

Edupreneurship through Teaching Factory in the Light Vehicle Engineering Skills Program at Muhammadiyah Kutowinangun Vocational School

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ABSTRACT

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This research aims to (1) analyze the implementation of edupreneurship through a teaching factory in the light vehicle engineering skills program in Kutowinangun Muhammadiyah Vocational School; (2) analyze the driving factors for implementing edupreneurship through a teaching factory in the light vehicle engineering skills program at Muhammadiyah Kutowinangun Vocational School; and (3) analyzing the factors inhibiting the implementation of edupreneurship through a teaching factory in the light vehicle engineering skills program at Muhammadiyah Kutowinangun Vocational School. This qualitative research uses descriptive methods approach. Data collection was carried out by interviews, observations, and documentation. Research subjects are: principal, deputy principal curriculum fields, productive teachers, and students. The data analysis technique uses interactive analysis, starting from data collection and then reducing the data; after reduced, presented the data, and finally verified. The validity of the data was tested by triangulation. Findings in this research revealed that (1) Planning, organizing, implementing, and monitoring/evaluation, implementation of edupreneurship through the teaching factory, competency in light vehicle engineering skills at Muhammadiyah Kutowinangun Vocational School has gone very well in carrying out vehicle service and maintenance from inside and outside the school, the implementation of edupreneurship through the teaching factory makes a contribution to foster students' entrepreneurial spirit; (2) Factors driving the success of edupreneurship consist of: quality educational resources, adequate infrastructure both in quantity and quality, standard operational procedures according to industry standards, quality services, an established service marketing network, and students is to be directly involved in the work; (3) Inhibiting factors, namely the fluctuating number of customers, limited operational time, limited spare parts for all brands, and varying public perceptions of vocational school service results.

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Introduction

The Central Statistics Agency (2013) states that the expected vocational school graduates are people who are competent in their fields and ready to work in the world of business and industry, able to compete with prospective workers, but in reality, based on statistical data as of February 2022, the number of unemployed is 7.9 million people and those from vocational school graduates amounted to 8.41%. This phenomenon is the highest number in terms of education. The large number of unemployed people from vocational schools is caused by low competency so that they do not meet the demands of the business and industrial world. Low competency results from curriculum-based learning that is not yet in sync with educational demands. What can be done to overcome this problem is that there needs to be changes to the learning carried out in vocational schools, starting from the curriculum, which should be created together with DUDI, learning activities refer to those carried out in DUDI, including standard operating procedures. as well as tools and other infrastructure. Edupreneurship is a training program on how to introduce entrepreneurship concepts which is equipped with various application examples through an educational process, using various business strategies, depending on the nature of the product and the market segment they have chosen to serve. Implementing Edupreneurship through the Teaching Factory is the right learning solution, because it refers to learning that is appropriate to practice. A teaching factory is a miniature place in a school that produces products or services. Competent students are the goal of SMK. In order to eradicate unemployment, the development of vocational schools is one of the efforts to face the challenges of current developments and labor problems. Implementing edupreneurship through teaching factories is a good way to form independent vocational school graduates. Teaching factory learning has the concept of carrying out the production of goods and services that are included in the learning process. The problem that arises then is whether schools have implemented educational activities through teaching factories correctly or not. This research was conducted to determine the implementation of edupreneurship through a teaching factory carried out at Muhammadiyah Kutowinangun Vocational School in the light vehicle engineering expertise program.

Look at the background of the problem which has been explained, the problem that is the focus of this research is how the implementation of edupreneurship through a teaching factory at Muhammadiyah Kutowinangun Vocational School in the light vehicle engineering skills program is good and can achieve the goals or not. The focus of the problems experienced so far and which want to be solved is the implementation of edupreneurship through teaching factories which is not yet optimal and needs to be prepared for implementation guidelines. Apart from that, what are the driving and inhibiting factors in implementing edupreneurship through teaching factories so far?

