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Study of practice facilities and feasibility at the Private Vocational School with TKR competence in Bantul District

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Abstracts. This research aims to evaluate the level of the feasibility of practice facilities and infrastructure at five vocational high schools in Bantul District. This type of research is qualitative research with a case study method. This research took place at five vocational high schools in Bantul Regency namely SMK Ma'arif 1 Kretek Bantul, SMAK Putra Tama Bantul, SMK Muhammadiyah 1 Bantul, SMK Muhammadiyah Imogiri, and SMK Ma'arif Al-Munawwir Krapyak Bantul. Data collection techniques used in this study were observation, documentation, and interviews. The data analysis technique used is descriptive quantitative. The results of the study found that the level of feasibility of infrastructure for TKR practice at SMK in Bantul was feasible, with details as follows: SMK Ma'arif 1 Kretek Bantul is eligible (80%), SMK Putra Tama Bantul is very worthy (85%), SMK Muhammadiyah 1 Bantul is eligible (75%), SMK Muhammadiyah Imogiri is eligible (80%), and SMK Ma'arif Al-Munawwir Krapyak Bantul is eligible (65%). Furthermore, the feasibility level of TKR chassis practice facilities at five SMK in Bantul District is feasible, with details as follows: SMK Ma'arif 1 Kretek Bantul is eligible (65%), SMK Putra Tama Bantul is very worthy (80.7%), SMK Muhammadiyah 1 Bantul is very worthy (84.6%), SMK Muhammadiyah Imogiri is very worthy (84%), and SMK Ma'arif Al-Munawwir Krapyak Bantul is eligible (63.4%).

Keywords: facilities, infrastructure, automotive engineering, chasis

Introduction

Based on the report of the Global Human Capital Report 2017, which examines the quality of human resources in 130 countries, Indonesia ranks 65th. On average, the quality of Indonesian human resources is still below other ASEAN countries, such as Singapore (11), Malaysia (33), Thailand (40), and the Philippines (50). The data shows that Indonesia still has labor quality problems.

In order to overcome these problems, education takes a considerable role in preparing quality human resources. Therefore, a vocational education system was formed, namely Vocational High School (SMK). According to Law Number 20 of 2003 concerning Article 15 of the national education system, vocational education is secondary education which prepares students primarily to work in certain fields (Law No. 20, 2003: 27). Based on this, vocational education basically aims to prepare workers who have the knowledge, skills and attitudes that are in accordance with the nature of vocational specialization and the requirements of the industrial and business world.

However, another problem arises, namely the number of graduates of Vocational High Schools who are unemployed or do not work in their fields because they are not recognized by the industry because they do not master expertise in their fields, especially automotive. According to the BPS report, vocational school (SMK) graduates dominate unemployment in August 2017. BPS noted the number of unemployed SMK graduates reached 11.41 percent of the total 7.04 million unemployed as of August 2017. While unemployment from elementary school (SD) graduates was 2.62 percent, Middle School (SMP) 5.54 percent, High School (SMA) 8.29 percent, Diploma I / II / III at 8.29 percent, and universities at 5.18 percent (https: / /bisnis.tempo.co). In order to overcome the competency gap problem, each Vocational School (SMK) must have facilities

and infrastructure that are capable of supporting learning activities.

There are several reasons for the quality of educational facilities and infrastructure in vocational schools. First, competition in the world of work requires the existence of qualified and ready-to-work HR. Second, the facilities and infrastructure are one of eight educational standards regulated in Article 2 of Government Regulation Number 19 of 2005, namely: (1) content standards, (2) process standards, (3) graduate competency standards, (4) education standards and education staff, (5) standards for facilities and infrastructure, (6) management standards, (7) financing standards, and (8) educational assessment standards. Third, according to the Decree of the Minister of National Education of the Republic of Indonesia Number 129a / u / 2004 concerning Minimum Service Standards for Education (SPM) for Vocational High School Article 4 paragraph 1 which explains that schools must have 90% minimum facilities and infrastructure in accordance with nationally determined technical standards .

Bantul as one of the regencies in Yogyakarta, has five Vocational Schools (SMK) which hold Light Vehicle Engineering education programs. The results of preliminary observations made on January 5, 2018, the authors found that the completeness of practical facilities and infrastructure, especially the practice of Light Vehicle Engineering expertise is still far from the standards that have been by the government. The conditions in the Light Vehicle Engineering practice workshop in each Vocational School in Bantul, namely Ma'arif 1 Kretek Bantul Vocational School, Putra Tama Vocational School, Muhammadiyah 1 Bantul Vocational School, Muhammadiyah Imogiri Vocational School, and Ma'arif Al-Munawwir Vocational School Krapyak Bantul, are still there is a lack of facilities and infrastructure, namely the lack of a chassis system stand and inadequate chassis system stand conditions. This causes the low motivation of students to take part in learning during practice because there is not enough equipment.

