

## Learning Teaching Factory Reviewed from POAC Management on the Competence of Engineering and Motorcycle Business Expertise SMK

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### Abstract

*This research aims to get an in-depth overview of the management of the implementation of Teaching Factory Competence of Engineering Expertise and Motorcycle Business Vocational High School in Tulungagung Regency of East Java. Who is expected to find and describe the data in detail about the cooperation of the Vocational High School with the business world and the industrial world to prepare a skilled workforce through the Teaching Factory learning program that simultaneously builds a framework of theory and abstraction of data collected based on the findings of meaning on the natural background in the field. By applying a good management system can improve the hard skills and soft skills of vocational graduates in order to get provisions to go to the world of work in accordance with what is needed by the industry or able to entrepreneurship independently. The management system that needs to be implemented includes several aspects, including: (1) Planning, (2) Organizing, (3) Implementation (actuating), (4) Supervision (controlling) and evaluation of programs. Supporting factors and inhibiting the implementation of Teaching Factory Competence of Technical Expertise and Motorcycle Business Vocational High School in Tulungagung Regency of East Java, include: (1) Internal support factors, (2) External support factors, (3) Internal inhibitory factors, and (4) inhibitory factors.*

### Keywords

teaching factory; management; supporting factors; inhibitory factors



## I. Introduction

Vocational High School is a unit of secondary education organized to continue and expand primary education and prepare learners to enter the world of work as well as develop professionalism attitudes. Based on the Regulation of the Minister of Education and Culture No. 34 of 2018 concerning the National Standard of Vocational Secondary Education is part of the national education system that has the goal of vocational education which is to produce a skilled workforce that has the ability in accordance with the demands of the needs of the business world and the industrial world, and is able to develop its potential in adopting and adapting to the development of science, Technology, and art. Vocational High School is prepared to print skilled personnel who are ready to work with various competencies and are able to keep up with the development of science and technology. This is in accordance with the explanation of Article 15 of the National Education System Act of 2003 which states that: "Vocational school is a secondary education that prepares learners especially to work in certain fields. Vocational education has the general purpose to increase the faith and piety of

learners to God Almighty and develop the potential of learners to have noble morals, knowledge and noble national insight; and has a special purpose that is to prepare learners with knowledge, competencies, technology and art in order to be productive human beings, as well as working independently, filling job openings in the business and industrial world as a mid-level workforce in accordance with competence. “

Learning Teaching Factory has a characteristic and emphasis on debriefing learners with competencies relevant to the business world and the industrial world, entrepreneurial character (technopreneurship) by involving the business world and the industrial world as the main partner. So that in the implementation of the Teaching Factory Learning Program demanding the involvement of the industry (Directorate of PSMK: 2019). To achieve this, the development of the education system continues to be developed such as the application of Teaching Factory Learning methods of Vocational High Schools. This is in line with Hadlock et al. (2008), which explained that the purpose of Teaching Factory is to realize that teaching students should be more than just what is contained in the book. Learners not only practice soft skills in learning, learn to be able to work in teams, train interpersonal communication skills, but gain hands-on experience and work exercises to enter the world of work later.

In his research, Sugiyono (2012: 5) revealed that Teaching Factory is a learning activity by conducting production activities, either in the form of products or services in the school education environment by learners. Products or services produced by learners have quality so that they are worth selling and accepting by the public or consumers. Teaching Factory-based learning concepts have so far been implemented between industry-academics (one-way) showing the collaboration of industrial learning into learning programs in schools so that learners have a realistic and relevant learning experience when entering the environment and the world of work. Learners can deepen their knowledge according to existing topics in the industry and apply it in practice in schools, where learning theory in schools is synchronized with a production-based approach according to vocational and industrial education standards. (Shinta, 2019).

Based on the results of the interview, researchers obtained information that there are various problems in the readiness of the implementation of Vocational School Based Learning Factory in Tulungagung Regency. Various problems in the readiness of the implementation of the Teaching Factory-Based Learning Program can be seen from various aspects. These aspects include: (1) planning, (2) organizing, (3) actuating, and (4) controlling. Problems in the readiness of the implementation of the Teaching Factory-Based Learning Program on The Competence of Engineering And Motorcycle Business Expertise, are in the plan of Teaching and Learning Activities (KBM) that are still difficult to adjust, teachers who do not know the details of how the learning process with this method, confusing block schedules for some teachers, forms of cooperation with industry are only limited to practical activities. FieldWork (PKL) and graduate recruitment, and infrastructure facilities that are still not used to the maximum.

Teaching Factory-Based Learning Program is currently a new breakthrough for the world of education in Indonesia. Creating vocational high school graduates who are competent and ready to work according to the demands of the world of work, then world-based learning is one solution. Vocational High School as vocational education must prepare learners or manuasias resources who have quality as a workforce in accordance with the demands of the business world and the industrial world, so as to provide breakthroughs in the industrial world by applying collaboration with the business world and the industrial world so that after graduating from Vocational High School is able to work in accordance with the skills that have been obtained in the school (Hadam, 2017:185). Learning programs can improve the quality of graduates of competent Vocational High School students and

curriculum that refers to the world of work, expected to be able to change education in Indonesia.