Method

This research uses a qualitative approach. The data presented in this research is in the form of descriptive text. Qualitative descriptive research is used to fully and in-depth describe phenomena that occur in society. Qualitative descriptive research is presented in detail in the form of characters, traits, characteristics and comprehensive models of the research object (Sugiyono, 2017) . Data collection methods in this research were carried out by interviews, observation and documentation studies. The research instruments used were interview guidelines, observation guidelines, and documentation sheets. The population is all light vehicle engineering competency teachers. Class XI students have competency in light vehicle skills. The sample using random sampling technique obtained a sample of 3 teachers and 10 students. The research subjects consisted of the school principal, head of curriculum, head of light vehicle engineering, productive teachers, and students. The research design is a case study that occurred in only one school. To test the validity of the data, a source triangulation test was carried out. The data analysis stage was carried out using interactive data analysis described by Miles & Huberman (2014), namely: (1) Data Reduction, (2) Data Presentation; and (3) Conclusion drawing and verification.

Results and Discussion

Edupreneurship through teaching factory on light vehicle engineering skills competency at Muhammadiyah Kutowinangun Vocational School can be seen from the aspects of planning, organizing, implementing and evaluating.

Planning

Teaching factory planning for the Light Vehicle Engineering Skills Competency at Muhammadiyah Kutowinangun Vocational School has been carried out through the PIC Teaching Factory together with a team of productive teachers in the automotive field. Teaching factories need to be planned to get the best results. Planning evaluation is also needed to improve the quality and services provided to the community. The required competencies are carried out by recruiting teachers with a minimum qualification of a bachelor's degree from the Faculty of Teacher Training and Education, Automotive Department. All Light Vehicle Engineering Skills Competency teachers are involved in the *teaching factory planning process*. Each teacher gets a picket schedule every day to manage *the teaching factory*. In order to improve teacher performance and productivity, competency improvement is carried out by sending them to Education and Training Institutions or doing internships in industry. Ismail et al. (2018) stated that teachers need creativity and flexibility to create functional conditions for students during the learning process and create educational experiences that enable the development of creativity among their students.

In-house-training (IHT) at the beginning of each semester is planned to equalize perceptions in learning, training and teacher internships. Planning for additional practice facilities that are relevant to the industry. Planning for the provision of fast moving spare parts is also carried out so that consumers who carry out repairs at the teaching factory unit receive good and fast service.

Product planning also aims to ensure that the product meets quality and market needs. The products produced are medical equipment such as patient beds, patient waiting chairs, patient dining tables and first aid kits. Product planning is carried out continuously to maintain product quality and good customer service. Part of the income from the teaching factory is used to develop facilities and infrastructure. According to research by Sudiyono (2020), teaching factory planning generally does not include product innovation and product sustainability. The teaching factory at Kutowinangun Muhammadiyah Vocational School has provided good service but not yet

Organizing

All automotive teachers are involved in organizing the teaching factory. Each teacher gets a picket quota for each job. The implementation of teaching factory workshops is regulated by the duties and authorities of each personnel. The teaching factory management structure makes it easier to divide tasks in providing services to the community. Organizational structure teaching factory at Muhammadiyah Kutowinangun Vocational School including the Person in Charge (PIC) Teaching factory, Head of Skills Competency, Admin, Service Advisor, Teacher Mechanic, and students.

Teaching factory management is not profit-oriented because it is still in the realm of learning in schools. Apart from that, in preparing the organizational structure detailed job descriptions are made, so that there is no overlap and can be well coordinated. This is in accordance with research conducted by Sanatang (2020) which states that organization is carried out through determining the TEFA organizational structure, job descriptions, and standard operational procedures for the activities of each department. However, the implementation of the activities of each department has not been well documented. The human resources involved in the organizational structure all come from within the school. There is no participation from the relevant government. The requirements for teaching factory managers must have competencies recognized by DUDI, namely Astra Daihatsu Motor, proven by a minimum technician competency certificate.

Implementation

Implementation of edupreneurship through a teaching factory involving class XI and XII students. The implementation of edupreneurship is embedded through a teaching factory learning

approach that resembles a real factory. Industrial culture is also instilled during learning. The construction of practical laboratories has been adapted to the layout and real conditions in the industry. Learning applies learning hours with a block system. The assignments in the teaching factory learning are in the form of work carried out at official dealers, including students carrying out several jobs including security, partman, office boy, mechanic, admin and car wash unit. Not all students become mechanics. The teaching factory workshop already has income that is used for developing the workshop itself. Development of the school budget will be carried out after 3-4 years.

