

Teaching Factory Management in the Edutel Sector at SMK Negeri 1 Surabaya

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ABSTRACT

The purpose of this study was to determine the teaching factory (TeFa) management in terms of planning, organizing, implementing, and evaluating. The Regional Public Service Agency in structuring the TeFa began to be implemented at SMKN 1 Surabaya in 2018. Since BLUD was implemented at SMKN 1 Surabaya, that school received financial assistance for the development of TeFa, one of the examples is the construction of Edutel in the hospitality department. This study used a survey method with data collection techniques like questionnaires, documentation, and interviews, data analysis using descriptive statistical techniques with 26 respondents, there are teachers, and students. The results showed (a) planning has been done well, such as administering time, tools, and division of tasks; (b) organizing a well-structured teaching factory, start from the head of the expertise competency, school principal, subject teacher, pptk; (c) the implementation has been done well with 83.3% of respondents stated that Edutel has been well socialized in the school and community environment, designed and implemented based on actual work procedures and standards. 84% of respondents stated that the learning process in the field of Edutel is learning by doing, improving students' soft skills, developing and sustainably implementing business-based learning patterns. 77% of respondents stated that the implementation of TeFa in Edutel carries out big data literacy, teaches critical, creative, communicative thinking skills improves skills in market research. 69.5% of respondents stated that Edutel activities are supported by the industrial world. The standard error value less than 0.15, indicates that the total average value of the respondents is close to the true value. It has a standard deviation less than 0.8 which indicates a low standard deviation value, so the data approaches the average value. Has an average sample variant less than 0.6; (d) Evaluation of the Teaching Factory in Surabaya has been carried out by involving all members of Teaching Factory learning, the principal, the head of an expertise competency, teachers, and employees.

Keywords: *Edutel, Evaluation, Planning, Organizing, Implementing, TeFa*

1. INTRODUCTION

The status of BLUD (Regional Business Service Agency) for SMK (Vocational High Schools) with TeFa (Teaching Factory) is considered the most appropriate, compared to PNBP or BUMN status, everything that related to TeFa production such as the use of state facilities, income, and financial expenditure independently can be done. The benefits of implementing BLUD in SMK are Financial Management Flexibility, Improved Human Resources Quality, Improved Quality of Learning, Improved Quality of Facilities and Infrastructure, Character Strengthening Education, Enhanced Collaboration. If SMKN as a UPTD has become a BLUD, the flexibility of PP No.12 of 2019 can be implemented. BLUD has flexibility in Financial Management Patterns, Implementing BLUD in business practices can improve services to the community without

seeking profit for advance public welfare and educate people's lives. Healthy business practices the organizers of organizational functions are based on good management principles for providing quality, sustainable and competitive services. One of a method to be able the flexibility and good organizational functions are SMKN TeFa with BLUD can make collaborate with the Business World and the Industrial World.

The general definition of competence is a skill that is possessed by each individual in carrying out a task or job in a particular field, following the position that has been given. Competence is very important to be developed in every lesson in SMK [1]. High student competence can be used by vocational students to compete in business and industry [2] [3] [4]. Law no. 13 at 2003 related to employees, the definition of work competence is a work skill possessed by everyone which includes elements of knowledge, skills, and work attitudes

that are following standards.

In Indonesia, the application of the TeFa concept was introduced in SMK in 2000 in a very simple form like the development of a production unit form that has been implemented in SMK. And then the concept has improved in 2005 into an industry-based SMK development model. There are three basic forms of industrial-based SMK development categories, 1) Simple industry-based SMK development; 2) developing industrial-based SMKs that are developing, and; 3) Industrial-based vocational development that develops in the form of factories as places of learning. Then in early 2011, the development of SMK has improved with the third model becoming the development of industrial-based SMKs that developed in the form of factories as places of learning and known as the teaching factory. The factory is just a term and does not mean a factory literally, but in the form of learning, the learning is done in the practice place and not the classroom, and the practice is oriented as in real industry. The operation of this model completely combines study and work, no longer separating the place for the delivery of theory and practice [5].

Teaching Factory's teaching is a production / service- based learning concept in SMK which refers to the standards and procedures that apply in the industry and is carried out in an atmosphere like what happens in the real industry. This is following the characteristics of vocational education as mentioned [6]. namely: (1) preparing students to enter the workforce; (2) based on the needs of the world of work "demand-market-driven"; (3) mastery of the competencies needed by the world of work; (4) student success in "hands- on" or world work performance; (5) close relationship with the world of work; (6) responsive and anticipatory to technological advances; (7) learning by doing and hands-on experience; (8) requires greater investment and operational costs than general education. The teaching factory concept is combining learning and a realistic work environment and creates relevant learning experiences. "Teaching factory concept as an approach that combines the learning and working environment from which realistic and relevant learning experiences arise" [7].

