

Learning system management based on teaching factory in Indonesia

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Abstract

Aim: The study's overarching purpose is to describe 1) The Teaching Factory-inspired classroom environment at SMK Muhammadiyah 1 Klaten and 2) The SMK Muhammadiyah 1 Klaten faculty's use of Teaching Factory-inspired professional development activities. Three) SMK Muhammadiyah 1 Klaten student' Teaching Factory-inspired learning characteristics.

Methodology: The methodology of this study is qualitative, and it takes an ethnographic approach. The students of SMK Muhammadiyah 1 Klaten conducted this study. This study focuses on SMK Muhammadiyah 1 Klaten's school administrator. Interviews, observations, and written documentation were used to compile the files. We use interstates analysis, arranged file analysis, and unarranged file analysis to examine files. A file validation test employs credibility, transferability, confirmability, and dependability.

Findings: The study found that 1) SMK Muhammadiyah 1 Klaten's management of education is improving service to stakeholders through the implementation of a learning strategy based on the principles of Teaching Factory, and 2) The educators at SMK Muhammadiyah 1 Klaten have completed a training program based on Teaching Factory, 3) Through the educational process, students acquire the knowledge, character traits, and abilities they need to enter the workforce or launch a successful business upon graduation.

Novelty/Implications: This research uncovered new information about the management of educational systems, especially the management of the teaching factory, which is significantly more effective and efficient, especially at the Vocational High School level.

Key Words: Teaching Factory, Management, Learning System

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INTRODUCTION

Along with the country's rapid economic growth, Indonesia has also made strides to improve the quality of its human resources. Human resource development relies heavily on the quality and quantity of human capital, and education must lead in both areas. If we want our students to be qualified, competent, and more competitive in the job market, we must put in the time and effort to do this right.

According to Article 20 of the National Education Act of 2005: "To adapt to the ever-evolving needs of the local, national, and global communities, national education systems must be able to guarantee all students access to a high-quality education, improve the effectiveness of management and learning, and effectively manage educational resources. A well-organized, purposeful, and long-term effort to improve education is thus required" (Ministry of National Education).

The Vocational High School, or VHS for short, is one of the formal education units which organizes vocational education at the secondary education level as a continuation after SMP (Junior High School), MTs, or another equal level, as stated in Government Regulation Number 17 the Year 2010 regarding the management and administration of education.

Because of its role in producing skilled and competent workers, Vocational High Schools must be in sync with the business requirements. Students at the Vocational High School must be prepared to enter a job market where the number of college graduates far outnumbers the number of available jobs. Therefore, developing its human resources should be a top priority to boost the caliber of its graduates. Decreased skilled labor productivity can be directly attributed to the poor quality of graduates from vocational high schools. To adapt to the changing needs of the local, national, and global communities, the management must ensure that all students have access

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to a high-quality education, that teachers are given the resources they need to help their students learn, and that educational institutions are managed effectively. There has been a decline in the industry’s trust in recent graduates of vocational high schools, so they have become only marginally engaged. Management in vocational education institutions is becoming increasingly difficult for several reasons, one of which is the ever-evolving nature of curricula. As a result of these factors, Vocational Institutions are ill-equipped to produce enough graduates with the necessary skills.

Table 1: Unemployment Rate Population Age 15 Years old and over by Educational Level from the Total Workforce as many as 125.44 million

	SD (Elementary School)	SMP (Junior High School)	SMA (Senior High School)	SMK (Vocational High School)	D1,2,3 (Diploma)	University
2016	2.88%	5.75%	8.73%	11.11%	6.04%	4.87%

Source: 2016 © Databooks, Katadata Indonesia

Table 2: The overview of VHC state according to the school status in Indonesia in academic year 2016/2017

Public School		Privat School		Total
Amount	%	Amount	%	
3.434	25.94	9.082	74.06	13.236

Source: Statistics Education

As a school for future workers, VHS is responsible for investing heavily in cultivating strong Human Resources (HR). Good management is essential for producing quality results. The word "management" originates from the phrase ‘to manage’, which means "to manage" or "to administer" (Rohiat 2008, p. 14). To do so, VHS must place a premium on creating an education system that focuses on producing truly professional graduates, who have a strong work ethic, are disciplined, and are committed to preserving Indonesian culture. A system focused on the needs of the industry, with an emphasis on learning approaches and a suitable curriculum, is the best bet for making this a reality. The industrial world, both the end goal of the VHC’s instructional process and its acquired knowledge, possesses a unique personality and context. Thus, it is imperative that educational institutions offering vocational training be capable of tailoring their teaching methods to meet the needs of the business world. All aspects of the educational process, from input to process to final product, are included in the quality assessment. While this is completed, many SMKs still employ the double system approach to education, with students only doing internships with companies for two months. This results in students gaining minimal skills and experience.