Feasibility is seen as a certain condition that is deemed appropriate. According to the Big Indonesian Language Dictionary (KBBI), it should be interpreted as reasonable, appropriate, appropriate, and feasibility can be interpreted as appropriate. From this definition, it can be concluded that the feasibility of facilities and infrastructure is the level of appropriateness of facilities such as tools, workshops, which are used to support practical activities. To measure or assess the level of feasibility, a reference is needed as standardization.

The standard used for Standard Facilities and Infrastructures of SMK / MAK is RI Permendiknas Number 40 of 2008. In the National Education Ministerial Regulation the practice space of the Automotive Mechanical Engineering Program is written as a place for learning activities: automotive engine work, automotive electricity, and automotive chassis and systems energy transfer (Permendiknas, 2008: 114). Some standard facilities and infrastructure that must be fulfilled by each SMK / MAK, including the standard facilities and infrastructure of the chassis practice are also written in the Permendiknas. The measurement scale is an agreement that is used as a reference to determine the short length of the interval in the measuring instrument, so that the measuring instrument when used in the measurement will produce quantitative data (Sugiyono, 2013: 133).

There are several studies that are the basis of this research. Research conducted by Ferawati, Yoto, and Qolik (2015). The results of the research on the condition of the facilities and infrastructure of practice in the machining engineering workshop at SMK Negeri 6 Kota Malang were obtained: (1) the appropriateness of the equipment used at the time of practicum; (2) layout of tools or practicum machines in machining workshops; (3) structuring of practicum materials in machining workshops; and (4) the feasibility of the practicum room in the machining workshop. The complete facilities and infrastructure of practice at the machining engineering workshop at SMK Negeri 6 Malang are: (a) completeness of practicum equipment in the machining workshop; (b) completeness of practicum machines in machining workshops; and (c) completeness of the practicum room in the machining workshop. The constraints faced by schools in completing facilities and infrastructure at the machining engineering workshop at SMK Negeri 6 Malang. The efforts made by the school in fulfilling the complete facilities and infrastructure, especially the

machining engineering workshop at SMK Negeri 6 Malang.

Research by Setiawan and Yuswono (2016) which shows that: (1) infrastructure of expertise in the Competency Test Program for Light Vehicle Engineering expertise in Private Vocational Schools in Sleman Regency obtains an average percentage of the three Vocational Schools of 58.33% and is in a decent condition by standard infrastructure determined by Permendikas No. 40 of 2008. (2) the facilities for practicing the Vocational Competency Examination for Light Vehicle Engineering expertise programs in the State Vocational Schools of Sleman Regency obtain an average percentage of the three Vocational Schools of 60.47% and fall into the appropriate category based on Minister of Education Regulation No. 40 of 2008 and Vocational Verification Instruments organizers of expertise competency examinations from BSNP.

Research by Siswanto and Dewanto (2015) which explained that by using the method of documentation, observation and interviews showed that the level of achievement of feasibility infrastructure in terms of the quality and quantity of workshop Mechanical Engineering Expertise Program at SMK PGRI 1 Gresik was 70.53%, it could be said to be based on the results of standard achievement are carried out on the RPK (Special Learning Room) Engineering Machining Expertise Program which includes bench work areas, metal measuring and testing rooms, lathe work areas, milling machine work areas, grinding machine work areas, fitting rooms, tool storage rooms and instructors according to Minister of Education Regulation No. 40 of 2008 and combined with BNSP verification instruments for 2014/2015 Vocational Vocational Competency Exam readiness. While the achievement of feasibility tools in terms of quality, quantity and up-to-date workshop machining expertise program is 59.69%, it can be said to be feasible based on the results of standard achievement in the RPK (Special Learning Room) Machining Engineering Expertise Program which covers bench work area , metal measurement and testing room, lathe work area, milling machine work area, grinding machine work area, packing room, tool and instructor storage room according to Minister of National Education Regulation No. 40 of 2008 is combined with BNSP verification instruments for 2014/2015 Vocational Vocational Competency Exam readiness. So that it can support the improvement of students' competencies in the Mechanical Engineering Program of SMK PGRI 1 Gresik the upcoming school year.

Furthermore, Ulum, Yoto, and Widiyanti (2016) research shows that the area of the practicum engineering machinery of Gresik Assa'adah Vocational Engineering area is still lacking, the number of equipment and machinery does not meet the minimum standards for SMK, supporting facilities and infrastructure such as workshop lighting and ventilation the air is in good condition, K3 equipment is still incomplete if used by all practicum participants.

