



# Mobile Training Unit for Increasing the Quality of Vocational High Schools

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## ABSTRAK

Tuntutan untuk menghasilkan lulusan yang memiliki kemampuan soft skill maupun hardskill menjadi sebuah tantangan sekolah menengah kejuruan untuk terus berinovasi. Mobile Training Unit (MTU) merupakan program yang digunakan pemerintah Aceh untuk mencapai tuntutan tersebut serta mengatasi masalah klasik dalam pengajaran sekolah menengah kejuruan seperti kurangnya fasilitas ataupun kurangnya sumber daya manusia. Tujuan penelitian ini yaitu menganalisis Mobile Training Unit untuk Peningkatan Mutu SMK. Jenis penelitian ini yaitu kualitatif dengan pendekatan deskriptif. Populasi penelitian ini adalah tiga SMK yang telah dipilih sebelumnya bersama panitia program MTU. Metode yang digunakan dalam mengumpulkan data yaitu Observasi, pedoman wawancara semi terstruktur, dan dokumentasi. Instrumen pengumpulan data menggunakan kuesioner. Teknik yang digunakan untuk menganalisis data yaitu analisis deskriptif kualitatif menggunakan proses triangulasi. Hasil penelitian yaitu Mobile Training Unit harus disusun berdasarkan kebutuhan siswa dan walikota di SMK. Penentuan prioritas menjadi peserta, persiapan dan pelaksanaan yang matang berdampak pada peningkatan kualitas SMK dan motivasi siswa yang memerlukan pelatihan yang cukup. Disimpulkan bahwa MTU dilaksanakan dengan perencanaan dan proses yang matang serta membutuhkan kolaborasi dan konsistensi yang tinggi diantara pemerintah, sekolah dan siswa.

## ABSTRACT

The demand to produce graduates with both soft and hard skills is a challenge for vocational high schools to continue innovating. The Mobile Training Unit (MTU) is a program the Aceh government uses to achieve these demands and overcome classic problems in vocational high school teaching, such as a lack of facilities or human resources. This study aims to analyze the Mobile Training Unit for Improving the Quality of Vocational High Schools. This type of research is qualitative with a descriptive approach. The population of this study were three SMKs that had been previously selected together with the MTU program committee. The methods used in collecting data are observation, semi-structured interview guidelines, and documentation. Data collection instrument using a questionnaire. The technique used to analyze the data is a descriptive qualitative analysis using a triangulation process. The research results are that the Mobile Training Unit must be prepared based on the needs of students and mayors in SMK. Determining priorities to become participants, careful preparation and implementation impact improving the quality of SMKs and the motivation of students who need sufficient training. It was concluded that MTU is carried out with careful planning and processes and requires high collaboration and consistency between the government, schools and students.

## 1. INTRODUCTION

The urgency of innovation for vocational high school becomes a new challenge to fulfill. The educators realize that the innovation not only in the teaching and learning process but also in terms of technology which used in teaching and learning process (Oke & Fernandes, 2020; Serdyukov, 2017). Moreover, the innovation can give an impact if the role of parents, teachers, and community is consistent. The condition after Covid-19 also offers big impact for the vocational high school to have theoretical and practical class both online and offline mode (Mukarromah & Wijayanti, 2021; Scull et al., 2020).

Realizing the needs of innovations, the government starts with the implementation Merdeka curriculum which has the function to achieve four elements of education which are planning, organizing,

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mobilizing, and controlling. Beside that Up-skilling and re-skilling through optimizing the training for the teachers in vocational high schools is also being chosen to be the way in filling the needs of innovation. So the teacher will be more ready to be the example and facilitator for their students (Hasanah & Husnul, 2021; Mahmudah et al., 2021). Last, the combination of self-directed learning and computer-based learning is also provided as the innovation for development of vocational high school (Fahrurrozi et al., 2023; Palapa, 2023). However, in terms of doing an innovation for providing a good material for the students, an innovative way is already done by creating E- Module for students in vocational high schools based on their needs. Moreover, the internship program has existed to give sufficient training for students in real-life work (Sulasdi et al., 2020; Yilmaz Karabulutlu et al., 2020).