For the reasons stated above, the author of this study conducted a site visit to SMK Muhammadiyah 1 Klaten to gather information for an analysis of the Teaching Factory learning management system. The research presented here aims to shed light on the management of education systems and, more specifically, the management of teaching factories, which are significantly more effective and efficient, especially in Vocational High Schools.

These focuses are divided into 3 sub-focuses as follows:

- What are the characteristics of the teaching factory based on the setting at SMK 1 Muhammadiyah Klaten?
- What are the characteristics of the teachers in the teaching factory based at SMK Muhammadiyah 1 Klaten?
- What are the characteristics of students learning activity in the teaching factory - based at SMK 1 Muhammadiyah Klaten?

LITERATURE REVIEW

Learning Process

Learning process is the core of educational process as a whole with the teacher as the primary role holder. In the learning process, both teacher and students together become the actors of the learning objectives achievement (Jihad and Haris 2008; Harn 2015). The learning process basically leads the students to start learning, so it does not make them smart because they have to make themselves smart in accordance with their natural intellectual ability (Chadyiwa and Mgutshini 2015; Soedijarto 2008; Syukur 2008; Tarmuchi et al. 2015).

Teaching Factory (TEFA)

Teaching factory is a learning concept in the real atmosphere, so it can be the bridge of the competence gap between industry needs and school knowledge. Innovative learning technology and productive practice is the concept of education methods oriented towards student management in the learning process to be in tune with the industry needs (Brosur 2007; Naqshbandi and Kaur 2015; Tarmuchi, Mohamed, and Ismail 2015; Yamin 2008).

Management Concepts

Purwanto (2008, p. 17); Kongmanus (2016) described that management is the process of coordinating and integrating the work activities to be completed efficiently and effectively with and through others.

According to above definition, management has three main elements, namely: (1) the purpose to be achieved, (2) the objectives can be achieved by using the activities of others, and (3) those activities should be guided and supervised. Thus, management has certain objectives to be achieved by the group or organization. While, to achieve it, we need a good plan, consistent implementation, and sustainable control so the goals can be achieved more efficiently and effectively.

Previous Studies

To enrich the treasure of this study, the author refers to some previous studies reviewed below:

Muliati (2007) in her work "Evaluation of Multiple System Education Program at VHS in South Sulawesi", stated that multiple system program needs to pay attention to three aspects: input aspect, process aspect, and output aspect. The input aspect includes the recruitment of prospective and superior students, the teachers meet adequate administrative requirements, the curriculum is developed based on industry needs, academic calendar is arranged for three years, the infrastructure is still limited, and the programs' funding is still paid by students. The process aspects show: the teachers' mastery of the learning material is good, teachers make learning evaluation, and the management of practical work is based on cooperative principal. The instructor has a good competence, and the assessment of practical work is executed by the school. The output aspect shows the graduates meet the criteria and the work absorption of the graduates is strongly influenced by the multiple system programs.

Jongn et al. (2006), "An exploration of the relationship between academic and experiential learning approaches in vocational education". The study identified two dimensions of academic learning (constructive learning and reproductive learning), and three dimensions of learning (analysis, initiative, and immersion). The constructive learning is positively correlated with the analysis, and reproduction is negatively correlated with the initiation. Cluster analysis resulted in the identification of three school-based learning orientations and three work-based learning orientations. The conclusion of the study showed that a relatively contextual learning approach can be generally applied.

Leung and McGrath (2010) explore an "effective learning model to support people Development: The Emerging Approach of The Hong Kong Institute for Vocational Education". The study findings indicate that personal development opportunities in the controlled institutions are ineffective. The study recommends the institution to make the review of the personality development training and make it more innovative (Harn 2015). The new and innovative learning strategies should be introduced both in and out of the classroom activities to facilitate the student's personality's development. The study proposes the practical guidance for teacher's personality development, and it also formulates the active learning models to support the student's personality development.

