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Implementation of Teaching Factory (TEFA) in Vocational School to Improve Student Work Readiness

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ABSTRACT

This research aims to find out the influence of teaching factory implementation on student work-readiness at SMKN 2 Singaraja. The type of research used is qualitative descriptive to find out phenomena related to the implementation of teaching factory. Interview, observation, and documentation methods are used to obtain data. Validity of data used in this study is the triangulation of sources. Data analysis is done in a way; (1) Data Reduction, (2) Presentation, and (3) Conclusion Drawing *(*Verification*)* after obtaining data on the ground. Results of this study showed that implementation of the teaching factory at SMKN 2 Singaraja has been quite good in terms of facilities, infrastructure, and industry involvement in the planning of TEFA activities. However, the TEFA implementation system implemented is less able to support student's readiness, so there needs to be learning application models in implementation of TEFA that can improve student's ability to think critically, and have a positive influence on work readiness supporting factors in students.

Introduction

The Second International Congress on Technical and Vocational Education was held on April 26-29, 1999 in Seoul. In the forum, UNESCO agreed to use the terminology of Technical Vocational Education and Training (TVET). The terminology is used around the world in the discussion of education, and vocational training (Sudira, 2017). Some paradigms in Technical Vocational Education and Training (TVET) learning obtained through work experience are lifelong life learning transformation, education for all, learning from life (life-based learning), and workplace learning. The characteristics and needs of learners, the substance, and the purpose of learning are the things that underlie the implementation of TVET learning. The implementation of TVET learning provides the benefits of forming a professional identity and professional skills needed by interested parties. TVET design in the XXI century is a learning strategy to develop the

various potentials possessed by learners to have insights and work skills and be able to transform the changes that occur in the world of work.

Vocational High School (SMK) is one of the vocational education that aims to create quality human resources. Vocational High School (SMK) plays an important role to prepare its graduates as potential workforce candidates by their field of expertise and can meet the needs of the workforce in the industry. Vocational High School (SMK) graduates who are qualified, productive, and ready to work are expected to increase the absorption rate of labor that can compete amid the rapid competition of current employment (Dewi et al., 2018).

A series to improve the quality and competitiveness of human resources of vocational graduates, as for the policy issued by the President, namely Vocational High School (SMK) revitalization listed in Presidential Instruction No. 9 of 2016. Vocational High School (SMK) Revitalization Policy aims to align learning in vocational school with the situation in the industry through curriculum equalization, increase cooperation with ministries/institutions, the regional government in the business world/industrial world, increase the number of competencies of vocational educators/teachers, and increase access to certification of vocational graduates and vocational accreditation.

Based on the purpose of Vocational High School (SMK) revitalization, to improve the quality of graduates, the Directorate of Vocational Development has designed the Teaching Factory program. Teaching factory is the development of production units that apply partner industrial systems to existing production units in vocational schools. Learning-oriented teaching factory combines two existing learning models: competency-based training and production-based training. Efforts to present a real industrial/working world in the school environment are carried out by carrying out teaching factory learning. The discipline of medical science and the paradigm of teaching hospitals, namely hospitals that cooperate parallel with medical schools are early supporters of the formation of teaching factory concepts. This activity aims to combine learning and work environment to provide a realistic and relevant work experience (Mavrikios et al., 2018).

Teaching factory learning activities are used to exchange new ideas and solutions, balancing the time and cost required to learn and test such solutions, deepening industry and academic knowledge through product innovation or real-life problems (Mavrikios et al., 2018). The activity of combining the two models so that it becomes a teaching factory implementation activity aims to transfer the actual production/or manufacturing environment into the classroom. There are two methods of learning teaching factory, from the factory to the classroom, and lab to the factory (Mavrikios et al., 2018). Factory-to-class methods require a modular approach to enable flexibility in their operations and applications. While the method from lab to factory aims to transfer

knowledge from academia to industry. Based on these two methods, the implementation of the teaching factory can be adjusted to their needs.