Eventhough, many ways apply to fullfill the demand of innovation, classical problems always happen in vocational high school. The problems might happen from the teachers, facilities until the educational system and management (Haug & Mork, 2021; Kurt, 2019; Sulistyaningsih et al., 2019). The fact also shows that 13,5% of the unemployed are the alumni of vocational high school students (Nugroho, 2022; Rahmadhani et al., 2022). Teachers often tend to not develop their skills based on today's needs. Although, most teachers realize that they must help their students to be ready as potential workforce. It could happen because the teachers feel that they do not accept enough training to improve their skills in pedagogy and practical needs (Güngör, 2020; Irwanto, 2021).

In terms of facilities, most vocational high schools do not have the same quality and quantity of facilities to be used for practical lessons for students. Therefore, sometimes students can not explore their abilities practically, and in this case, there is a need to collaborate with some industries to solve these problems (Basuki et al., 2020; Pambayun et al., 2020; Sitorus, 2021). Moreover, the students also have the problems regarding communication skills. They feel difficult to present and promote their product to the public. They do not how to do that in a good and appropriate way. Last, it should be considered that the industrial workplace has big requirements where the applicants have to be ready to work with full of skills (Hansen & Woronov, 2013; Mutohhari et al., 2021).

It can not be denied also that vocational high school education faces the demand of the 21st century. Students and teachers have to fulfill three important life skills which are critical thinking, cross-cultural collaboration, and communication skill. The students also have to be independently creative and responsible learners (Malaikosa, 2021; Teo, 2019). To achieve those demands, all parts of education starting from the government, principals, teachers, and students have to improve the quality of education. Especially teachers begin to think about how they can deliver the material in an effective instructional classroom activity. The teachers also must have the ability to make the classroom a place where the students can observe many skills taught by teachers and can practice them in real life (Kilis & Yildirim, 2019; Kim et al., 2019). The role of the teacher becomes stronger with the involvement of the principal where the principal must be adaptive, prioritize cooperation, and has a perfect attitude to build a condusive learning environment (Maryanti et al., 2020; Miasih & Hasanah, 2021). Therefore, Education in the 21st century needs strong collaboration and a supportive environment in every element of education from national to and especially for vocational high school (McGunagle & Zizka, 2020; van Laar et al., 2019).

Not only facing the demand of the 21st century but nowadays education also has to struggle in facing industrial and revolution 4.0 as a new challenge, especially for vocational high schools. This challenge pushes the students in vocational high school ready to be a skillful workforce (Lawitta et al., 2017; Zakaria et al., 2022). Appearing with a soft workforce who will have good ability for interconnectivity and self-adaptability in the company. The next is the hard workforce, the students have to improve their knowledge theoretically and practically (Flores et al., 2020; Rahmadhani et al., 2022). The cognitive workforce also becomes the requested skill for students in vocational high school because they must show the ability in self-autonomy and management complexity. Another important thing is an emotionally intelligent workforce where the students change with strong motivation and prospective development. Last, since this is a digital era so the students should be the digital workforce who can do and perform all working activities in a digital context.

All those demands of innovation, the problems and challange of 21st century or 4.0 revolution open chance for government of aceh presents mobil training unit as the innovayion and solution for vocational high school. This is a kind of regional approach to provide special training for the vocational high schools (Pratiwi & Meilani, 2018; Schröder, 2019). It is specifically designed to help the students by providing facilities and infrastructure for developing expertise and skills. It aims to strengthen students in psychomotor abilities or practical skills as well as strengthen efforts for schools that lack productive teachers and do not have standard practice equipment. It is executed by using three container trucks containing practical tools and instructors who have received special training.