Kicken et al. (2009) "Investigated the effects of portfolio-based advice on the development of self-directed learning skills in secondary vocational education". This experimental study was designed to investigate whether supervisory meeting in which the students get specific advice on how to use the portfolio of development to monitor their progress and the future lesson plan can help them to develop their self-learning skills and improve their learning in their own field. In the first year, the students of hair stylist program in VHS were getting some specific advice. The students of this controlled group were given the better learning formulation need, selected the more suitable learning tasks, completed the more practical tasks, and obtained the certificate. According to the interview result, the students on the controlled group are claimed more effective than other groups. Guidelines on how to use the portfolio of development are provided based on Vocational school demands.

Gelili et al. (2016), “vocational education systems in Turkey and the world: New trends and problems”. The result of the study shows that the implementations related to the vocational education are Vocational High School and the teaching system, multiple apprenticeship system, and informal implementation.

Ozsagir, Bayraktutan, and Arslan (2010) “The relationship between vocational education and industrial production in Turkey (1975-2007)”. The research reveals that there is in line causal relationship between vocational education and industrial production index in Turkey for the period 1975-2007, and it is theoretically expected that there is a positive correlation between the increasing of vocational education training and the industrial production.

Pardjono (2011) in the article “industry role in SMK development” stated that the interlinking role between vocational high school and the industries will foster the development of Vocational education in Indonesia. Therefore, it is necessary to build the appropriate orientation in accordance with the common interests. The Government needs to nationalize the business and industry through the firm rules and policy.

Karmel (2007) “vocational education and training in Australian schools”. The study shows that the vocational subject has always been a part of school curriculum. Formal Vocational Education and Training (VET) in the last two years at secondary level of education has become the focused policy of the current decade. In the Australian Government context, VET in the school is defined as a recognized program that makes industry meet the qualification of Australian Qualification Framework as well as, at the same time, it also contributes to the certificate standards. The number of students undertaking the program has dramatically increased. The study also looks at the story of program characteristics, the school achievement, the labor market outcome, and it leaves some challenges.

METHODOLOGY

This is a qualitative research. Moleong (2007, p. 6) concluded that the qualitative research is a study that aims to understand the phenomenon of what is experienced by the research subject, such as subject’s behavior, perception, motivation, action, etc, holistically and descriptively in the form of words and language in a specific and natural context and by utilizing the various specific methods. This study intends to understand the learning management system of VHS by applying the teaching factory-based at SMK Muhammadiyah 1 Klaten.

This study applied an ethnography strategy. Ethnography method is a procedure that produces the descriptive data. Ethnography is used to observe the learning behaviors, the management of educational institutions and the human behavior toward the development of communication technology in the certain social and cultural settings (Harsono 2011, p. 5).

This study was conducted at SMK Muhammadiyah 1 Klaten. The location was chosen because this school has various achievements both internal and external, such as it has been standardized by ISO: 9001 since 2008, it is an RSBI (International School Stub), its accreditation is A, it has the production units, its location is strategic, it has an Internal Quality Assurance, and it won the students’ skill competition at the regency and Province level.

The research that uses ethnography description relies on the researcher state. According to Harsono (2008, p. 158) the researcher plays as a research instrument, even (s)he must be able to pretend as a student. (S)he has to select and sort the most appropriate context. When there is an opportunity to obtain an appropriate resource, then the researcher must actively propose that resource. The presence of the researcher must be clear enough to observe and to make such a deep interview.

The main data source of this qualitative research are words and real action, while the complementary data are documentation, etc. Words and action, which were taken from the observation and interview, became the main source. The main source is recorded through the written notes or via video/audio tape, photo capture or movie recording (Moleong 2007, p. 157).

There are two types of data used in this study, namely: Primary and secondary data.

This study uses data source both through written source that comes from the personal document, some note about the subject written by the researcher itself and data source from some picture that is widely used in the qualitative research for various purposes.

The resources of this study were taken with sampling approach. Generally, qualitative research uses purposive sampling and snow ball sampling technique. The resources of this study are: The Headmaster, the teacher, and the students.

In collecting the data, this study used

1. In-depth interview,
2. Observation participation, and
3. Documentation.

Harsono (2011, p. 32) explained that the main components in the process of data analysis are collecting the data, reducing the data, presenting the data, and making conclusion.

The data validity assessments in qualitative research, according to Sugiyono (2009: p. 270), include credibility test, transferability (external validity) test, dependability test, and confirmability test.