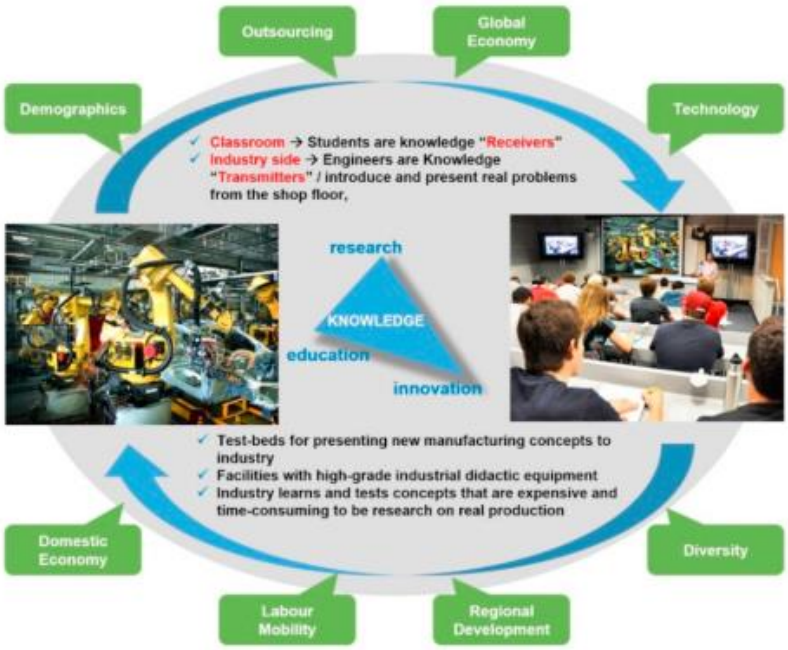

Figure 1. Teaching Factory Concept

The purpose of teaching factory implementation is (1) to increase vocational graduate's competencies, (2) increase the entrepreneurial spirit of vocational graduates, (3) produce products that have added value, in the form of goods or services, (4) increase school revenue sources, and (5) increase cooperation with industry or related business entities (Dewi et al., 2018). Teaching factory learning activities have the goal of effectively integrating educational, research, and innovation activities into an initiative involving the industrial world and academia (Mavrikios et al., 2018).

Teaching Factory has been used to create qualified HR graduates. But the difference between each school in realizing these goals is influenced by various factors. These things are obtained from the results of research of several people related to the implementation of teaching factories in vocational schools. Research (Dewi et al., 2018) entitled The Contribution of Teaching Factory Implementation program on Work Readiness of Vocational High School Students In Makassar revealed that the implementation of teaching factory activities in SMK Makassar had an influence of 34.6% on work readiness. The implementation of teaching factory teaching programs is quite instrumental in improving the competence of students needed to work and can foster students' interest in entrepreneurship.

In line with the results of the Research (Kusumojanto et al., 2021) in the title does Teaching Factory Matter for Vocational School Students? Conveying that the implementation of a teaching factory in SMK Muhammadiyah 2 Malang has been well interpreted. Teaching factory activities can generate profits so that the purpose of the teaching factory implementation can be fulfilled. The use of teaching factory as a medium of practice and teach students to improve the spirit of entrepreneurship. So that the relevance of teaching factory activities is the ability of students increasingly seen from the value obtained, student knowledge after doing learning activities, students gain knowledge related to the world of work and have the skills to calculate capital and profit during continuous learning activities. There are many factors inhibiting the implementation of teaching factory is the absence of teachers who accompany students during the implementation of TEFA, while supporting factors include adequate facilities and good relations with the community around the school so that the business resulting from teaching factory is visited by the community around the school.