Lamancusa revealed that the teaching factory concept was found because to three things [8], there are: (1) ordinary learning is not enough, (2) students gain from direct practical experience, and (3) experience Team-based learning involving students, teaching staff, and industry participation enriches the educational process and provides real benefits for all parties. The Teaching Factory's learning paradigm is based on its goal of effectively integrating educational, research, and innovation activities into a single concept, involving industry and academia. Teaching Factory's learning focuses on industrial and academic integration

through an approach to curriculum, teaching/training. Therefore, it is necessary to develop a Teaching Factory learning model by looking at various learning concepts and theories. The application of Teaching Factory learning in which the atmosphere of the learning process is designed like the real world of work [9]. Based on the introduction as described above, the problems are formulated as follows: 1. How is the planning of TeFa Edutel at SMKN 1?; 2. how to organize TeFa edutel so that it runs well ?; 3. How is the implementation and evaluation of TeFa?

2. LITERATURES

TeFa is a learning concept in a real atmosphere so that it can bridge the competency gap between industrial needs and school knowledge [10]. Innovative learning technology and productive practice are concepts of educational methods oriented towards management. Students in learning to align with the needs of the industrial world. Because most people who succeed in this world have strong motivations that drive their actions. They know well about their motivation and maintain their motivation in every action [11]. In 2020, Euis stated that in TeFa there is an interaction between teachers, industrial technicians, and students who learn using real tools, instruments, procedures, and work methods in the industry in producing goods/services that are suitable for sale with industrial product standards. Supari Mulsim stated the benefits of Teaching Factory in principle is to make students aware that in mastering skills it is not enough to train soft skills in learning, working in teams, and training interpersonal communication skills, but also have to realize direct knowledge and work training to enter the world of work significantly [12].

Lamancusa stated that the Teaching Factory concept was found due to three factors, namely: (1) ordinary learning is not enough; (2) learners gain from direct practical experience; and

(3) experiential, team-based learning involving students, teaching staff, and industry participation enriches the educational process and provides tangible benefits to all parties [8]. Teaching Factory is learning that requires students to produce products following market/consumer demands.

In 2018, Hadlock stated that the Teaching Factory has a goal, namely to realize that teaching students should be more than just what is contained in books [13]. Students not only practice soft skills in learning, learn to work in teams, practice interpersonal communication skills, but also gain direct experience and practice work to enter the world of work later. Furthermore, Moerwismadhi states that in the Teaching Factory, schools carry out production activities or service services which are part of the teaching and learning process [14]. Thus schools are required to have a factory,

workshop, or another business unit for learning activities. Following Prosser's philosophy where vocational schools will be effective if the learning process is carried out in an environment that is an imitation or replica of the actual work environment [15]. So the teaching factory program aims to bring the business / industrial environment into the school environment. Students directly carry out the same production activities as what is done in the business / industrial world. Thus students follow the same learning process as what will be experienced in the real world of work. One of the goals to be achieved from the teaching factory program is the growth of ability as an entrepreneur in the school environment. Entrepreneurs are self-employed workers with uncertain incomes [16]. This definition is an understanding of entrepreneurs in the past. At present, an entrepreneur is not only someone who opens a business, but an entrepreneur is someone who tries with courage and persistence so that his business grows [17]. Growth or change becomes a keyword for someone who can be called an entrepreneur. According to the Directorate of Technical and Vocational Education, the advantages of the teaching factory are 1. As a means of production-based training and direct practice for students, which are market-oriented; 2. Assisting in funding the costs of maintenance, facilities, and operations for education and improving welfare; 3. Develop an entrepreneurial spirit for teachers and students; 4. Developing the independent attitude and self-confidence of students through the production process program; 5. Establish better relationships with the business world and industry as well as other communities [18]. TeFa application must be done professionally. Support of HR (Human Resources), facilities and infrastructure is a part that must be continuously improved so that it can become a source of learning to improve competence or expertise for students [19]. In its management, it can apply SBM (School- Based Management) with the principles; (1) independence, (2) accountability, (3) transparency, (4) partnership, (5) participation, (6) effective, and (7) efficient [20]. The formation of TeFa management is a must so that its implementation can achieve its goals. TeFa management that is meant is the management of the teaching factory. Ricky W. Griffin, and Darmawan define management as a process of planning, organizing, and coordinating, as well as monitoring resources to achieve goals effectively and efficiently [21].