In obtaining the data validity, qualitative research uses some triangulations, namely: triangulation of source, method, confirmation and dependability (Harsono 2011, p. 36).

RESULTS AND DISCUSSION

Based on the data collection and analysis conducted during the research, the researcher got some findings in accordance with the focus of the research as follows:

The Characteristics of Teaching Factory Based in a Setting at Smk 1 Muhammadiyah Klaten

- a. The tools and equipment have met the minimum standard of teaching factory.
- b. Stakeholders of the school get enough support from the government, society, and industry.
- c. The teachers have some adequate competence and experiences but only 2.7% have a magister degree background.
- d. School has a strong TAQWA (faith and piety) that gives considerable influence on the increased awareness and responsibility of the teachers and students.
- e. The structure of production unit is not complex enough. It consists of the leader, treasurer, secretary and the implementer.
- f. Maintenance and repair are done to maintain the workshop steadily.
- g. Cooperation. School cooperates with some industries, although only local industries, but the industries become the marketing field of the school products and the cooperation is set in MoU.
- h. The products. Most of the products are made by order. There is no superior product yet.
- i. School state. The school has become an RSBI (International School Stub), certified by ISO. 9001 in 2008, got accreditation A and it is a Muhammadiyah School.
- j. The production unit. Its name is Sang Surya which means The Sun. It has produced various products but the unit is still shared with engineering workshop. Therefore it is still less effective and efficient.
- k. The Students. The students' recruitment is still selective, because the number of prospective students is quite high.
 - l. The commitment of teachers and headmaster. Teachers and headmaster are continually realizing development, both physically and non-physically, yet human resource development is still partial because it is constrained in terms of skills and trainings. While, formal education upgrading (magister level) is considered unrelated to the teaching factory.
- m. Curriculum. The school constantly combines the national curriculum, locally-oriented curriculum, and stake holder demands. It is annually evaluated.
- n. Funding. The funding sources come from school, government funding, and subsidies from the product sale.
- o. Graduates. All the students without exception pass the national examination in 2009/2010 and most of them are hired in the industry.
- p. Time. Teaching factory takes a long process. It takes more than 10 years at this VHC.
- q. Teaching factory platform. School uses the management guidelines from Provincial Education Board of Jawa Tengah, school strategic plan, and national education policy.

The Characteristics of Teacher Activity in Teaching Factory Based at SMK Muhammadiyah 1 Klaten

- a. Teachers' characters are creative, innovative, disciplined, responsible, and highly motivated because they are supported by the positive culture work, namely TAQWA (faith).
- b. Teachers' skills. The teachers join internship, internal and external training, and make such forum group discussion among them at least during school holidays.
- c. Teachers' team. Teachers are classified according to their skill and competence and they are evaluated every semester.
- d. Teachers' method. Teachers apply the teaching factory based models in learning and teaching process.
- e. Student Experiment. Industrial internship (prakerin) is a necessity, yet through the school production unit "Sang Surya". Teachers only select the students who have the adequate competence, good skill, and high motivation.
- f. Teachers' educational background. To meet the minimum standard, there are still two non-bachelor teachers and there are only as many as 2.7% of teachers who have a magister education background.
- g. Teachers' assessment. They use internal and external standard (ATMI standard).
- h. Material. Making a well-organized plan, RPP, and always making the job sheet and obeying it.
- i. Teachers' competence. Teachers do not only have one competence but more.
- j. Teachers' state. Teachers are facilitator, mediator and motivator.

The characteristics of Student Activity in Teaching Factory Based at SMK Muhammadiyah 1 Klaten

- a. Students' competence. Students have some competence because it relates to the demands of stakeholder.
- b. Students' characters. The students are disciplined, have spirit, careful, responsible, and unified.
- c. Students learning places. They learn in a classroom, in the industry partners and in the school production unit.
- d. Curriculum. Students are expected to meet the needs of stake holders.
- e. Students' learning methods. Referring to the job sheet that has been planned at the beginning, the students are expected to know the learning objectives earlier, describe the image, and master the production tools and equipment specifically.
- f. Students' learning target. After attending the class, the students are expected to produce the high quality products which meet the minimum standard and are worth it.
- g. Student assessment. Students are expected to be aware of the assessment standards, both internal and external in order to be able to follow the learning process well.