MTU's activities are in line with the objectives of the Director General of Vocational Education which targets vocational education graduates not only to be able to work but also to be able to do business by

opening businesses following the competencies required by the industrial world (Pasaribu & Harfiani, 2021; Widayati et al., 2021). Moreover, MTU activities are also aligned with the Merdeka Learning Curriculum orientation. Previous study stated one of the independent learning curriculum orientations is OBE (Outcome Based Education) which is a process education that focuses on achieving specified concrete results (result-oriented knowledge, abilities, and behaviors) (Muhammad Suryaman, 202 C.E.).

Since it is the first activity initiated by the government of Aceh as a way to increase the quality of Vocational High schools and has purposes that are similar to Indonesian's vocational education needs, therefore, this study took a chance to analyze the implementation of Mobile Training Unit Activity in some of vocational high schools, specifically Lhoksemawe district.

## 2. METHOD

Qualitative Research was used for this research with a descriptive approach. Descriptive qualitative research used to provide detail data then described it through the words to get a comprehensive understanding of each process of mobile training Unit (MTU) in selected schools as innovative way from Aceh's governments (Rosyada & Murodi, 2020). The population of this research were three vocational high schools that had been chosen before with the committee of MTU program. However, through purposive sampling, the researcher chose the head of the Vocational School Development of the Aceh Education Office, the principal of three schools, and the trainers as the main research subjects of this research. Those subjects of this research could provide different side information toward the MTU. The research also had been carried out for 3 months, from November 2022 to January 2023. Therefore, the researcher could obtain, evaluate and reobtain the data which was not complete.

Observation, semi-structured interview guidelines, and documentation were used to collect data about the implementation of Mobile Training Unit in Vocational High Schools. The observation began with the preparation process of MTU, then continued to the implementation day and the last was evaluation process. From three processes, the researcher did sit in activity, therefore the researcher could make a note in detail in each process. Meanwhile, the interview guideline were used to give detailed data and explanations of every single event that happened in the implementation process from different points of view of respondents. The interview guidelines were divided into five points which were planning stages, implementing stages, evaluating stages, following-up stage and the barriers happened in the implementation of the mobile training unit program.

Last, the documentation got the data in the form of video or photo so it could be described well. The data from interview should be changed into transcript then made in a group based on the coding that had been prepared. Meanwhile, the observation and documentation were used as secondary data to support primary data which came from interview process. All collected data had been analyzed by using a triangulation technique that began with data reduction, data display, and conclusion as well as a verification process (Anggito & Setiawan, 2018).

## 3. RESULT AND DISCUSSION

### Result

After the researcher did the observation, interview, and documentation toward the implementation of the Mobile Training Unit (MTU), the researcher analyzed the data by using triangulation processes. The result showed that the implementation was divided into several stages.

#### *The Planning Stage of the Mobile Training Unit*

This stage was handled by the Aceh provincial office, and then helped by the branch of office in coordinating among schools in their respective regions and the Provincial Education Office. MTU activities carried out management functions from the planning stage to the evaluation stage. This could be seen from the head of vocational development division of the Aceh education office statement.

In the management of Mobile Training Unit (MTU) activities, teacher apply George R. Terry's theory, in managing these activities we have a continuous plan. Every year we evaluate the results of the implementation of our activities. Schools that need it, then teacher prepare the competencies, prepare the resources, both human resources and natural resources in the form of machines and also other supporting resources in the form of financing or rules in the form of a decision letter from the head of the service. Then when the organization is ready, the head of the service will release the car to point one, two, and so on.

From the statement above, it can be concluded that the implementation of the Mobile Training Unit was constructed and planned carefully with the collaboration of the government, the principal of the school, trainers, and teachers. The collaboration began by making the working plan for a year before, an activity

plan, and a budget plan. When all of those things were approved by the governor, the program could be run by people in charge which were the branches of office and the principal of the selected school.