The role of teachers as the spearhead in carrying out the learning process in the classroom plays a very important role to determine the success of learners in carrying out the learning process in school (Mutohar, 2013:153). For learners, attitude / behavior is an important element in preparing to enter the industrial world. Therefore, schools need to develop learning that not only includes hard skills but also includes soft skills. Management acts as a stimulator or driver of institutional performance. The school work evaluation program covers several aspects as follows: (1) Curricular implementation must be appropriate or exceed learning needs, (2) Business implementation must be operational, lead to welfare and re-investment, and (3) School development programs should include school capacity, development range, and school improvement. The three main determinants are subjects in supporting the successful implementation of Teaching Factory. In its implementation, the three elements follow the provisions contained in the national curriculum. Implementation of the national curriculum requires alignment with the demands of technological developments in society and the industrial environment (Dit.PSMK, 2017).

POAC Management (Planning, Organizing, Actuating, and Controlling) is the process of planning, organizing, driving / implementing, and supervising the efforts of organizational members in achieving the goals of the organization by all aspects, both humans and machines. In an organization both formal and non-formal organizations, it should have good management and run smoothly. This means that the role of management is very important and strategic to organize an organization. School institutions as formal organizations must certainly have school management that has a great responsibility in organizing and managing educational institutions. Management is a process in order to achieve goals by working together through several other organizational people and resources, which includes four aspects of the function of management that need to be known, among others: (1) planning (planning), (2) organizing (organizing), (3) actuating (driving / implementation), and (4) controlling (supervision). The four management functions are called POAC management which has sufficient in regulating managerial activities that will combine the utilization of human resources and material resources through cooperation to achieve organizational goals (Sarinah, 2017). POAC management covers several important aspects that need to be implemented responsibly, which include: (1) Planning( planning). In every community (organization), it takes an element of cooperation between individuals that leads to the achievement of predetermined goals. Planning includes choosing a vision (mission), goals and ways to achieve goals. In other words, that various activities that are based on a mature planning of all existing inputs and processes, is the starting point for producing optimal output. Conversely, the output produced will not be optimal and will not even produce an expected output if the activity carried out is not accompanied by careful planning. Mondy & Premeaux (1995) explains "planning is the process of determining in advance what should be accomplished and how it should be realized".

Planning is the process of determining what should be achieved and how to make it happen in reality. This means that in planning it is determined what will be achieved by making plans and ways of carrying out plans to achieve the goals set by managers (Wijaya, 2016). Ramadhani, Aprilia Vita (2015) stated that, if the school wants to improve the image of the school, public trust is higher, the business and industry will be able to develop towards more productive and efficient cooperation, government support is getting bigger, will be able to produce graduates who are ready to plunge in the world of work and society then the school manager must be able to balance between: (1) Input or input, (2) Process and (3) results or Output in teaching factory-based learning settings. Teaching Factory planning is

carried out by the education unit with the industrial world actively. All stages of planning in question are carried out based on procedures as stipulated in the national standards of education and equipped with procedures in accordance with the provisions applied by industry partners competence of specified expertise. Management of its implementation includes the implementation of theoretical learning, practical learning in schools, practical learning in industry (On the job training),

The function and purpose of the learning evaluation includes several things, including: (1) To measure the progress of student development and support the preparation of the next learning plan and improve existing learning, (2) To meet psychological, didactic and administrative needs. Meeting the psychological needs referred to in view of educators and learners. For learners, the results of the evaluation can be a guideline to know their capacity and status in the middle of the group. For educators evaluation results as feedback material in addition to being able to know the extent of success in learning, as well as improvements for the next learning planning. Meeting the didactic needs referred to based on the results of the evaluation can assess the results of the efforts that have been done by their learners and know the position of their learners in the middle of the group, and find a way out for learners who need it. In addition, it provides instructions on the extent to which a predetermined teaching program has been achieved. Meeting the administrative needs of the understanding that as a material report on the development and progress of learners in the form of raport delivered to parents, and the values of evaluation results are also very important as part of making a decision in education, (3) Knowing the picture of the success of the learning process based on the learning outcomes of learners (Ratnawulan, 2014). In addition, the evaluation of learning aims to get accurate information about the level of achievement of instructional goals by students so that follow-up can be pursued (Daryanto, 2010).

In the management of Teaching Factory on The Competence of Engineering Expertise and Motorcycle Business SMK, for SMK in collaboration with PT Astra Honda Motor through PT Mitra Pinastika Mulia HONDA Distributor Sidoarjo carry out several program activities, including: (1) Preparation for the implementation of the Honda Class TBSM Competency Program in SMK is formed based on the basis of the link and match policy between the school and the industry. Which includes the submission of cooperation proposals, workshops, MOU, curriculum synchronization, procurement of facilities and infrastructure, (2) Preparation, planning and curriculum models in the management of Honda industrial classes based on a joint decision of PT Mitra Pinastika Mulia HONDA Distributor Sidoarjo, (3) Teacher qualifications in Honda industrial classes are included in training that is implemented according to the schedule determined by the industry and obtain certificates or training certificates, (4) The implementation of fieldwork practices is carried out in official workshops whose placement is on schedule arranged by PT Mitra Pinastika Mulia HONDA Distributor Sidoarjo and obtains a certificate from the industry, and (5) the implementation of TBSM Expertise Competency Test is carried out in class XII with external testers from official workshop instructor Ahass Honda (Slamet, 2017).

