulation Number 70 of 2013, the curriculum at SMK is divided into three topic groups: normative, adaptive, and productive. Work competencies are provided for students at vocational high schools (SMK) in the productive program curriculum taught in each skill competencies [7]. The productive program curriculum is designed to adapt to the various sorts of labor that occur in the workforce and is organized using a competency-based approach. The development of Graduate Competency Standards (SKL) set by the National Professional Certification Agency (BNSP), which are divided into SKL general competencies and specialized competencies, is referred to as productive program curriculum design. According to the Directorate General of Primary and Secondary Education decision No. 464/D.D5/KR/2018, productive subjects for Motorcycle Business Engineering (TBSM) abilities proficiency.

c. Skill Competency

Vocational Schools provide a wide range of programs that are governed by the Director General of Primary and Secondary Education Number 6 of 2018 in terms of the SMK/MAK expertise spectrum. According to the skill spectrum, the majors acquired in

vocational high schools are in the form of job skills performed in the workplace, rather than scientific studies. On the skills spectrum, vocational education departments are grouped into areas of specialization, skills programs, and skills competences. A skills competency is a unit of education and training focused on duties in a certain position/job, with a secondary education unit duration of three or four years [8].

d. Motorcycle Business Engineering Skills Competency

Motorcycle Engineering and Business (TBSM) is a skill competency in the automotive engineering skills program, which is part of the technology and engineering skills field. There are 7 skills competencies held within a 3 year or 4 year learning process in the automotive engineering skills program in the 2018 vocational school skills spectrum. The general objectives of TBSM skill competencies are contained in the contents of the National Education System Law no. 20 of 2003 article 3 regarding the objectives of National Education and explanation of article 15 which states that vocational education is secondary education that prepares students primarily to work in specific fields. Because the purpose is to meet job market expectations, it is influenced more by the business/industry world or professional groups.

The specific goal of TBSM skills competency is to provide students with competencies, or abilities linked to the automotive profession, achieved through the learning process and experience, i.e. learning outcomes in the form of attitudes, knowledge, and skills. The TBSM skills competency requires students to perform inspections, maintenance, and repairs in the field of motorcycle servicing.

e. Business World and Industrial World (DU/DI)

The business world is a social and economic activity that incorporates commerce. Meanwhile, the industrial world is a form of labor activity that involves the production of goods or objects. The business or industrial world (DU/DI) is one of the vocational education partners that plays a vital role in achieving vocational education goals. Because vocational education graduates are more likely to work in industrial jobs. The issues of workforce recruiting in the business/industry world involve the role of vocational schools to improving students' motivation to have competence and expertise in their industries [9].

TBSM's vocational competency vocational education partner institution is a licensed industry whose major product is motorcycle repair, maintenance, and upkeep. Because of the increasing need for transportation equipment in Indonesia, as well as government rules, Single Brand Holder Agents (ATPM) have emerged to promote international items. ATPM is a national corporation that has been appointed by the brand owner manufacturing company to import, market, distribute, and provide after-sales services exclusively in specified areas. The following services are included in the after-sales services: (1) sales of maintenance and repair services; (2) sales of spare parts; (3) sales of additional spare parts; (4) sales of ornamental items; (5) sales of lubricating oil and hydraulic oil; and (6) sales of other commodities. ATPM offers motorcycle repair and maintenance services (workshop) to help enhance sales.

Automotive workshops for motorcycles with ATPM patterns that are carried out by mechanics to repair automobiles are referred to as partner institutions in this research. PT. Astra Honda Motor is the only Brand Holder Agent (ATPM) in Indonesia that sells Honda branded motorcycles and is the DU/DI partner of SMK Negeri 4 Banda Aceh. As a result, all dealers in Banda Aceh that provide after-sales and servicing for Honda branded motorcycles are venues for TBSM skill competency students to grow at SMK Negeri 4 Banda Aceh.

Method

This study employs a quantitative descriptive method based on a survey approach to determine and clearly describe the current situation regarding the level of suitability (relevance) of productive programs in the SMK Negeri 4 Banda Aceh curriculum, TBSM skill competencies, and the competencies required by the business/industry (DU/DI) world. The research was conducted at SMK Negeri 4 Banda Aceh and an ATPM workshop in Banda Aceh City that has authorized status recognized by PT. Astra Honda Motor (AHM). The population for this study consisted of 21 teachers from SMK Negeri 4 Banda Aceh and an ATPM workshop that provides motorbike service and is a partner institution of SMK Negeri 4 Banda Aceh. Meanwhile, the samples included four productive teachers with TBSM skills proficiency at SMK Negeri 4 Banda Aceh and 14 persons from nine ATPM workshops, with two people from each motorbike ATPM workshop serving as respondents, namely the workshop leader and the head mechanic. Purposive sampling, or sampling based on special selection using specific criteria, is used in this study.