But different things are found in research (Pradipta et al., 2021) with the title Evaluation of policy in the Vocational Education System Revitalization in Indonesia: Examining the Teaching Factory Readiness of Industry found that in the implementation of teaching factories, the industry is still not sure it can meet the demand for cooperation with SMK because the industry has different procedures and expectations for Accepting interns, this is influenced by several factors, namely (1) a limited number of workers received, (2) aspects of corporate confidentiality, (3) industry doubts are also influenced by differences in perception between local governments and ministries in the implementation of this teaching factory. The implementation of teaching factory at Vocational High School Surya Harapan must set a clear goal of cooperation with the industry, the need for visits from industry to school to be able to develop the curriculum and industry assessment scheme together so that it can be known that the facilities available in the school are in line with the needs of the industry so that teaching factory activities It can run well and can meet its goals.

The same thing was also stated in the Research (Winarno, 2019) with the title Teaching Factory Learning Has Not Been Effective in Increasing the Entrepreneurial Spirit of Vocational High School Students conveys that the supporting factors for the implementation of teaching factory are (1) teachers who are competent in their fields, (2) school systems, (3) supported management, (4) school environments, (5) adequate infrastructure facilities by standards industry, and (6) good relations with DU/DI. While the factors inhibiting the implementation of teaching factory are (1) funding, (2) skills and work ethic of students, (3) setting learning schedules. The implementation of teaching factory in SMK Negeri Malang is still not able to foster student interest in entrepreneurship, happens because in the implementation of teaching factory learning focused on providing production experience the actual industry conditions so that the process of this activity

has not been able to reach aspects related to the formation of the entrepreneurial spirit of students. So that the formation of cognitive and attitudes (soft skill) is an important thing that must be considered to be able to foster attitudes owned by the entrepreneurial spirit, namely (1) discipline, (2) communication skills, (3) the ability to work together, (4) can handle clients, and (5) be able to face the risks that will occur.

Research (Zutiasari et al., 2021) with the title Integration of Business Education with Teaching Factory and Its Effect on Vocational School Students' Work Readiness revealed that the better the implementation of teaching factory will have a good influence on the work readiness of vocational students in Malang. Factors tested and influences the student's work readiness are (1) motivation, (2) personal maturity, (3) social maturity, (4) work attitude, (5) work skills. Factors for the implementation of teaching factories include (1) HR planning, (2) production planning, (3) organizing, (4) directing, (5) evaluation and (6) competence.

Thus, it can be concluded that the implementation of Teaching Factory in VOCATIONAL can increase the work readiness of vocational students if supported by internal and external factors. Internal factors include the competencies that exist in students that affect the student's work readiness, namely (1) motivation, (2) personal maturity, (3) social maturity, (4) work attitude, (5) work skills. While external factors include the implementation of teaching factories, namely (1) HR planning, (2) production planning, (3) organizing, (4) directing, (5) evaluation, and (6) competence (Zutiasari et al., 2021). Based on the description, the purpose of this study is to find out the effect of teaching factory implementation on student work-readiness at SMKN 2 Singaraja.

Method

The type of research used is qualitative descriptive to find out phenomena related to the implementation of teaching factory. Interviews, observations, and documentation are methods used to obtain data. This research was conducted at SMKN 2 Singaraja. This location was chosen because SMKN 2 Singaraja is one of the vocational schools in Bali that has carried out teaching factory activities, thus researchers chose this school to know the implementation of teaching factory and its effect on student work readiness. The study was conducted in November-December 2021.

The process of validity of the data obtained in this study uses source triangulation. Source triangulation is used to test the credibility of data by correcting data that has been obtained through several sources (Sugiyono, 2013). After obtaining data in the field continued with the process of data analysis in a way; (1) Data Reduction is summarizing the data that has been sorted to facilitate the stage of data preparation, (2) The Presentation of Data is to display and convey data results based on sequential sub-discussions and (3) Conclusion Drawing (Verification) draws conclusions based on the data obtained.