Method

This type of research is qualitative research with a case study method. Qualitative research is a research procedure that produces descriptive data in the form of written or oral words from people and observable behavior (Bogdan and Tylor, 1992). The method used is a case study method in accordance with what was conveyed by Yin (2008) that a case study is used as a comprehensive explanation relating to various aspects of a person, a group, an organization, a program, or a social situation that is researched, sought and studied as deep as possible. Case studies also have an understanding relating to detailed research about a person or a social unit in a certain period of time.The case study method was used to analyze the level of feasibility of the facilities and infrastructure of the existing chassis practices at SMK Marif 1 Kretek Bantul, Putra Tama Vocational School Bantul, Muhammadiyah 1 Bantul Vocational School, Muhammadiyah Imogiri Vocational School, and Vocational Ma'arif Al-Munawwir Krapyak Bantul. The objective of this research is to find out or describe the feasibility of the facilities and infrastructures of chassis practice in Light Vehicle Engineering.

In this study the data analysis technique used is descriptive quantitative, which is a method that describes or describes the data that has been collected as it is without intending to make conclusions that apply to the general or generalizations. In this study, the results of the assessment of the observation sheet of facilities

and infrastructure will be described qualitatively based on the use of interviews and documentation. The calculation of the percentage of feasibility is done by multiplying the results for the real score with an ideal score of one hundred percent (Sugiyono, 2013: 99), using the following formula:

Achievement = real score/ideal score x 100%

This research was made in the form of a checklist using a multilevel scale, namely: (a) Weight 4 (very feasible); (b) Weight 3 (feasible); (c) Weight 2 (not feasible); and (d) Weight 1 (very inappropriate). Then the four dimensions will be elaborated according to the rating scale method. Following are the research assessment criteria based on scale.

Table 1. Percentage scale of feasibility

No	Definition	Achievement Criteria
1	very inappropriate	0% - 25%
2	not feasible	26% - 40%
3	medium	41% - 60%
4	feasible	61% - 80%
5	very feasible	81%-100%

Results and Discussion

The Feasibility Level of Chasis Practice Infrastructure in Vocational Schools throughout Bantul

Based on the results of research in the field at five SMKs in Bantul, namely Ma'arif 1 Kretek Bantul Vocational School, Putra Tama Vocational School Bantul, Muhammadiyah 1 Bantul Vocational School, Muhammadiyah Imogiri Vocational School, and Ma'arif Al-Munawwir Vocational School Krapyak Bantul, it was found that each Vocational Schools are in the decent category. This can be seen in the following table:

Tabel 2. Infrastructure Conditions for Chasis Practice

No	School	Final score	Infrastructure Conditions
1	SMK Ma'arif 1 Kretek Bantul	80%	feasible
2	SMK Putra Tama Bantul	85%	very feasible
3	SMK Muhammadiyah 1 Bantul	75%	feasible
4	SMK Muhammadiyah Imogiri	80%	feasible
5	SMK Ma'arif Al-Munawwir Krapyak Bantul	65%	feasible

Infrastructure is a basic facility to carry out the functions of SMK / MAK (Permendiknas, 2008: 2). According to Barnawi and Arifin (2012: 48) it was explained that educational infrastructure is all basic equipment indirectly supporting the educational process. Whereas in the Large Indonesian Language Dictionary (KBBI) infrastructure is defined as everything that is the main support for the implementation of a process (business, development, project, etc.). From the statement above, it can be concluded that the infrastructure of practice is all basic equipment that indirectly supports the implementation of the practical learning process to achieve the learning objectives.

Direct education infrastructure is infrastructure that is directly used in the learning process. In chassis practice activities included in direct infrastructure are buildings or spaces for practice, or commonly referred to as workshops. Whereas indirect education infrastructure is educational infrastructure that is not used directly in the education process but has an important role to support the learning process, for example the teacher's room, hand wash, toilet, toolman room, etc. Feasibility is seen as a certain condition which is considered appropriate. According to the Big Indonesian Language Dictionary (KBBI), it should be interpreted as reasonable, appropriate, appropriate, and feasibility can be interpreted as appropriate. From this definition, it can be concluded that the feasibility of facilities and infrastructure is the level of appropriateness of facilities such as tools, workshops, which are used to support practical activities. To measure or assess the level of feasibility, a reference is needed as standardization.

The standard used for Standard Facilities and Infrastructures of SMK / MAK is RI Permendiknas Number 40 of 2008. In the National Education Ministerial Regulation the practice space of the Automotive Mechanical Engineering Program is written as a place for learning activities: automotive engine work, automotive electricity, and automotive chassis and systems energy transfer (Permendiknas, 2008: 114). Some standard facilities and infrastructure that must be fulfilled by each SMK / MAK, including the standard facilities and infrastructure of the chassis practice are also written in the Permendiknas. The measurement scale is an agreement that is used as a reference to determine the short length of the interval in the measuring instrument, so that the measuring instrument when used in the measurement will produce quantitative data (Sugiyono, 2013: 133).