In this study, closed and open questionnaires were used to collect data [10]. In closed questionnaires, respondents only choose alternative answers available in the questionnaire, namely "Yes" or "No", whereas in open questionnaires, respondents are expected to write their answers in the form of a description of something. Construct validity was examined in this study before the questionnaire was disseminated. Construct validity is the ability of an instrument grid to measure what it truly seeks to measure based on expert assessment. Mr. Fitriadi, S.Pd.I, M.Pd from SMK Negeri 1 Al-Mubarkeya will conduct validation tests on February 24 2022, and Mrs. Caya Murni, S.Pd will be the head of TBSM expertise competency at SMK Negeri 4 Banda Aceh on February 28 2022. There are 8 indicators (subjects) and 112 items (basic skills) in the questionnaire. The data acquired through surveys is collated, and descriptive statistical percentage calculations are performed to determine the level of relevance of the curriculum.

Result and Discussion

a. Productive Competencies in the Vocational School 4 Banda Aceh Curriculum Motorcycle Business Engineering Skills Competencies

Based on the findings of a research questionnaire administered to four teachers of TBSM skill competency productive subjects at SMK Negeri 4 Banda Aceh, the basic competencies taught in the TBSM skill competency productive program curriculum

totaled 105 basic competencies from seven productive subjects, with the following details:

Table 1. Basic Competencies in KK TBSM SMK Negeri 4 Banda Aceh

No	Subject	Base Competency
1	Automotive Engineering Drawing	10 KD
2	Basic Automotive Technology	15 KD
3	Basic Automotive Engineering Jobs	10 KD
4	Motorcycle Engine Maintenance	21 KD
5	Motorcycle Chassis Maintenance	14 KD
6	Motorcycle Electrical Maintenance	17 KD
7	Motorcycle Workshop Management	18 KD
Total number		105 KD

With 105 KDs available, this means that 7 KDs have yet to be taught at SMK Negeri 4 Banda Aceh TBSM Skills competency, namely using pneumatic measuring tools, maintaining jacking, blocking, and lifting equipment according to the operation manual, using treads, fasteners, sealants, and adhesives, regular maintenance of rims, regular maintenance of tires, repairing rims, and repairing various types of frames.

b. Productive Competencies Required by DU/DI as a Partner of SMK Negeri 4 Banda Aceh Motorcycle Business Technical Skills Competencies

All 105 KDs taught in the TBSM skills competency at SMK Negeri 4 Banda Aceh are required by DU/DI. However, in addition to the advancement of automotive technology, DU/DI requires an extra 122 Basic Competencies. There are also seven basic skills not included in the productive curriculum of SMK Negeri 4 Banda Aceh, TBSM's skill competencies: using pneumatic measuring tools, maintaining jacking, blocking, and lifting equipment according to the operation manual, using treaded, fasteners, sealants, and adhesive, regular maintenance of rims, regular maintenance of tires, repairing rims, and repairing frame types. The 122 KD required by DU/DI are the competencies. The following are the specifics of the additional competencies required by DU/DI:

Table 2. Competencies Required by DU/DI Partners

No	Subject	Base Competency
1	Automotive Engineering Drawing	10 KD
2	Basic Automotive Technology	16 KD
3	Basic Automotive Engineering Jobs	13 KD
4	Motorcycle Engine Maintenance	25 KD
5	Motorcycle Chassis Maintenance	20 KD
6	Motorcycle Electrical Maintenance	19 KD
7	Motorcycle Workshop Management	19 KD
Total number		122 KD

c. Productive Competencies in the Vocational School 4 Banda Aceh Curriculum Motorcycle Business Technical Skills Competencies but Not Required by DU/DI

The 105 KDs that have been included in the productive program curriculum at SMK Negeri 4 Banda Aceh, TBSM skills competencies are all required by DU/DI, as are the competencies that have been determined in the research questionnaire, totaling 112 KDs. This is demonstrated by descriptive statistical calculations of the percentages acquired from the DU/DI research questionnaire data, which reveal that the average for each KD did not equal 0 (zero). Despite the fact that all KDs are required by DU/DI, there are some that have a low average, such as providing different sorts of cut images based on the type of cut.

d. Productive Competencies That Don't Exist in the Vocational School 4 Banda Aceh Curriculum Motorcycle Business Engineering Skills Competencies but Are Needed by DU/DI

According to the research questionnaire data acquired from DU/DI, 17 more competences were required by DU/DI as a partner of SMK Negeri 4 Banda Aceh, as shown in the table below:

Table 3. Additional Competencies Needed by DU/DI that Do Not Exist in the Motorcycle Business Engineering Skills Competency at SMK Negeri 4 Banda Aceh