Result and Discussion

The implementation of Teaching Factory at SMKN 2 Singaraja, especially in the Field of Skin and Hair Beauty, conducts teaching factory activities independently. Teaching factory activities developed is to open salon services for the community. Tefa Salon SMKN 2 Singaraja is given the identity of Hair and Beauty Dewi Srikandi. The purpose of teaching factory learning is to present an industrial atmosphere in learning activities. Judging from the appearance of TEFA Salon SMKN 2 Singaraja has presented an industrial atmosphere from the arrangement of rooms and infrastructure facilities available in the Salon.

Figure 2. Front View Tefa Salon SMKN 2 Singaraja

Related to TEFA activity planning, the school compiled a curriculum that will be used in teaching factory learning along with DU/DI. This is done to adjust the material to be developed and taught to the needs and developments that exist in the industrial world. The learning curriculum in the classroom with the teaching factory learning curriculum is different. The curriculum used in teaching factory learning activities includes competencies that are following the services offered at TEFA Salon. The involvement of the industrial world in the implementation of teaching factory is also carried out with the activities of Guest Teachers every 6 months. Guest Teacher activities carried out are demonstrations related to the growing competence in the industrial world by DU/DI. This activity is carried out to develop the competence of teachers and students to know and understand the growing trends in the industrial world (A.A Oka Shanti Suardini (56th), Head of Beauty Major, interview on December 8, 2021, at SMKN 2 Singaraja).

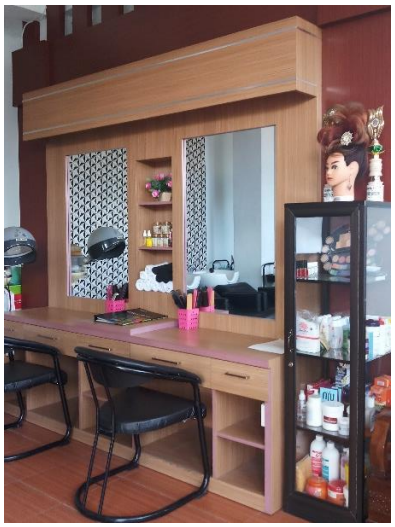

Figure 3. Hair Care Room Tefa SMKN 2 Singaraja

Figure 4. Skin Care Room Tefa SMKN 2 Singaraja

The teaching factory learning system is carried out by students of each class alternately with the number of students guarding as many as 2 students and accompanied by 1 guidance teacher (A.A Oka Shanti Suardini (56th), Head of Beauty Major, interview on December 8, 2021, at SMKN 2 Singaraja). Students who engage in teaching factory activities are students who are in class X of the 2nd semester so that students already have and master sufficient basic competencies. Each student in charge is given the responsibility to manage finances during guard time by doing bookkeeping related to the use of cosmetics and also existing capital.

Teaching factory activities that have been implemented can help to prepare for student work readiness. This has happened naturally because when the implementation of practical learning in the classroom students use those closest to them as clients so often students are relaxed and do not comply with the applicable SOP because if negligent and make mistakes there is a very small possibility of being reprimanded by his client. In teaching factory learning activities that are carried out by maintaining salons, students will serve clients who are customers and must be provided with good service. So those students try to do the service activities in earnest and do it according to SOP (A.A Oka Shanti Suardini (56th), Head of Beauty Major, interview on December 8, 2021, at SMKN 2 Singaraja).

The inhibiting factor in the implementation of teaching factory activities is the teaching schedule, and other teacher activities with the assistance of students in teaching factory learning simultaneously, so it often combines teaching factory assistance activities. This has an impact on students who do not get supervision. The role of teachers as a companion in teaching factory activities is very important and has an effect on shaping student work readiness, with such a schedule providing an impact on the role of teachers who are not optimal in preparing student work readiness. Although the factors of student work readiness are largely influenced by the personality of the student itself (A.A Oka Shanti Suardini (56th), Head of Beauty Major, interview dated December 8, 2021 at SMKN 2 Singaraja).