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- a. Students' competence. Students have some competence because it relates to the demands of stake holder.
- b. Students' characters. The students are discipline, having spirit, careful, responsible and unified.
- c. Students learning places. They learn in a classroom, in the industry partners and in the school production unit.
- d. Curriculum. Students are expected to meet the needs of stake holders.
- e. Students learning methods. Referring to the job sheet that has been planned at the beginning, the students are expected to know the learning objectives earlier, can describe the image, and mastering the production tools and equipments specifically.
- f. Students learning target. After attending the class, the students are expected to produce the high quality products which meet the minimum standard and worth it.
- g. Student assessment. Students are expected to be aware with the assessment standards, both internal and external in order to be able to follow the learning process well.

Discussion

From the research findings above, the research equation in SMK Muhammadiyah 1 Klaten with Miswardi and Pardjono (2013) and Ozsagir et al. (2010) is a strong relationship between vocational schools and business world and industry can help the implementation of vocational education process in Vocational High School effec-

tively. Muliati (2007) also has the same result, that learning in SMK to run effectively needs to consider several aspects, namely: input, process and output.

The difference is that research provides a more specific meaning in the relationship between school and business world and industry as the basis for the development of vocational high schools to be able to make the production unit as part of a continuous learning process. And the second difference is that the industry is also used as a partner to market products or services produced by the school, while Miswardi and Pardjono (2013) give a result that the relationship between the world of education and the business cannot be established with harmony because there is no orientation between the two. The orientation of the company is more dominantly aimed at profit only, but in the world of education, it is more towards the transfer of science and experience. In the new order, the government has tried to reconcile the two, but many programs, in turn, have not been able to produce a relationship as we expect together. Whereas in reference to the reality of today, if the two organizations are able to build the same orientation, they can produce a proud achievement. For example, in the information attached (Detikoto 2016), many vocational schools have been able to produce transportation products, communication technology, and others.

This research indicates that the trend of education that leads to the skills and experiences can influence the public interest to enter the vocational school for students. It is shown that the number of students in SMK is relatively stable and fulfilled in accordance with the criteria and demands of schools. SMK Muhammadiyah 1 is still very selective in receiving prospective students. When associated with the research of Karmel (2007), both researches have in common that the curriculum provided in vocational schools has a significant impact on education in Australia. The research conducted at SMK Muhammadiyah 1 Klaten turned out that the industry-based curriculum or stakeholders are able to provide better learning outcomes. Then in line with this, the Indonesian government in the next 3-4 years also targets the ratio of SMK with SMA to reach from 70 to 30.

While the difference with research of Karmel (2007) shows that the curriculum in vocational schools has been generally adopted to be a part of the curriculum of formal schools in Australia, whereas in Indonesia, the curriculum is still partially a part of vocational schools. Yet there are no efforts to integrate it into formal schools in Indonesia. Therefore, if it refers to Law No. 20 of 2005 on the Indonesian education system, the government should, together with the community and the world of education, conduct study and re-planning of the direction of our education. This is greatly influenced by the era of globalization that has a very strong impact on the demands of global human resources competition.

Research in SMK Muhammadiyah 1 Klaten shows that there are some similarities in efforts to provide education and better learning. Research of Kicken et al. (2009) shows that in conducting learning in vocational schools, the skill and seriousness of the students need to be prepared early and always done by mentoring and supervision, because it produces better results. In encouraging the achievement of good learning, it is necessary to consider a well-designed learning environment to help students comfort in the learning process. While the difference is research, Wendy still has not touched on the school culture, where the school culture will have a considerable impact on the learning process in vocational schools. A good culture will establish awareness in carrying out duties and responsibilities.

The findings of the research in Vocational High School of Muhammadiyah 1 Klaten indicate that there are similarities with that done by Jong et al. (2009) showing that the learning is done using the school base and the work will provide the students with the knowledge in gaining the mastery of knowledge and skills are balanced, so graduates will need a shorter time in employment.

The research in SMK Muhammadiyah 1 Klaten shows similarities research of Leung and McGrath (2010) that managing learning in vocational schools requires several considerations for the following factors: 1) Support from various stakeholders in the learning process, i.e., from community, DUDI, and government, 2) teachers' professionalism, 3) teachers' group cohesiveness in running the learning, 4) learning planning or curriculum relevant to the needs, 5) Teachers' competence and students being in accordance with learning objectives, and 6) both internal and external.