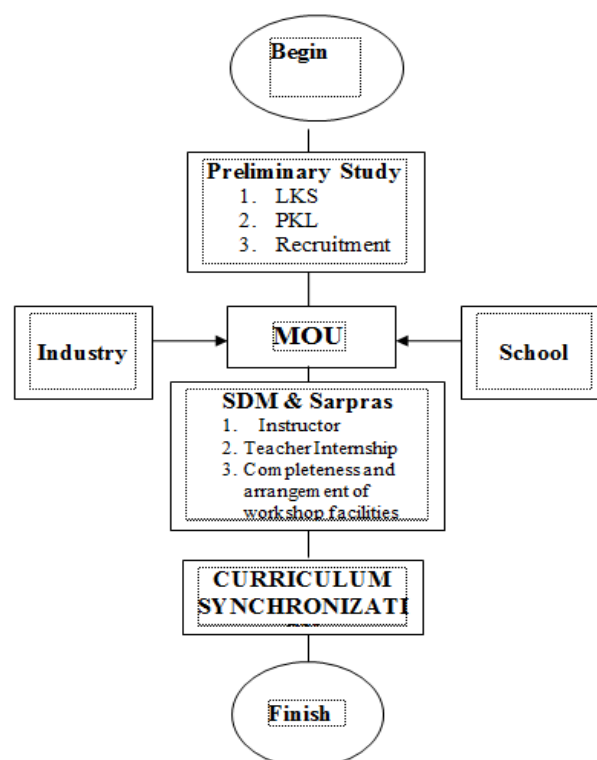
## **II. Research Method**

This study uses qualitative research to understand phenomena about what the subject of the study experiences holistically, and by way of description in the form of words and language, in a special context that is natural and by utilizing various scientific methods (Moleong, 2007: 6). Bogdan and Biklen in their book *Qualitative Research for Education* as presented by Sugiyono mentioned there are five characteristics of qualitative research, namely: (1) Qualitative research is done with a natural background (the natural setting) as a

direct data source and researchers as key instruments, (2) Is deskriptif that describes certain situations or data collected more in the form of words or answers than numbers, (3) Pay more attention to the process than the results or products alone, 4) In analyzing data, qualitative research tends to use inductive methods, and 5) Meaning is essential to research. The natural approach to the study was used to descriptively disclose data from informants with techniques of dealing directly with people about what they were doing, feeling, and experiencing to focus on the research. While the type of research used is field research (field research). The research was conducted at SMKS Veteran 1 Tulungagung of East Java province on Competence of Engineering and Motorcycle Business Expertise.

### III. Result and Discussion

#### 3.1. Planning



**Figure 1.** Planning

| Variabel | Case Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| planning | <p>a. Teaching Factory preparation process</p> <p>The process of implementing the Teaching Factory learning program at SMKS Veteran 1 Tulungagung begins with the activeness of the school in participating in skill competition activities held by the industry, as well as the implementation of street vendors in the official workshop of AHASS Honda Motor. In addition, the school is also active in participating in the recruitment activities of vocational graduates held by PT MPM Honda Distributor Sidoarjo. Then both parties held a Cooperation MOU in an effort to improve the quality and quality of learning by carrying out the Teaching Factory learning program at SMKS</p> |

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Veteran 1 Tulungagung.

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b. Preparation of teaching resources

Preparation of teaching resources carried out in an effort to implement the Teaching Factory learning program at SMKS Veteran 1 Tulungagung include: (1) Productive teaching internship tbsm competence competence about 1-2 months, (2) Multilevel training ranging from basic to advanced level with level 1 / Bronze training level, Level 2 / Silver training, and Level 3 / Gold training, and (3) New technology training honda motorcycle.

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c. Preparation of instructors from the industry

In the implementation of human resource improvement, mechanical instructors at the regional level or at the central level carry out coaching on productive teachers or learners. Tbsm's productive teaching internship program is a coaching conducted by instructors from the industry. In addition, basic level training and advanced training are also fostered by instructors from the industry where directly carried out by central instructors at MPM Learning Center Sidoarjo. In addition, basic and advanced level training (Level 1/Bronze training, Level 2/Silver training, and Level 3/Gold training) is fostered by MPM Learning Center Sidoarjo center instructors. Honda's new motorcycle technology training is also being scouted by instructors from the industry. For learners who are carrying out street vendors are also guided and fostered by instructors from the official workshop of AHASS Honda.

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d. Preparation of facilities and infrastructure resources

Preparation of facilities and infrastructure includes: (1) Practice room, and (2) TBSM Competency Competency practice equipment adapted to industry standards of PT MPM Honda Distributor Sidoarjo. So that the implementation of the Teaching Factory learning process can run smoothly and be able to improve the skills of learners in TBSM Skills Competence.

