Teacher and Student Competence Improvement at SMK Muhammadiyah Karangkobar

Sotya Anggoro\textsuperscript{1,*}, Zuhri Nurisna\textsuperscript{1}, Meilia Safitri\textsuperscript{2} and Ririn Sotyarini\textsuperscript{3}

\textsuperscript{1} Teknologi Rekayasa Otomotif, Program vokasi, UMY, Kasihan, Bantul, Indonesia, (0274) 387646
\textsuperscript{2} Teknologi Elektro-medis, Program vokasi, UMY, Kasihan, Bantul, Indonesia, (0274) 387646
\textsuperscript{3} Bahasa Inggris, STBA LIA, Jl. Pandean Sari No.8, Kentungan, Condongcatur, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55283

Abstract. Vocational High School (SMK) is a Vocational High School that targets the formation of character and skills for its graduates. The learning system in Vocational Schools that includes practical material makes Vocational graduates ready to use and able to work and even create jobs. So that SMK graduates are targeted to be able to contribute to the local economy. Highly contradictory conditions were found at the Muhammadiyah Karangkobar Vocational School, Banjarnegara. Muhammadiyah Karangkobar Vocational School is still overwhelmed by the problem of limited learning support practice equipment. So far the practical Teaching and Learning Process (PBM) has only been carried out by watching videos due to the limited equipment and practical simulators available in schools. Occasionally PBM practices using the private vehicles of students/teachers who are willing to use their vehicles as practice media. This condition is still not optimal because the work done tends to be light work which does not adequately represent the material for the Department. This condition is of course not very good considering that the output of SMK students is skills that should be acquired through a structured and systematic practicum process. The solutions offered in these problems are, firstly, providing support equipment grants in practice, especially periodic maintenance of automotive light vehicles, and electric welding tools and bench work, and secondly, providing training to teachers and students of Muhammadiyah Karangkobar Vocational School on Machine Elements, supplemented with job sheets and preceded by the provision of material in advance. The Muhammadiyah Organization-Based Community Service Program (PPM-Muh) aims to increase the knowledge and skills of teachers and students of SMK Muhammadiyah Karangkobar in carrying out periodic service work and light vehicle tune-ups. The dedication method is carried out through the theoretical provision of engine maintenance through classroom learning, soft skills, demonstrations, and tune-up practical exercises. The targets of this training program are teachers and students of SMK Muhammadiyah Karangkobar.

Keywords: competence, student, SMK

1. Introduction

Vocational High School (SMK) is a Vocational High School that targets the formation of character and skills for its graduates. The learning system in SMK that includes practical material makes SMK graduates ready to use and able to work and even create jobs. So that SMK graduates are targeted to be able to contribute to the local economy. Highly

* Corresponding author: angga19@umy.ac.id
contradictory conditions were found at the Muhammadiyah Karangkobar Vocational School, Banjarnegara. Muhammadiyah Karangkobar Vocational School is still overwhelmed by the problem of limited learning support practice equipment. So far the practical Teaching and Learning Process (PBM) has only been carried out by watching videos due to the limited equipment and practical simulators available in schools. Occasionally PBM practices using the private vehicles of students/teachers who are willing to use their vehicles as practice media. This condition is still not optimal because the work done tends to be light work which does not adequately represent the material for the Department. This condition is not good considering that the output of SMK students is skills that should be acquired through a structured and systematic practicum process [1][2].

1.1. Situation Analysis

Muhammadiyah Karangkobar Vocational School is a Muhammadiyah in Banjarnegara Regency which has not been established for a long time, so it is still trying to improve its quality so that it can be on par with other vocational schools. The total number of students at SMK Muhammadiyah Karangkobar is a total of 50 students consisting of students of class X and class XI. In addition, of the number of productive teachers available, there are currently only 5 teachers. This school's infrastructure is also far from ideal because until now it only has 4 classrooms. The implementation of education at SMK Muhammadiyah Karangkobar is still far from what is expected, which is caused by many factors, such as limited educational facilities and infrastructure, student factors, and external factors, where the demands for student competence are high as a result of the development of science and technology [3][4]. In Light Vehicle Engineering expertise, competency demands for SMK students are always tested nationally through the Expertise Competency Examination. Students have a lot of work to do, such as servicing vehicles and vehicle tune-ups. In addition, with the increasingly widespread global competition, the competencies mastered must comply with the standards set by the relevant institutions. Thus, a competent person will be proven by having a competency certificate.