The equation in this research with Karmel (2007) is implementing the learning in Vocational High School which is effective and based on the needs of stakeholders to make the learning process work well. The difference is that learning in Vocational High School in Muhammadiyah demands that teachers can be professional, have strong

character, motivation, responsibility, discipline, and thoroughness, and have high commitment in carrying out their duties and responsibilities. Among others, to form a team of proportional teachers who will be in groups according to the skills and abilities of each teacher, the work of the teachers refers in accordance with the standards and plans that have been agreed and made together.

From the findings of research at SMK Muhammadiyah 1 Klaten, there are similarities with the research that has been done. Kicken et al. (2009), in terms of teachers to provide learning process to their students, provides portfolio development in learning. It is expected to provide the development of students' skills in following the learning process in vocational schools. Teachers are positioned as facilitators, mediators, and motivators.

For the difference in research of Kicken et al. (2009), the improvement of skills in learning of the students still uses the structured *pengawansan*, so the worry will impact the loss of students' awareness of responsibilities and duties, whereas the purpose of learning in SMK is that how we have been able to give high awareness on students' duties and responsibilities.

The findings of the research at SMK Muhammadiyah 1 Klaten indicate that there are some similarities with research that has been done by Jong et al. (2006) that learning in vocational schools will be greatly influenced by its relationship with the world of industry and business world. This is in line with The Education Act of 2005 and Government Regulation no. 9 of 2005.

While there is a difference from the research of Jong et al. (2006) that has not given details of other factors of influence in the learning process in vocational high schools. This study only tries to emphasize the importance of learning done by using two different places, schools and industry.

Similarities with Jong et al. (2006) research conducted at SMK Muhammadiyah 1 Klaten shows that: 1). Students have a balanced ability, both in terms of ability and skills, because of learning with two approaches, both in the classroom or in the field (industry), 2). Students not only know how to make products, but are able to produce products that are worth selling.

The difference is, to be able to follow the teaching-based learning process factory; 1) it is expected to have high spirits and discipline and 2) ability to work in groups. Learning is at the core of the overall educational process with the teacher as the primary role holder. In the process of learning, both teachers and students together become the implementer of learning objectives (Jihad and Haris 2008).

In building the effective learning in Vocational High School, it requires the appropriate environment to support the students to be able to develop their attitude and their desire of success. Therefore, students can study and work harder to achieve the learning goals and the success in their future life. From the above discussion, the researchers can arrange the theory of research results in accordance with each focus of research as follows:

The Setting of Teaching Factory

The caretaker of Vocational High School who applies the teaching factory should consider the balancing among 1) input, 2) process, and 3) output in the process of teaching factory. As a result, it will make Vocational High School to improve school image and have higher public trust. Business and industry will be able to develop towards more productive and efficient cooperation. Greater government support will be able to produce graduates who are ready to plunge into the world of work and society.

Teachers' Activity in Teaching Factory

If Teachers are aware to develop: 1) the knowledge, skill, and experience continuously, 2) have the strong character, 3) have and use the active learning models, then the process of teaching factory can be effective. As a result, the complex problem of learning system can be solved well.

Students' Activity in Teaching Factory

If Students are aware of and willing to try harder, 1) being an effective learner, 2) having a positive learning attitude, 3) improving the lifelong learning, then the students will be able to follow the process of teaching factory, so they will become the highly qualified graduates, having a good skill, competence, and knowledge, and ready to compete in the labor work and society.

From the above description, it can be described that the influence of factors that will affect the implementation of learning management system in Teaching Factory will produce graduates and better outcomes.