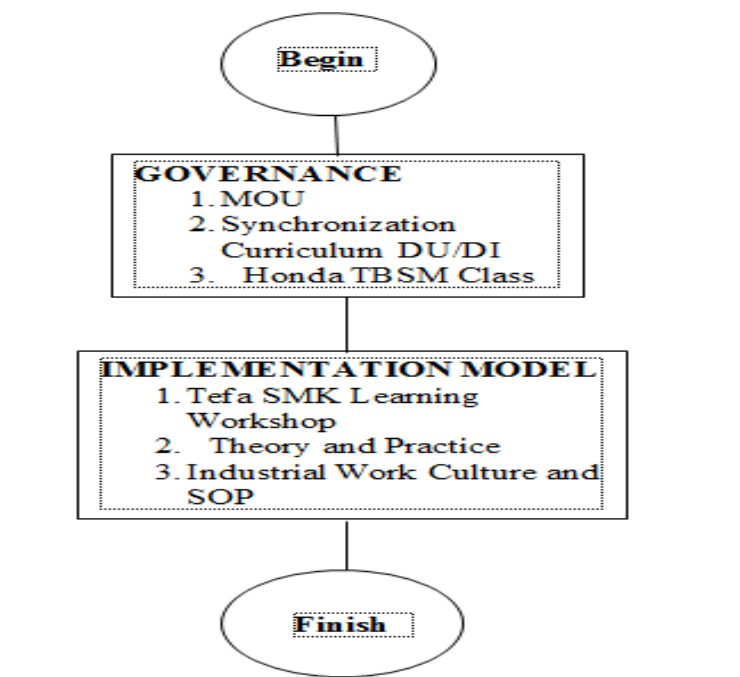
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e. Curriculum preparation

Curriculum development in vocational schools is very important to be implemented, this aims so that the curriculum in TBSM Expertise Competence is in accordance with industry standards. Therefore, between the school and the industry to synchronize the TBSM Competency Expertise curriculum. So that for the learning process Teaching Factory can improve the skills of learners and can produce graduates who are ready to work in accordance with industry standards and independent entrepreneurship. In this case the industry that plays a role is from PT MPM Honda Distributor Sidoarjo. So that it will be printed skilled personnel who can go to the world of work in accordance with industry standards.

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### 3.2. Organizing

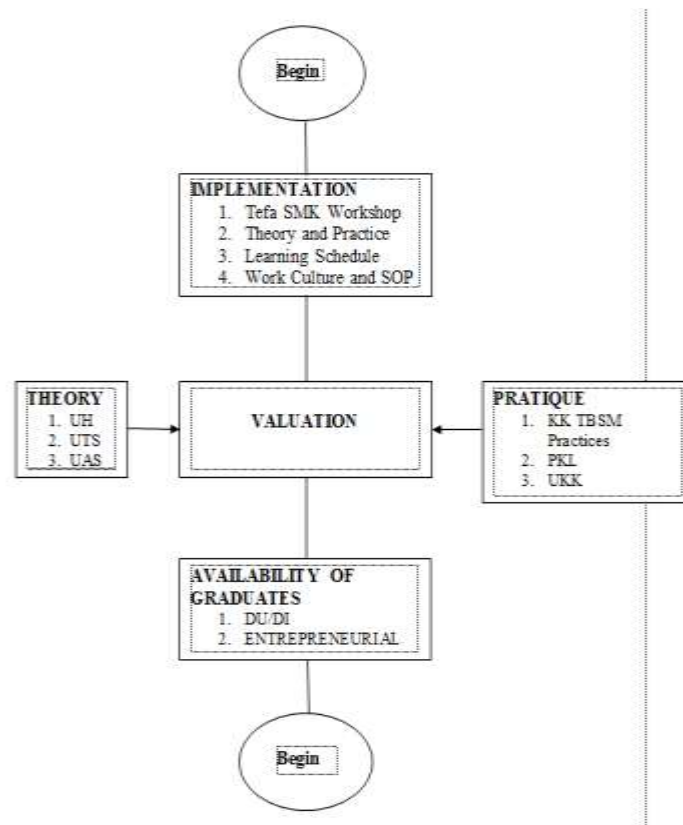


*Figure 2. Organizing*

| Variabel   | Case Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| organizing | <p>a. Teaching Factory Governance<br/>The condition of the number of students of one class between 25-36 students with a HONDA Class curriculum synchronized with the school curriculum. With Teaching Factory learning, TBSM Expertise Competency learners are expected to be competent in the field of TBSM. So that in addition to working according to their competence, it is also able to self-employment.</p> <p>b. Period of teaching factory cooperation<br/>The implementation of the MOU period of cooperation between the two parties is 3 years, which can be extended in accordance with the understanding of both parties. When the cooperation MOU has expired, both parties evaluate and can stop or resume cooperation.</p> <p>c. Teaching Factory implementation model in schools<br/>The learning model of the Teaching Factory program at SMKS Veteran 1 Tulungagung is carried out in educational units both theory and practice in accordance with industry standards. In this case, students of Class XI TBSM are also given knowledge of industrial work culture as well as workplace safety.</p> |