No	Basic competencies
1	Implement the use of work safety equipment
2	Using pneumatic measuring tools
3	Maintain jacking, blocking and lifting equipment according to the operation manual
4	Maintaining threaded, fasteners, sealants, and adhesives
5	Carry out maintenance and repair of CVT (Continuously Variable Transmission)
6	Maintain and repair pistons
7	Perform injector cleaning
8	Perform engine removal and installation
9	Regularly maintain rims
10	Regular maintenance of tires
11	Repairing rims
12	Improve the types of frames
13	Regular maintenance of the propeller shaft (drive shaft)
14	Carry out air filter maintenance
15	Test and identify system/component errors in electrical circuits
16	Perform minor repairs to the wiring harness
17	Carrying out good and effective communication with colleagues, foremen and service advisors

e. Level of Relevance of Productive Competencies in the Vocational School 4 Banda Aceh Curriculum Motorcycle Business Technical Skills Competencies with Competencies Required by DU/DI

The high and low averages show the amount of applicability of the productive program curriculum for TBSM skills competency at SMK Negeri 4 Banda Aceh from all courses with the competencies required by DU/DI:

1. Very Relevant (76%-100%)

Subjects that have a percentage of 76-100% (very relevant) with DU/DI are the subjects Automotive Basic Technology (TDO), Basic Automotive Engineering Works (PDTO), Motorcycle Engine Maintenance (PMSM), Motorcycle Chassis Maintenance (PSSM), Motorcycle Electrical Maintenance (PLSM), Motorcycle Workshop Management (PBSM).

2. pertinent (54%-75%)

Only the Automotive Technical Drawing (GTO) topic has a percentage level of 67.14% among the producing subjects of TBSM skill competency at SMK Negeri 4 Banda Aceh that are included in the category relevant to DU/DI needs.

3. Insignificant (40%-55%)

None of the producing disciplines of TBSM skill competency at SMKN 4 Banda Aceh are less relevant to DU/DI needs.

4. Irrelevant (<40%)

There are no subjects that are not relevant to DU/DI needs among the productive subjects of TBSM skill competency at SMK Negeri 4 Banda Aceh.

The average score for each subject in the TBSM skills competency productive program curriculum at SMK Negeri 4 Banda Aceh is known from the calculations provided above. Based on these findings, data on the importance of productive competences in the TBSM skills competency curriculum at SMK Negeri 4 Banda Aceh, which comprises of 7 topics with DU/DI competencies, can be summarized in table form as follows:

Table 4. Level of Relevance of Productive Subjects in TBSM Skills Competencies at SMK Negeri 4 Banda Aceh with DU/DI Needs

No	Subject	Percentage (%)
1	Automotive Engineering Drawing	67,14
2	Basic Automotive Technology	93.81
3	Basic Automotive Engineering Jobs	95.71
4	Motorcycle Engine Maintenance	100
5	Motorcycle Chassis Maintenance	94.39
6	Motorcycle Electrical Maintenance	92.44
7	Motorcycle Workshop Management	98.02
Total		92

Table 4 above demonstrates that the average level of productive competency in the TBSM skills competency program at SMK Negeri 4 Banda Aceh is in the extremely relevant category, with an overall score of 92%. These findings indicate that the TBSM skills competence productive program curriculum at SMK Negeri 4 Banda Aceh is extremely relevant to the competencies required by DU/DI in Banda Aceh. Despite being in the very relevant category, the relevance findings were only 92%, not 100%. This is because the SMK Negeri 4 Banda Aceh curriculum includes a number of productive competencies. Low relevance values are found when comparing TBSM skill skills to DU/DI competency requirements.

As a result, a closer examination of the level of relevance of productive competencies in the SMK Negeri 4 Banda Aceh TBSM skills competency curriculum reveals that not all productive competencies in the SMK Negeri 4 Banda Aceh curriculum TBSM skills competencies have an absolute value of 100%. When each fundamental competency in the TBSM vocational competency program curriculum at SMK Negeri 4 Banda Aceh is examined in further depth based on its categorization, the following conclusions are obtained:

Table 5. Results of the Relevance of Each Basic Competency Based on Category

Criteria	Number of KD	Percentage (%)
Very Relevant	93	88.57
Relevant	13	10.48
Less Relevant	1	0.95
Irrelevant	0	0.00
Total	105	100

According to the number of individual KDs, 88.57% of the KDs in the productive program curriculum at SMK Negeri 4 Banda Aceh TBSM skill competencies are extremely relevant to what the partner DU/DI requires. The productive program curriculum at SMK Negeri 4 Banda Aceh TBSM contains 10.48% KD skill competencies that are relevant to those required by partner DU/DI. Furthermore, 0.95% of KD in the productive program curriculum at SMK Negeri 4 Banda Aceh, TBSM skill capabilities are less applicable to what partner DU/DI require. According to these findings, the productive program curriculum for TBSM skills competency at SMK Negeri 4 Banda Aceh is only 92% applicable to the competencies required by the relevant DU/DI.

Conclusion

According to the findings of a study on productive teachers, productive skills are included in the curriculum of SMK Negeri 4 Banda Aceh. TBSM knowledge is comprised of 105 fundamental competencies. Furthermore, the findings of the ATPM workshop research show that the competences required by DU/DI partners include 122 competencies. The level of appropriateness of productive competences in the Curriculum of SMK Negeri 4 Banda Aceh is 92% (extremely relevant).

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