Effective means that goals can be achieved according to planning, while efficiency means that existing tasks are carried out correctly, organized, and according to schedule. The appropriate evaluation model for processing programs is the goal-oriented evaluation model, the goal-free evaluation model, the formative-summative evaluation model, the consideration description, the CSE-UCLA evaluation model, the CIPP evaluation model, the gap evaluation model [22].

From the various evaluation models mentioned above, in TeFa Edutel management, the authors use a formative- summative evaluation model. By Michael Scriven, formative evaluation is carried out during the program, while summative evaluation is carried out after the program ends or at the end of the program [22]. The reasons for choosing this type of evaluation were based on the following objectives: 1) knowing how the Teaching Factory planning process at SMKN 1 Surabaya; 2) knowing the organizational structure of the Teaching Factory at SMKN 1 Surabaya; 3) knowing how to implement the TeFa Edutel.

3. RESEARCH METHOD

This type of research used in this research is phenomenological research with a quantitative approach. The design of this research is quantitative research. According to Mukhadis, a quantitative research design is an explicit and systematic description of research plans and stages that can be replicated by both researchers themselves and other researchers [23]. Research is a representation of problem- solving that has been determined as an object of study using a scientific mindset. This research was conducted at SMKN 1 Surabaya for two months, from March to April 2021. The sources of this research included the principal, the vice-principal in the curriculum field, teachers, and students of Teaching Factory's subject in Edutels. Collecting data in this study are using interviews, observation, and documentation of 26 respondents through 37 questions with an answer range of 1 (Yes), 2 (No), 3 (Doubt). The results of the research were then processed through descriptive statistics to find out the answers from the respondents.

4. RESULTS AND ANALYSIS

The research was conducted at SMKN 1 Surabaya, carried out by the management of the Edutel Teaching Factory in the hospitality department, to develop the quality of learning at SMKN 1 Surabaya. From the results of interviews, observation, and documentation, the following results were obtained. Darmawan defines management as a process of planning, organizing, and coordinating, as well as monitoring resources to achieve goals effectively and efficiently [24].

4.1. Planning in The Teaching Factory at SMKN 1 Surabaya

In general, planning is the process of determining organizational or company goals and then clearly presenting the strategies, tactics like program implementation procedures, and operations in actions

needed to achieve overall company goals [25]. Therefore, planning in the Teaching Factory at SMKN 1 Surabaya begins with planning a work program that is adjusted to the vision and mission of the school. This work program planning is a follow-up after determining the school's vision. This planning is very important so that the school's vision can be achieved in a planned and systematic manner. This planning process is carried out by analyzing the results of the implementation and evaluation using the condition and potential analysis at SMKN 1 Surabaya. The potential analysis at this school is:

Facilities and infrastructure for the Edutel Teaching Factory in the hospitality department are closely related to the facilities and infrastructure that support the optimization of the achievement of these learning objectives. The facilities and infrastructure needed in learning are the availability of facilities that can help the smooth running of service activities, including the lodging room itself, and along with the available facilities, suitable materials to support service activities such as café units, laundry units. From the research results, the Edutel Teaching Factory has 1 lodging building called SMESA, which has 6 bedrooms consisting of 3 single bedrooms, 2 Double bedrooms, and 1 triple bedroom, comfortable front office. The state of the facilities and infrastructure in this workshop is complete according to its function.

The need for machine tools and materials has been met. This can be seen from the results of the documentation conducted by researchers. Besides that, it is also supported by documents obtained from the school, the inventory at this SMESA has been recorded properly. Talking with existing machines, of course, various obstacles make the learning process disrupted, one of which is the existence of a pretty good laundry machine grant by the local government through BLUD but its utilization is not optimal because there is no training on the operation of the tool for students.

Fund for workshop Teaching Factory. In managing this Teaching Factory, it requires funds to support practical needs. In this funding at SMESA, the government uses grants to propose tools and materials to support the practice through the BLUD budget, which has been budgeted from 2018 to the present. Meanwhile, the addition of large machines is carried out based on the need only, looking at the work program that is arranged, if you want additional machines or technological updates, then for funding, you submit a proposal to the directorate. The submission plan is written in detail, such as the name of the tool, its specifications, then the material needs to be needed which will be compiled in the RAKS (Rencana Anggaran Kegiatan Sekolah). This proves that the funding for the Edutel Teaching Factory workshop at SMKN 1 Surabaya is very much paid attention to so that the learning process runs smoothly.