Teaching factory activities can improve students' entrepreneurial spirit if the activities carried out are in accordance with the competencies learned. The teaching factory carried out at Muhammadiyah Kutowinangun Vocational School applies edupreneurship in accordance with the competency of light vehicle engineering skills. Apart from that, the activities carried out will make a more positive contribution if they involve students from the planning, production, to marketing processes.

Guidelines for the flow of the teaching factory learning process in the Light Vehicle Engineering Skills Program at Muhammadiyah Kutowinangun Vocational School are as follows.

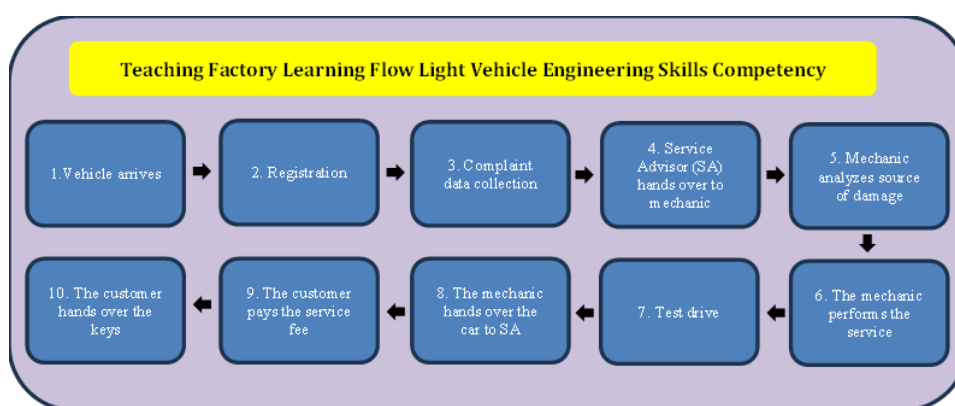


Fig 1. Teaching Factory Learning Flow Light Vehicle Engineering Skills Competency

Student involvement in the planning, production and marketing processes is also needed to give students direct experience in entrepreneurship. Muhammadiyah Kutowinangun Vocational School involves students from the moment they receive orders, then an analysis of the orders is carried out between the supervising teacher and students. Then the picture is drawn and students work on the sequence of the basic picture. Supervising teachers control the quality of work, and to guarantee quality in vehicle testing. Educational learning through teaching factories is not very relevant for forming academic knowledge. Edupreneurship through a teaching factory forms communication skills, character building, marketing skills, and discipline. Edupreneurship through the teaching factory teaches students to learn how to manage a workshop starting from receiving, handling until the unit is delivered to the customer.

Monitoring and Evaluation

Supervision and evaluation is carried out personally at a certain time every week and every month reported to the school principal. Incidental supervision is carried out if equipment is damaged. Repair activities for damaged equipment are immediately handled and reported to the school principal as the supervisor of teaching factory activities.

The success of implementing the teaching factory is measured by success in taking competency tests conducted by the industry, in this case also from the Automotive Technician LSP because Kutowinangun Muhamadiyah Vocational School does not have LSP-P1. The success of a teaching factory is measured by the number of alumni who work. The perceptions of teachers, students and the community support the sustainability of the teaching factory because there is direct interaction between students, teachers, mechanics, society and industry in it.

Student competencies can be trained through teaching factory activities. These competencies are honed through direct contact with customers. Apart from that, students are also faced with various vehicle problems that arise and are felt by customers and must find solutions. The implementation of the teaching factory has an impact on students' interest in entrepreneurship. There are many alumni of Kutowinangun Muhammadiyah Vocational School who have become entrepreneurs, at least in the form of car wash businesses. There are also those who market spare parts and are spare parts traders themselves.

The school's strategy in optimizing the teaching factory is to involve students in sufficient numbers and time so that students also experience job changes. Every job change will bring new learning and challenges. Apart from that, schools also send teachers to do internships in industry so that their competencies are relevant to industrial development. The school also facilitates the purchase of new units so that the competencies gained can be immediately applied.