Teaching factory learning activities can increase the spirit and confidence of students to perform their competencies. Because students are given responsibility and must carry out these responsibilities well. Teaching factory learning activities accustom students to perform services for others who are not known, it can encourage the spirit of students to do their best. Although often feel insecure when getting clients with treatment options that are less desirable by students. These circumstances lead students to be able to do well and must master all the competencies taught (Selayani (17th) Students, interview dated December 8, 2021, at SMKN 2 Singaraja).

The situation of teaching factory learning activities carried out by students when there are no clients and accompanying teachers makes students confused and bored because they do not know what to do. This situation gives a sense of lack of enthusiasm in carrying out learning. Feel there is a difference when doing practical activities in the classroom with teaching factory learning. When providing services to clients in Salon provides a pleasant taste, looks very professional, and works for real. So, when doing treatment always try to look good and give the best Selayani (17th) Students, interview on December 8, 2021, at SMKN 2 Singaraja).

The implementation of teaching factory in SMKN 2 Singaraja has been quite good. Facilities and infrastructure used in learning activities following the circumstances in the industry. TEFA SMKN 2 Singaraja Salon which is used as a place for teaching factory learning activities has been able to present the atmosphere in the industry. Industry involvement in the curriculum planning process and activities of Guest Teachers helps beauty teaching factory activities in SMKN 2 Singaraja in line with the needs in the industrial world.

The implementation of teaching factory activities carried out with a guard system is less effective to improve student work readiness. There needs to be the application of learning models that can improve critical thinking skills. Critical thinking is necessary to improve the performance of innovations that are indispensable in teaching factory (Mourtzis et al., 2018).

Teaching factory learning needs to be integrated with other learning models, namely, (1) discovery learning, (2) problem-based learning, and (3) project-based learning to

improve personal life skills which include personal skills, social skills, academic skills, and vocational skills characterized by entrepreneurial values that are independent, innovative, creative, and dare to take risks, action-oriented, have a spirit of leadership, hard work, and competitiveness (Ismayati et al., 2020). Work-readiness formed based on factors in the individual, namely (1) motivation, (2) personal maturity, (3) social maturity, (4) work attitude, (5) work skills can be developed and prepared through teaching factory activities by integrating teaching factory learning activities with other learning models.

TVET is a terminology used in the discussion of vocational education, and training around the world. Learning-oriented *teaching factory* combines two existing learning models: competency-based training and production-based training. The implementation of teaching factory is one of the efforts to present a real industrial/working world in the school environment. Teaching factory learning activities have the goal of effectively integrating educational, research, and innovation activities into an initiative involving industry and academia. The implementation of Teaching Factory in SMK can improve the work readiness of vocational students if supported by internal and external factors. Internal factors include the competencies that exist in students that affect the student's work readiness, namely (1) motivation, (2) personal maturity, (3) social maturity, (4) work attitude, (5) work skills. While external factors include the implementation of teaching factories, namely (1) HR planning, (2) production planning, (3) organizing, (4) directing, (5) evaluation, and (6) competence (Zutiasari et al., 2021).

Conclusion

The implementation of teaching factory at SMKN 2 Singaraja has been quite good in terms of facilities, infrastructure, and industry involvement in the planning of TEFA activities. But the TEFA implementation system implemented is less able to support student work-readiness so it is necessary to implement learning models that can improve students' ability to think critically, which provides a good influence on the factors supporting student work readiness in students. These factors can be trained and developed by implementing a teaching factory implementation system by integrating innovative learning models so that students remain active and passionate in the implementation of teaching factory. The learning model that will be well applied in teaching factory activities at Salon TEFA SMKN 2 Singaraja is project-based. Students are formed in groups with entrepreneurial activity projects by utilizing existing facilities in Salon SMKN 2 Singaraja. Project work is carried out by students for a full 1 week of planning, organizing, marketing, and evaluation processes. Implementing project-based learning activities will provide new experiences for students.

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