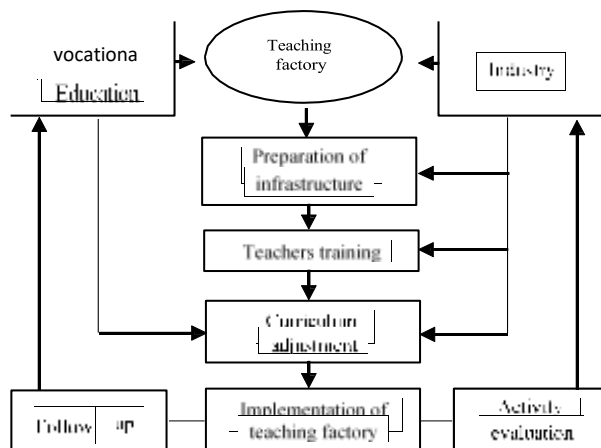


Fig 1. BLUD organizational structure at SMKN 1 Surabaya

4.2. Organizing Teaching Factory Outlet at SMKN 1 Surabaya

Planning a good work program grouping will certainly be maximized with the presence of an organizational arrangement. The results of research on organizing the Teaching Factory program at the Edutel workshop illustrate that organizing the work program for the Teaching Factory workshop at SMKN 1 Surabaya has been arranged systematically in coordination and cooperation between the head of expertise competency/head of the department who coordinates the implementation of learning, of course with the Head of the Hospitality Study Program, teachers, vocational which is then reported to the school. The head of an expertise competency coordinates members and is responsible for the implementation of practical learning in the workshop.

The duties and responsibilities are also supported by a description of the duties and responsibilities of each member. The results showed that the organization of the Edutel Teaching Factory workshop was going well. The administration system is already running well, the hotel coordinator already has a report book on the inventory of tools and reporting carried out by the coordinator in writing which can be seen in Figure 1. SMKN 1 Surabaya since 2018 has officially received BLUD. By holding a BLUD, TeFa activities at SMKN 1 Surabaya get financial assistance from the government, such as in 2018 getting approximately 800 million funds to increase surprise, 2019 increased to 900 million until now. With government assistance, TeFa activities will be more optimal. Through Figure 1, it can be seen that through vocational education and the industrial world, a Teaching Factory was created to introduce students to the industrial world. Funds from the BLUD were used to prepare infrastructure such as building construction and purchasing equipment to support TeFa activities especially edutel. The existence of training for teachers

from industrial partitions is very helpful in making school curricula to suit the industrial world. Then the results are applied in the implementation of Teaching Factory such as edutel. To maintain the quality of education, an evaluation of the PPTK is needed, the results of which will be conveyed to the principal and as material for evaluating their readiness.. At SMKN 1 Surabaya TeFa Edutel, students will carry out an internship for 6 months and study front office, housekeeping, and FNB materials. The front office covers how to welcome guests, appearance, administration. Housekeeping includes room makeup, laundry, and ironing. FNB (food and beverage) includes bartenders, baristas, waitresses, which can be seen in Figure 2. The following is the BLUD organizational structure at SMKN 1 Surabaya.

4.3. Implementation of Teaching Factory at SMKN 1 Surabaya

Implementation is one of the most important management functions because without the implementation of what has been planned and organized will never become a reality. Implementation of Teaching Factory Edutel at SMKN 1 Surabaya was carried out by grouping students based on their competencies and levels. This is in line with Hadlock, who explained that the purpose of Teaching Factory is to realize that teaching students should be more than just what is contained in books. Students 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 practice work to enter the world of work later.

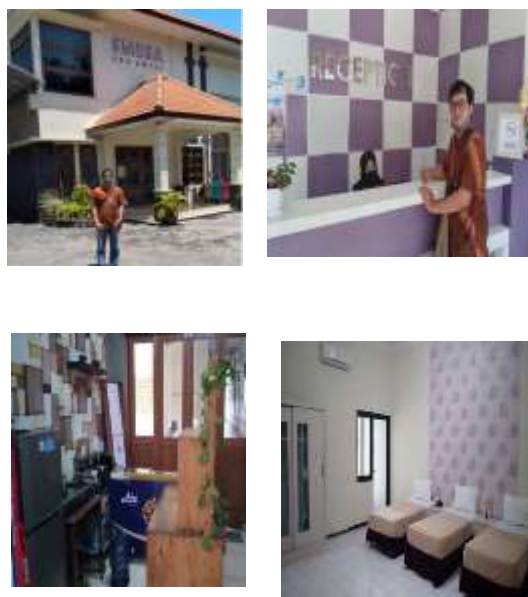


Fig 2. EDUTEL Display

In the implementation of the Edutel Teaching Factory at SMKN 1 Surabaya, several aspects underlie its implementation like aspects of HR, aspects of the partnership, aspects of facilities and infrastructure, and aspects of products. To find out about the implementation of Edutel at SMKN 1 Surabaya, interviews were conducted and questionnaires were distributed. 26 teachers and students as respondents who have answered questions via a google form, the results are Figure 1. It can be seen that the total male respondents were 12 respondents or 46.2% and female respondents were 14 respondents or as much as 53.8%.