1.2. Problems

Based on interviews conducted with the Principal of SMK Muhammadiyah Karangkobar, this vocational school has several obstacles/problems in carrying out its functions to equip students with competency skills through national and international level certification, prepare graduates who are ready to work and entrepreneurship with competitive power and have an advantage. The first problem faced by Muhammadiyah Karangkobar Vocational School is the limited practice equipment to support learning. So far the practical Teaching and Learning Process (PBM) has only been carried out by watching videos due to the limited equipment and practical simulators available in schools. Occasionally, PBM practices using the private vehicles of students/teachers who are willing to use their vehicles as practice media. The second problem is the lack of access to competency training that has selling points in the industry, so it will be difficult for teachers and students to update their abilities according to the needs and standards of the industry. As a result, the ability of students in their field of work is not as expected. These skills are needed in order to equip their lives in the future. In fact, for basic automotive skills that have a high frequency of work such as knowledge of Machine Elements and doing Tune Up engine work the students still don't understand. It is against this background that it is necessary to provide learning media material regarding Machine Elements and light vehicle tune-up skills training for teachers.
and students related to the field they are studying, namely Automotive Light Vehicle Engineering.

2. Methodology

Implementation of activities using discussion, training, and mentoring methods as well as procuring practicum tools so that teachers and students gain insight into technological developments and the delivery of appropriate learning to students.

In its implementation, community service was divided into several stages. Starting with coordinating with the school principal, homeroom teacher, and head of the school committee where in this activity it was agreed that the community service program would be carried out. After a mutual agreement regarding the implementation of the service program, promotion was carried out with the Principal as well as teachers and students who were the target of the service program. Besides, there were also residents who wanted to know about this service program. After in-depth discussions with all teachers and school employees, the research team formulated the problems faced by this school and provided solutions. The next stage is the procurement of tools and materials for electricity, magnets, and electromagnets as well as an English practicum. In procuring this tool, service program members are tasked with determining the type and specifications of the tools needed to suit their needs. Then, the procurement of this tool is assisted by student members as their duties in this service program are to help procure the necessary materials and tools. Furthermore, counseling, training, and assistance were carried out for homeroom teachers at this school to make good and up-to-date learning media, including training on tool specifications, tool use, and how to assemble, maintain, and repair this by the chairperson and collaborator lecturers in this service program.

The method used to measure the success of this community service program is first from the completeness of the tools and materials used for practicum, good learning media, and student understanding before and after the program is implemented.

Then, banner stands were also made presenting the information media regarding subject matter both Science and English, and placed in corners of the Classroom and or in front of the class making it easier for students to see, read, and memorize the contents of the material at any time.

3. Result and Discussion

After coordinating and promoting this program, it continued with the procurement of tools and materials for the Electricity, Magnets, and Electromagnets practicum as well as English. In the electric circuit practicum, an electric circuit KIT was given this tool which can help students understand the principles of electricity and circuits in electricity more easily. The following is a picture of the electrical circuit practicum kit presented in Figure 1.
Furthermore, counseling, training, and assistance were carried out for homeroom teachers at this school to make good and up-to-date learning media, including training on tool specifications, tool use, and how to assemble, maintain, and repair.

The submission of interesting science and English practicum material is presented in the following figure.
4. Conclusion
This activity has been carried out smoothly and this activity has involved teachers and students by offering solutions for developing learning materials, procuring practicum tools, and delivering material to students.

Acknowledgment
We thank LPM UMY for supporting and providing funds for the implementation of this Community Service Program. In addition, we also thank the Head of the Kembangsari Elementary School and all parties who have helped organize this community service activity.

References