### 3.3. Actuating



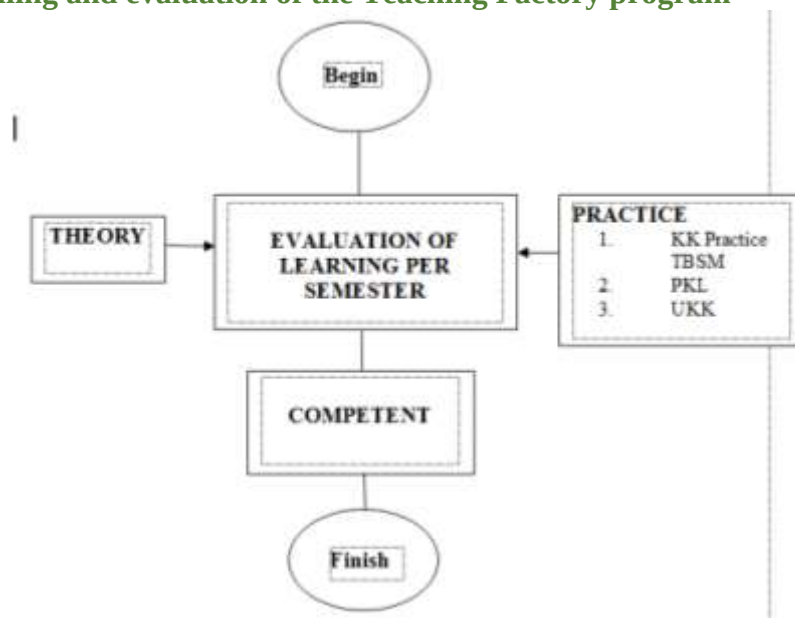
**Figure 3.** Actuating

| Variabel                              | Case Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pelaksanaan (Actuating) dan Penilaian | <p>a. Implementation of learning and assessment of Teaching Factory for theoretical subjects in schools. Assessment of theoretical learning is carried out by teachers of normative, adaptive or productive subjects. The implementation is in accordance with the schedule that has been made in semester programs and annual programs in the education unit. The assessment is in the form of daily repeats, UTS or UAS.</p> <p>b. Implementation of Learning and Assessment Teaching Factory for practical subjects in schools. Assessment of Teaching Factory practice for TBSM Competency practice subjects is carried out in every basic competency. And conducted by productive teachers of TBSM Keahliah Competence. So that it will be known the practical ability of each learner.</p> <p>c. <i>Implementation of industrial/prakerin work practices. The process of assessing street vendors in the industry is carried out by industry supervisors, for the education unit to conduct monitoring that is carried out periodically to find out the development of learners carrying out street vendors. The assessment includes an assessment of attitudes, knowledge and skills in implementing street vendors in the business world and the industrial world. So it is expected that learners get coaching and education both hard skills and soft skills.</i></p> |



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- d. Implementation of Competency Test of Expertise / UKK and certification. The Competency Test of Expertise conducted by SMKS Veteran 1 Tulungagung was conducted in Class XII semester 2 in accordance with the schedule regulated by the Directorate of Vocational Development. UKK TBSM involves internal testers and external testers from DU/DI. Learners who are declared competent will get a certificate of competence recognized by the industry. For incompetent learners are given the opportunity to relearn and re-examine competence until getting a competent statement from the education unit and the industry. Students who are declared competent get a certificate of competence signed by both parties.
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- e. The availability of graduates before and after there is a Teaching Factory. The implementation of the success of the Teaching Factory learning program in addition to being seen from the assessment of skills practices implemented can also be analyzed on the availability of graduates in the world of work or entrepreneurship graduates. After the success of the Teaching Factory learning program, the increase in the availability of graduates in the business world and the industrial world has increased significantly. The increase in the availability of graduates can be seen from the comparison before and after the implementation of the learning program.
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#### 3.4. Controlling and evaluation of the Teaching Factory program



**Figure 4.** Controlling and evaluation of the Teaching Factory program

| Variabel                                                       | Case Findings                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b>controlling and evaluating the Teaching Factory program</b> | a. Evaluation of teaching factory program planning activities. The implementation of activity evaluation refers to the planning carried out each semester, among others, the evaluation of human resources / teachers, by carrying out teacher training and curriculum preparation. In addition, planning facilities and infrastructure that need to be prepared.                                                      |
|                                                                | b. Evaluation of the organizing activities of the Teaching Factory program. The implementation of evaluation activities has been carried out properly in accordance with the expected planning. The implementation of program evaluation / activities is carried out gradually every semester and if there are obstacles held discussions with regard to the right solution according to the situation and conditions. |
|                                                                | c. Evaluation of teaching factory program assessment activities. The implementation of assessment evaluation can be done in the process of learning theory or practice, the implementation of prakerin / PKL or UKK. So the process needs to be implemented gradually. And it is expected that all students are able and competent.                                                                                    |

### 3.5. Supporting factors and inhibiting the implementation of Teaching Factory

| Variabel                                                                 | Case Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supporting factors and inhibiting the implementation of Teaching Factory | a. Internal supporting factors for the implementation of teaching factory. Internal supporting factors of the activity include: 1) The school always supports by completing the required facilities and infrastructure, 2) Learning modules from industry as teaching modules, 3) All school residents whether principals, staff, teachers, employees or learners, 4) Learners with high enthusiasm follow learning activities, 5) Productive teachers always support teaching factory learning program activities.   |
|                                                                          | b. <i>External supporting factors for the implementation of teaching factory. Industry party PT Honda MPM Distributor Sidoarjo provides full support and provides the needs needed by the school including 1) Development of learners' competencies, 2) Synchronization of curriculum, 3) Teacher internship, 4) Guest teacher, 5) Street vendors and other activities. So that it can be concluded that the business world and the industrial world are very supportive with teaching factory learning programs.</i> |