### ***Initial Verification for Determining Eligibility to become an MTU Implementing School***

In deciding to implement School for MTU program, at least that school has two criteria which are lack of facilities and unproductive teachers. Therefore, in this research only three schools that had been selected. Regarding the specific criteria, the head of the vocational development division of the Aceh Education Office explained that.

To determine which schools will receive MTU training. Based on the competence of expertise in each school. For example, MTU I relates to buildings, and MTU II relates to computer and network technology, including multimedia, electricity, and electronics. For MTU II, technical problems, such as light vehicle engineering, motorcycle business engineering, welding engineering, and marine engineering. What will be recommended by the branch of office are schools that have this expertise in their schools.

### ***School Preparation before Implementation of MTU***

The principal, teacher, and administrative staff have a task to prepare this activity. In the preparation process, good management and professionalism were needed to make sure the implementation of MTU would run well. The principal of Vocational high school explained.

After the establishment of SMK 6 as the implementing school, the Principal held a meeting. After all, after the decision was made, the Education Office asked for a Committee Decree at the school that would help carry out activities at school. There is who is in charge, who is the chairman of the committee, who consumes, then whose security section is, then who is the part that is related to MTU participants. So, in the name of the school, if we form a committee team, we must first meet who is willing. Usually, teacher entrust it to the Vice Principal. So, they will later become the local committee at SMKN 6.

The preparations done by the teachers and the principal were: Preparing the participant, the committee in the school chose 60 students to be the participant in Mobile Training Unit. The 60 students were taken from ten and eleven grades of vocational high school. For the implementation of MTU activities, four classrooms are needed which will later be used for training activities. Every classroom that is used during activities must be emptied of tables and chairs. Because it will be filled with practical equipment derived from the MTU truck. Certain skill competencies, such as welding techniques (welding) also require open space to practice.

The cost for the meals or snacks had been provided by the Education Office. In this case, the committee was only tasked with preparing and distributing it. So that it would facilitate the implementation of activities. Ensuring a conducive teaching and learning situation for both participants and activity instructors. In the early days of the activity, many students needed to adapt. This happened because the duration of learning at school, which was usually only half a day, turned into a full day. This causes a few problems that need to be handled by the school committee.

### ***The Implementation of the Mobile Training Unit Program***

MTU activities were carried out around 14 days with a duration of 130 hours (1 hour = 45 minutes). The activities started at 07.45 am until 5.30 pm. The participants were 60 Vocational High School students that were divided into four groups with different skills. The groups were: 15 participants for Joinery (Construction Engineering), 15 participants for Clean Water and Dirty Water (Piping Techniques), Cabinet Making (Furniture Engineering) with 15 participants, and Bricklaying (Concrete Stone Technique) with 15 participants.

After the participants were divided into four groups, the students did the pre-test to know the starting point of students. After that, the students followed the training based on their groups. All of the training had been done by using project-based learning that has the function not only to teach the theory to the students but also the practical. The students were taught the basic theory, knowing the material, and how to produce the product.

Since the Mobile Training Program used project-based learning therefore the students accepted 80% of practice and only 20% of theory. For instance, the joinery groups learned the basic theory, how to use the hand tool, how to use the portable machine, how to construct a cut of wood, and the students produced a window or a door. The activities in the Mobile Training Unit has the same principle namely 80% practice and 20% theory. The amount of time for practice allows participants to master the skills competencies being taught and during the implementation of the activity, students are expected to be able to produce one product. At the end of the activity of implementing Mobile Training Unit, the trainers offered the post-test to measure students' ability and knowledge after getting the training. The best point in the post-test would take to continue the training in some industries and would be the trainers for their school.