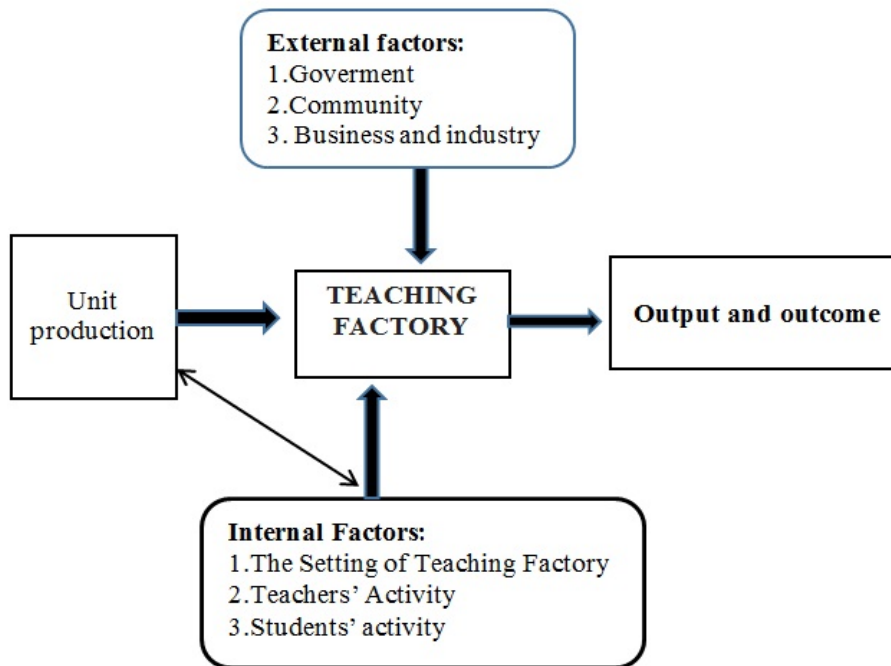


Figure 1. Learning management system in teaching factory -

LIMITED RESEARCH

The location of the research is only done in private schools, it needs further research conducted in public schools.

Informants only use headmaster, teachers and students, it is necessary to follow up with other informants such as government officials, parents, business and industry.

CONCLUSION, RECOMMENDATIONS AND IMPLICATIONS

Conclusion

The characteristics of teaching factory based at SMK Muhammadiyah 1 Klaten

In improving the service satisfactory to the stakeholders, the management of education in SMK Muhammadiyah 1 Klaten has strived to apply the teaching factory well, because this teaching model can balance among the input, process, and output. Nevertheless, the teacher administration requirements still need to be improved because the teachers, who hold the master's degree, are still limited.

The Characteristics of the Teacher in the Teaching Factory Based at SMK Muhammadiyah 1 Klaten

The teachers at SMK Muhammadiyah 1 Klaten have applied the teaching factory by considering several things namely: develop the strong character of teachers, make the lesson plan in the job sheet, and execute the learning based on industrial and consumers' needs.

The characteristics of Students' Learning Activity in Teaching Factory Based at SMK Muhammadiyah 1 Klaten

In applying the learning process of teaching factory, the students have been prepared since the beginning, both since the students' recruitment and when they are in first grade of classroom. They are required to have the competence, skill, and good personality. The school also grants them with the certain competence so that, after graduation, they are ready either to work or to be an independent entrepreneur.

Suggestion

For the headmaster

- a. The headmaster can utilize the experience of several overseas school visit as a reference to improve the quality of school
- b. (S)he can increase the funding resources by improving the selling point of the products or services.
- c. (S)he should pay more attention to balance the input, process and output in the process of teaching factory based.
- d. (S)he should motivate and facilitate the teachers to develop their skill and competence, for example to upgrade their educational degree.
- e. (S)he should maintain and make the stronger relationship with the stakeholders.

For the teachers

- a. The teachers should build the solid relationship among them in implementing the teaching factory-based, according to their own skill and competence.
- b. They should motivate themselves to develop their skill and competence by holding the training and further study.
- c. They should build a good affiliation with other teachers in other vocational schools to develop the system of teaching factory based.
- d. They should build a good communication and discussion with the students.

For the students

- a. Students should strive to be an effective learner, have a positive learning attitude, and will learn anytime.
- b. They should be aware to see the harder challenges in the future so they should maximize the learning process in the school.

For the society

- a. The society should push their outstanding sons and daughters to attend the vocational high school.
- b. They should support and provide their sons and daughters during the learning process in vocational high school.

For the government

- a. The government should allocate and distribute the education funding more evenly to all the vocational high school, because the teaching factory based system requires the adequate infrastructure and it should meet the minimum standard.
- b. The government needs to be the mediator and the bridge between the vocational schools and the industries, by making certain rules and policies. Therefore, they can produce the productive and continual relationship. Currently, there are many qualified vocational schools, even they can produce the mean of transportation, aircraft, and national car (Kiat Esemka), etc.
- c. The government needs to immediately realize the advanced program of vocational school which is called Community College.
- d. The government should support the product produced by VHS by easing the license, product or service selling as well as recognizing them as a proud national product.

For the industries

- a. The industries should actively strengthen the relationship with the schools.
- b. In producing the qualified products or services, the industries should involve the vocational students and schools.

For other researchers

- a. Other researchers can consult this study as the reference.
- b. They can enrich the result of this study with the different focus and location.

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