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- c. Internal inhibiting factors in the implementation of teaching factory. Inhibiting factors in this activity program include: 1) Limited land, 2) Technologically advanced practice equipment needs to be added so that learners' competencies continue to increase, and 3) Expansion and better spatial arrangement so that learners are more comfortable in absorbing subject matter.
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- d. External inhibiting factors of teaching factory implementation. External inhibiting factors include: 1) Comparison between students with street vendor places in official Honda workshops is limited, 2) Street vendor time if simultaneously with other vocational schools make it difficult for street vendor workshops so that it needs to set the PKL time, 3) The implementation of street vendors outside the city needs special handling because parents do not allow 4) There is a simultaneous time when monitoring prakerin with teacher learning time.
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### 3.6. Benefits of Teaching Factory

| Variabel                            | Case Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Benefits of Teaching Factory</b> | a. Benefits to the industry. Benefits for the industry include: 1) The industry can increase promotion / image to the community, when carrying out street vendors can screen students who are eligible to be used as workers in DU / DI, 2) The industry can carry out the recruitment of vocational graduates who are skilled and ready to work so that the industry does not need to spend large costs for recruitment, 3) The industry can directly choose street vendors who look skilled, so that later the student can be withdrawn to work at the first street vendor.                                                                           |
|                                     | b. Benefits for Vocational High Schools. The implementation of Teaching Factory learning provides several benefits, including: 1) The availability of graduates is expected to continue to increase, improve school promotion, some equipment is assisted by DU / DI and teaching modules are also given from DU / DI to the school, 2) There are some equipment used in teaching factory practice workshops from DU / DI, school promotion is expected to also increase, 3) The availability of graduates increases, school promotion increases, some equipment is assisted by DU / DI and teaching modules are also given from DU / DI to the school. |
|                                     | c. Benefits for learners. Benefits for learners. Improve hard skills and soft skills in accordance with what the industry wants. Learners have the provision of campaign both theory and practice so that after graduation they are able to penetrate the world of work and entrepreneurship. Establish work communication that is in accordance with the industry culture.                                                                                                                                                                                                                                                                             |

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## IV. Conclusion

Based on the results of the discussion, some conclusions can be drawn as follows:

1. Learning learning factory is very effective in efforts to increase the motivation of learning learners so as to improve the quality of graduates by involving the industry.
2. Teaching factory learning can improve the hard skill and soft skills of learners in preparation for the world of work in accordance with industry standards and able to print graduates for entrepreneurship in accordance with their competence.
3. With well-managed teaching factory management, the quality of learning in educational units is increasing and in accordance with industry standards. Whether viewed from facilities and infrastructure, the learning process that has been synchronized, work culture or also pay attention to industry work safety standards.

## References

- Amirin, T. M. (2013). *Manajemen Pendidikan*. Yogyakarta: UNY Press.
- Amri, Sofan, Elisah, Setyono, T. &, & Ari, H. (2011). *Strategi Pembelajaran Berorientasi KTSP*. Jakarta: Prestasi Pustakaraya.
- Arifin, & M., B. (2012). *Manajemen Sarana & Prasarana Sekolah*. Yogyakarta: Ar-Ruzz Media.
- Arikunto, S. (1988). *Organisasi dan Administrasi Pendidikan Teknologi dan Kejuruan*. Jakarta: Depdikbud Dikti.
- ATMI-BizDec. (2015). *Teaching Factory Coaching Programme*. Jakarta: Kemendikbud.
- Azizah, Murniati dan Khairuddin. (2015). Strategi Kerjasama Sekolah dengan Dunia Usaha dan Dunia Industri (DU/DI) dalam Meningkatkan Kompetensi Lulusan Pada SMK Negeri 3 Banda Aceh. *Jurnal Administrasi Pendidikan*, (Online), Vol 3, No. 2, Hal. 151, (<http://www.jurnal.unsyiah.ac.id/JAP/article/view/2569>), diakses tanggal 15 September 2017.
- Bogdan, R.C, Biklen, S.C, (1982). *Qualitatif Researc for Education an Introdction to Theory and Methods*. Boston London Sydney Toronto: Allyn and Bacon, Inc.
- Burhanuddin. (1994). *Analisis Administrasi Manajemen dan Kepemimpinan Pendidikan*. Jakarta: Bumi Aksara.
- Creswell, J. W., & Clark, V. L. P. (2007). *Designing and Conducting Mixed Method Research*. California: Sage Pub.
- Daryanto, (2016). *Media Pembelajaran: Peranannya Sangat Penting dalam Mencapai Tujuan Pembelajaran*. Yogyakarta: Gava Media
- Dadang. (2011). Model Pembelajaran Teaching Factory untuk Meningkatkan Kompetensi Siswa dalam Mata Pelajaran Produktif. *Jurnal Ilmu Pendidikan*: Jilid 17, Nomor 4, Februari 2011, hlm. 270-278.
- Direktur Pembinaan Sekolah Menengah Kejuruan. (2016). *Penetapan SMK yang Berpotensi Untuk Dikembangkan menjadi SMK Rujukan*. Jakarta: Kemendikbud
- Djarmiko,dkk. (2013). *Modul Pendidikan Teknologi Dan Kejuruan*. Yogyakarta: Universitas Negeri Yogyakarta
- Direktorat Pembinaan Sekolah Menengah Kejuruan. 2019. *Model Pengelolaan Teaching Factory Berbasis Potensi Sekolah dan Wilayah/Geografis*. Jakarta: Direktorat Pembinaan Sekolah Menengah Kejuruan