The teacher's role is as a service advisor and mechanical assistant. Students are directly involved in vehicle maintenance and repair work. Learning facilities and infrastructure are always updated with the latest developments. The curriculum used is integrated with industry so that it meets industry needs. The industry's role includes being a guest teacher at schools, a place to carry out field work practices, and providing input for the teaching factory at Muhammadiyah Kutowinangun Vocational School. The public really trusts the Kutowinangun Muhammadiyah Vocational School because it is the only workshop in Kebumen Regency which is quite complete and spacious, namely around 1070 square meters, 6 stalls, and the same service as a dealer. The costs charged to customers are also cheaper than dealer services so they are seen as cheap by the public.

Based on the data obtained, the implementation of edupreneurship through the teaching factory competency of light vehicle engineering skills at Muhammadiyah Kutowinangun Vocational School,

seen from planning, organizing, implementation and monitoring/evaluation, has gone very well, by producing vehicle maintenance and repair service products and marketed to schools and the environment around.

Driving Factors for Implementing Edupreneurship Through Teaching Factory

The success of implementing edupreneurship is supported by several factors. First, human resources have competencies that suit job needs and are recognized by the industry. Teacher in the light vehicle engineering skills program fully involved in implementing teaching factory learning. Increasing teacher competency is also carried out by involving productive teachers in education and training activities organized by the government. All teachers have the opportunity to take part in education and training. Teachers also undertake industrial internships; The five productive teachers have participated in industrial internships. Based on this data, it can be concluded that human resources, especially productive teachers related to the implementation of teaching factory learning, all have undergraduate backgrounds and have attended education, training and internships.

Second, the facilities and infrastructure owned are buildings with adequate classrooms and always updated. The facilities provided include air conditioning, Wi-Fi facilities and LCDs in each class. The teaching factory laboratory also has spooling and balancing machine facilities as well as spare parts used for practicums and service to consumers.

Third, work operational standards refer to work standards in the industry both in terms of work culture, production work standards and work safety standards with the guidance of experienced supervisors.

Fourth, the products produced at the teaching factory are of high quality because each product has passed quality tests in collaboration with the school laboratory. .

Fifth, the product marketing network has been well established by holding an MOU with Astra Daihatsu, so that equipment needs can be met from the Muhammadiyah Kutowinangun Vocational School teaching factory.

Sixth, the role of students is to be directly involved in the work. This helps mechanics complete their tasks. Other student roles are helping with admin, spare parts management, security, and so on.

Factors Inhibiting the Implementation of Edupreneurship Through Teaching Factory

The implementation of edupreneurship through the Teaching Factory at Kutowinangun Muhammadiyah Vocational School has several obstacles. The first obstacle is the number of customers which is still fluctuating. Second, time constraints in terms of implementing teaching

factory operations. Many customers ask for service on Sundays even though there are no teaching factory activities on Sundays. Even though the mechanics and admin are not students, they are still learning how to operate 7 days a week. Third, spare parts are sometimes not available in the teaching factory workshop. The time needed to look for spare parts because we accept all brand vehicles is not small. Spare parts shops that have collaborated are in the Jogja and Bogor areas.

The external factor that hinders the implementation of teaching factories is that the community still sees a priori that the work carried out by vocational schools is haphazard. In general, the public sees that vocational schools in Kebumen are not ready to handle orders from the public, even though Muhammadiyah Kutowinangun Vocational School is ready to serve in accordance with Standard Operational Procedures (SOP).

Conclusion

Judging from the planning, organizing, implementation and monitoring/evaluation, the implementation of edupreneurship through the mechanical engineering skills competency teaching factory at Muhammadiyah Kutowinangun Vocational School has gone very well by producing vehicle maintenance and repair services in Kebumen. Factors driving the success of edupreneurship through factory teaching include (1) quality educational resources, (2) adequate infrastructure, both quantity and quality, (3) standard operational work procedures according to industry standards, (4) quality products, (5) well-developed product marketing network, and (6) students is to be directly involved in the work. The application of edupreneurship through a teaching factory fosters an entrepreneurial spirit by directly involving students in planning, production and marketing. Factors inhibiting the implementation of edupreneurship through the teaching factory include: (1) the number of customers is still fluctuating, (2) the operational time of the teaching factory is still limited, (3) spare parts available for all brands are still limited, (4) public perception of the results of the teaching factory's work in vocational schools still varies.

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