Feasibility Level of Chasis Practice Facilities in Vocational Schools throughout Bantul

Based on the results of research in the field at five SMKs in Bantul, namely Ma'arif 1 Kretek Bantul Vocational School, Putra Tama Vocational School Bantul, Muhammadiyah 1 Bantul Vocational School, Muhammadiyah Imogiri Vocational School, and Ma'arif Al-Munawwir Vocational School Krapyak Bantul, it was found that each Vocational High Schools are in the decent category. This can be seen in the following table.

Tabel 3. Conditions of chasis practice facilities

No	School	Final Score	condition of facilities
1	SMK Ma'arif 1 Kretek Bantul	65%	feasible
2	SMK Putra Tama Bantul	80,7%	very feasible
3	SMK Muhammadiyah 1 Bantul	84,6%	very feasible
4	SMK Muhammadiyah Imogiri	84%	very feasible
5	SMK Ma'arif Al-Munawwir Krapyak Bantul	63,4%	feasible

According to "Government Regulation No. 19 of 2005 Article 1 paragraph 8 concerning National Education Standards", the definition of facilities and infrastructure is the national education standard relating to minimum criteria about study rooms, sports venues, places of worship, libraries, workshops, playgrounds , places of creation and recreation, as well as other learning resources, which are needed to support the learning process, including the use of information and communication technology (Law No. 19, 2005: 2).

According to "Minister of National Education Regulation No. 40 of 2008 concerning Standards for Facilities and Infrastructures for Vocational High Schools / Vocational Madrasah" facilities are learning equipment that can be moved (Permendiknas No. 40, 2008: 2). Whereas Barnawi and Arifin (2012: 47) explain that educational facilities are all equipment, materials, and furniture that are directly used in the education process at school. The means in the Large Indonesian Language Dictionary (KBBI) are interpreted as everything that can be used as a tool in achieving the goals and objectives.

Based on the description above, it can be concluded that educational facilities are all equipment, materials, and furniture that can be used directly to achieve learning objectives. Whereas practical facilities can be interpreted as all equipment, materials, and furniture that can be used directly in practical activities to achieve learning objectives.

According to "Minister of National Education Regulation No. 40 of 2008 concerning Standards for Facilities and Infrastructures for Vocational High Schools / Vocational High Schools" means are learning equipment that can be moved. Furniture is a means of filling space. Equipment is a tool that is directly used for learning. Media Education is a tool used to assist communication in learning. Other equipment is office machine tools and additional equipment used and used up in a relatively short time (Permendiknas No. 40, 2008: 2).

According to Barnawi and Arifin (2012: 49), educational facilities are classified into 3 types, which are based on whether or not they are based on whether they move or not, and are based on the relationship with the learning process. Educational facilities that are used up and not divided into two types, namely educational consumables and durable. Disposable educational facilities are materials or tools which, when used can be used up or change forms in a relatively short time. Facilities belonging to this classification include gasoline (fuel), markers, paper, chalk, lubricating oil, iron, and so on. While durable education facilities are materials or equipment that can be used continuously in a relatively long time without reducing its function. For example, tools and materials belonging to this classification are multimeters, sorong term, compressor, table, chair, and so on.

According to whether or not the educational facilities are divided into 2 types, namely the means of moving and the means of immovation. Moving education facilities are educational facilities that can be moved or moved according to the needs and desires of the user. For example educational facilities that move in practice are keys, multimeters, batteries, and so on. Whereas immovable educational facilities are educational facilities that cannot move or are difficult to move, for example, the airways of the compressor are mounted on the wall, electricity lines, and so on.

In relation to the learning process educational facilities are divided into three types, namely learning tools, teaching aids, and teaching media. Educational facilities as learning tools are tools that can be used directly in the learning process such as book practice tools, and stationery. Educational facilities as teaching aids are educational aids that can be in the form of actions or objects that can synchronize subject matter, in the chassis practice activities educational facilities as visual aids are very important tools for students because they help students understand the lessons given by the teacher because students can see for real.

For example, the head lamp stands, turn signal lights, horn or horn circuit stands, and so on. While educational facilities as teaching media are educational facilities that function as intermediaries in the learning process so that the learning process will be more effective and efficient to achieve a learning goal.

Conclusion

Based on the results of the overall data analysis as outlined in advance, it can be concluded that the level of feasibility of infrastructure in the practice of light vehicle engineering at the Bantul District Vocational School is feasible. Likewise, the level of feasibility of light vehicle engineering chassis practice facilities in vocational schools in Bantul District is in the decent and very feasible category. But for Vocational Schools that are still practicing in the vocational training center even though the category of facilities at the hall is very feasible, it is better to immediately set up their own chassis workshop at their vocational school.

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