- Direktorat Pembinaan Sekolah Menengah Kejuruan. 2017. Tata Kelola Pelaksanaan Teaching Factory. Jakarta: Direktorat Jenderal Pendidikan Dasar dan Menengah Kementerian Pendidikan dan Kebudayaan
- Direktorat Pembinaan Sekolah Menengah Kejuruan. 2015. Panduan Penilaian Pada Sekolah Menengah Kejuruan. Jakarta: Kemendikbud.
- Direktorat Pembinaan Sekolah Menengah Kejuruan. 2017. Pedoman Penyelenggaraan Uji Kompetensi Keahlian SMK Tahun Pelajaran 2016/2017. Jakarta: Kemdikbud.
- Eveline. 2010. Teori Belajar dan Pembelajaran. Bogor: Ghalia Indonesia
- Fajaryati, N. 2012. Evaluasi Pelaksanaan Teaching Factory di SMK. Surakarta: Pendidikan Vokasi
- Hadam, S., & Ariyadi, A. 2017. Strategi Implementasi Revitalisasi SMK. Jakarta: Direktorat Pembinaan Sekolah Menengah Kejuruan.
- Hidayat. 2015. Model Pembelajaran Teaching Factory Enam Langkah (TF-6 M). Bandung: Penerbit Press Bandung
- Ismaya, B. 2015. Pengelolaan Pendidikan. Bandung: Refika Aditama.
- Hadlock, H. et al. 2008. From practice to entrepreneurship: rethinking the learning factory approach. Proceeding of the 2008 iajc ijme international conference, ISBN 978-1-60643-379-9
- Hakim. 2012. Dasar-dasar Manajemen Pendidikan. Jambi: Timur Laut Aksara
- Isgoren, N.C., Cinar, A., Tektas, N., Oral, Bekir., Buyukpehlivan, G., Ulusman, L., Oznaz, D., Polat, Z. & Uzmanoglu, S. 2009. The Importance of Cooperation Between Vocational Schools and Industry. Procedia Social and Behavioral Science. 1313-1317.
- Kuswanto, A. 2014. Teaching Factory Rencana dan Nilai Enterpreneurship. Yogyakarta: Graha Ilmu.
- Miles, M.B., & Huberman, A.M. 1992. Qualitatif Data Analisis London: Sage Publication.
- Moleong, L.J. 2007. Metode Penelitian Kualitatif. Bandung: Remaja Rosdakarya.
- Mulyana, Metodologi Penelitian Kualitatif (Paradigma Baru Ilmu Komunikasi dan Ilmu Sosial Lainnya), Bandung, PT. Rosdakarya, 2010.
- Mulyasana, D. 2011. Pendidikan Bermutu dan Berdaya Saing. Bandung: Remaja Rosdakarya Offset
- Munthe, A.P. 2015. Evaluasi Program di Institusi Pendidikan: Sebuah Pengantar, Pengertian, Tujuan dan Manfaat. Scolaria. 2 (5). 1-14.
- Mutohar, P. 2013. Manajemen Mutu Sekolah: Strategi Peningkatan Mutu dan Daya Saing Lembaga Pendidikan Islam. Jogjakarta: AR-Ruzz Media.
- Nasution, Metode Research (Penelitian Ilmiah), Jakarta, PT. Bumi Aksara, 2006
- Nuriyah, Nunung. 2014. Evaluasi Pembelajaran: Sebuah Kajian Teori. Edueksos. (1) 3. 73-86.
- Nurharjadmo, Wahyu. 2008. Evaluasi Implementasi Kebijakan Pendidikan Sistem Ganda di Sekolah Kejuruan. Jurnal Spirit Publik. Vol 4, No. 2. Hal 215-228.
- Peraturan Pemerintah Nomor 11 Tahun 2005 Tentang Standar Nasional Pendidikan.
- Peraturan Menteri Pendidikan Nasional Nomor 20 Tahun 2007 Tentang Standart Penilaian Pendidikan.
- Peraturan Pemerintah Republik Indonesia Nomor 14 Tahun 2015 Tentang Sistem Pendidikan Nasional.
- Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 23 Tahun 2016 Tentang Standart Penilaian Pendidikan.