### **The Evaluation of Activity**

This process is very important because to create a better Mobile Training Unit, evaluation is needed. The evaluation had been done by spreading the questionnaire with the trainers to the students as the participant. The committee also gave the questionnaire to the principal of the school and the teachers to get real feedback to develop this training. The process of evaluation in the Mobile Training Unit Program has been supported by the prior work found that to make a program based on the character of education, there are four stages which are planning, organizing, mobilizing, and controlling. All those stages were involved in the mobile training unit. So it showed that it was good to continue and implement.

### **Discussion**

The demand of the 21<sup>st</sup> century and industrial and revolution 4.0, collaboration from every element of education including government was needed (Pambayun et al., 2020; Teo, 2019). Moreover, the previous works also added that the role of the principal of the vocational high schools influence the success of improving vocational high schools quality including the implementation of this Mobile Training Unit (Maryanti et al., 2020; Miasih & Hasanah, 2021). The criteria that had been set before selecting the school are similar to the previous study found that some vocational high schools do not have the same quantity and quality of teachers and facilities (Basuki et al., 2020; Sitorus, 2021), therefore there is a need for adequate training and support of facility so the vocational high school can achieve the real goal to produce standardize workforce (Güngör, 2020; Hasanah & Husnul, 2021).

All of the preparations above has similarity with previous study found that teachers have the responsibility to provide effective classroom so the students can do sufficient observation and practice in the process of learning (Maman Suryaman et al., 2020). Furthermore, the preparation that had been done by the teacher is also in line with the prior study proving that actually, the teacher should realize with their main task to help the students to be the potential workforce (Irwanto, 2021). The implementation of the Mobile Training Unit with 80% of practice and 20 % of theory is in line with the prior work stated that the main point of vocational high school students focused on outcome-based education and result-oriented (Muhammad Suryaman, 202 C.E.). Another activity that should be discussed in implementing the MTU is the use of project-based learning. The use of project-based learning has similarity with the previous work stated that project -based learning has the function to trigger students' creativity, teamwork, and responsibility (Khalid, 2011; Malaikosa, 2021).

Moreover, project-based learning also becomes the solution for vocational high schools, especially about a number of unemployment (Nugroho, 2022; Palapa, 2023; Rahmadhani et al., 2022). It also helps the students to be skillful workforce and ready to face the demand of industries (Flores et al., 2020; Hansen & Woronov, 2013). Proving the post-test and ongoing training for the best students in the Mobile Training Unit program supported the initial studies and showed that appropriate and sufficient training would bring a positive effect on the participants. Not only for acquiring the basic knowledge but also can obtain the skill to build their own business (Sulasdi et al., 2020; Widayati et al., 2021; Yilmaz Karabulutlu et al., 2020).

The implications of this research indicate that the use of the Mobile Training Unit (MTU) can improve the quality of SMK. MTU can provide opportunities for students to learn and practice practical skills relevant to their vocational field. Using the modern facilities and equipment found within MTU, students can develop the skills necessary to enter the world of work better prepared. In addition, MTU provides a means for more effective practical learning. Students can directly experience situations and challenges that exist in the world of work through simulations and practice at MTU. This allows students to develop practical skills, such as technical skills, communication skills, and teamwork, which are essential for success in their careers. A limitation of this study is that the use of MTU may require a significant initial investment to purchase, operate and maintain the unit. Maintenance of equipment and software within the MTU can also be a challenge to consider. Budget limitations can be an obstacle for schools or educational institutions to implement and maintain MTU in a sustainable manner.

## **4. CONCLUSION**

The implementation of the Mobile Training Unit needs a long process with good management and collaboration from every element of education. The collaboration should happen from the governor to students as the participant. Deciding the priority to be the participant, tidy preparation and implementation brings an impact on increasing the quality of vocational high schools and students' motivation that are needed sufficient training. Last, Mobile Training Unit should be arranged based on the needs of students and the mayor in vocational high school. This research only focused on describing the implementation of the Mobile Training Unit for Vocational High schools. Therefore, there is a need to further quasi-

experimental research to see deeply how far the impact of mobile training unit on the quality of students in vocational high school is.

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