- Peraturan Menteri Perindustrian Nomor 3 Tahun 2017 Tentang Pedoman Pembinaan dan Pengembangan Sekolah Menengah Kejuruan Berbasis Kompetensi yang Link and Match dengan Industri.
- Qona'ah. 2018. Dasar Manajemen Bisnis. Jakarta: Universitas Bina Sarana Informatika.
- Ramadhani, A.V. (2015). Kontribusi keterlibatan siswa di teaching factory dan pelayanan bimbingan karier terhadap motivasi berwirausaha serta dampaknya pada kesiapan berwirausaha. *Jurnal teknologi, kejuruan, dan pengajarannya*, Vol 38, No 2.
- Ratnawulan, Rusdiana. 2014. Evaluasi Pembelajaran. Bandung: Pustaka Setia.
- Saptono, J. 2015. Pengelolaan Kelas Standart Industri Pada Paket Keahlian Sepeda Motor SMK Muhammadiyah 4 Boyolali. Naskah Publikasi Ilmiah. Surakarta: Pasca Sarjana Universitas Muhammadiyah Surakarta.
- Sarinah. 2017. Pengantar Manajemen. Yogyakarta: CV Budi Utama.
- Shinta. 2019. Teaching Factory Inovasi Pembelajaran Sekolah Menengah Kejuruan di Indonesia. Lhokseumawe Aceh: Sefa Bumi Persada.
- Sihotang. 2020. Buku Materi Pembelajaran Pengembangan Pembelajaran. Jakarta: UKI Press.
- Slamet, M., Yoto, & Widiyanti. 2017. Studi Pengelolaan Kelas Honda Pada Program Keahlian Teknik Sepeda Motor Di SMK Negeri 9 Malang. *Jurnal pendidikan Profesional*. 6 (2). 241-242.
- Siswanto, B. T. 2011. Pendidikan Vokasi, Work-Based Learning, dan Penyelenggaraan Program Praktik Pengalaman Lapangan. FT UNY: Yogyakarta.
- Siswanto, I. 2015. Faktor Pendukung dan Penghambat Pelaksanaan Unit Produksi di SMK Daerah Istimewa Yogyakarta. *Jurnal Penelitian dan Pengabdian Masyarakat (PPKM)*. (2) 2. 1-10.
- Sonhadji, A. 2014. Manusia, Teknologi dan Pendidikan. Malang: UM Press.
- Subdit Kurikulum PPG Dalam Jabatan. 2019. Evaluasi Pembelajaran. Jakarta: Kementerian Pendidikan dan Kebudayaan
- Subdit Kurikulum Direktorat Pembinaan SMK. 2015. Panduan Pelaksanaan Teaching Factory. Jakarta: Direktorat Jenderal Pendidikan Dasar dan Menengah Kementerian Pendidikan dan Kebudayaan
- Sudira. 2017. TVET Abad XXI Filosofi, Teori, Konsep, Dan Strategi Pembelajaran Vokasional. Yogyakarta: UNY Press Universitas Negeri Yogyakarta
- Sugiyono, Memahami Penelitian Kualitatif, Bandung, Alfabeta, 2005
- Sugiyono. 2012. Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R & D. Bandung : Alfabeta
- Ulfatin, N. 2013. Metode Penelitian Kualitatif di Bidang Pendidikan: Teori dan Aplikasinya. Malang: Bayumedia Publising.
- Undang-undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional.
- Undang-undang Nomor 20 Tahun 2013 Tentang Sistem Pendidikan Nasional.
- Universitas Negeri Malang. 2017. Pedoman Penulisan Karya Ilmiah. Malang: Universitas Negeri Malang
- Utomo, S., Yoto, & Widiyanti. 2017. Partisipasi Industri dalam Rekrutmen Tenaga Kerja pada Kelas Industri Rekayasa di SMK PGRI 3 Malang. *Jurnal Pendidikan Dasar dan Menengah*. (2) 3. 293-303.
- Uzmanoglu, S., Isgoren, N.C., Cinar, A., Tektas, N., Oral, B., Buyukpehlivan, G., Ulusman, L., Oznaz, D., & Polat, Z. 2010. Evaluation of Educational and Technical Structure at Vocational Schools. *Procedia Social And Behavioral Science*. 3447-3451.

- Watisin, W., Ismail, N. Z., & Hashim, M. H. M. 2015. The Problem of Bilateral Relations Between Educational Institutions and Industrial Committee Towards Work-Based Learning in Malaysia. *Procedia Social And Behavioral Science*. 352-358.
- Wena, M. 1996. Pendidikan Kejuruan Sistem Ganda. Malang: Proyek Operasi dan Perawatan Fasilitas IKIP Malang.
- Wicaksono, D.E. 2017. Implementasi Pelaksanaan Kurikulum Kelas Industri di SMK Muhammadiyah 1 Kepanjen Kabupaten Malang. Malang: FT UM
- Wijaya. 2016. Dasar-dasar Manajemen Pendidikan. Medan: Perdana Publisng
- Yin, Robert K. 2009. Studi Kasus Desain dan Metode. Penerjemah: M. Djauzi Mudzakir. Jakarta: Bumi Aksara.
- Yoto, 2014. Model “Diklastri” Sebagai Alternatif Meningkatkan Mutu Lulusan SMK. *Jurnal Pendidikan Sains*. 2 (3). 125-131.