Table I. Descriptive statistics results

Questions	Descriptive Statistics										
	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Varianc	Kurtosis	Skewness	Minimum	Max	Count
P1	1.19	0.11	1	1	0.57	0.32	7.34	2.89	1	3	26
P2	1.19	0.11	1	1	0.57	0.32	7.34	2.89	1	3	26
P3	1.12	0.08	1	1	0.43	0.19	16.03	3.97	1	3	26
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P36	1.58	0.16	1	1	0.81	0.65	-0.73	0.96	1	3	26
P37	1.58	0.16	1	1	0.81	0.65	-0.73	0.96	1	3	26

4.4. Evaluation of the Teaching Factory Workshop at SMKN 1 Surabaya

Evaluation is the whole effort of observing and implementing operational activities to ensure that these activities are following the established plans. The evaluation at SMKN 1 Surabaya was carried out by

analyzing the potential and conditions. From this evaluation, it can be used for future program planning. Various evaluation models can be used, there are goal-oriented evaluation model, goal-free evaluation model, formative-summative evaluation model, consideration description, CSE-UCLA evaluation model, CIPP evaluation model, gap evaluation model [2]. From the results of research and field studies, it can be concluded

that the evaluation of the Edutel Teaching Factory program involves all managers, including principals, teachers, and employees. Evaluation is used to make further planning. There is an evaluation which is a continuation of the planning and implementation cycle, so in the coming year planning will be better, as well as its implementation. Supporting and Inhibiting Factors for Teaching Factory at SMKN 1 Surabaya are as follows:

- a. Understanding the Teaching Factory from all parties the activity will run smoothly if all elements understand the program to be implemented. As in SMKN 1 Surabaya, all school elements were involved in the socialization of the Teaching Factory program.
- b. The curriculum that is in line with DUDI / Industry Teaching Factory is an adoption of the existing curriculum in the industry, which is to bring an industrial atmosphere into the school. SMKN 1 Surabaya is a school that prepares prospective workers who are ready to be deployed to Industry.
- c. Having qualified human resources. Teaching Factory will run well if the human resources that are owned have good professionalism and good competence.
- d. Have good practice facilities and infrastructure. Has a large hall that can synergize with the use of SMESA hotels such as for weddings that can be connected to lodging.
- e. There has been cooperation with the government through BLUD
- f. The students' enthusiasm in the Teaching Factory workshop. Students of SMKN 1 Surabaya are very enthusiastic in terms of practice, they think practice is one of developing their talents and skills.

The inhibiting factor in the Teaching Factory Edutel workshop in the hospitality department is that SMESA Hotel does not have a lot of accommodation space for the learning process, only 6 rooms, so that Tefa FNB learning cannot be maximized because FNB learning in hospitality is at least 9 rooms. To get around this, a mini cafe was created for Tefa learning. Although only 6 rooms. Room conditions in Edutel are almost close to class 3 hotels. Even the triple room is equipped with a bath so that it looks luxurious. Management of Edutel Teaching Factory, majoring in hospitality to develop the quality of learning at SMKN 1 Surabaya:

Planning in the Edutel Teaching Factory work program has been going well, such as administration is designed from the start, planning time and schedules are following the block system which is circumvented by the distribution of students. With good planning, practical activities are earnest and enthusiastic because the equipment is following industry standards whose use has been provided such as laundry machines, tables, and front office furniture, etc.

Organizing the Teaching Factory work program at SMKN 1 Surabaya has been well structured, starting from the chairman of the hospitality expertise competency, the head of the workshop, the skills competency teacher. This organizational structure involves all members of the workshop. With the division of student tasks in preparing, storing, and performing services, students feel helped and the learning process is more effective. Good organization, it can help in developing the quality of learning at SMKN 1 Surabaya.

The actuating of Teaching Factory Edutel at SMKN 1 Surabaya has been running very well, it can be seen that the process of meeting needs, tools, and materials is carried out by the head of the department and then submitted to the school principal. In the maintenance and maintenance of machines, tools and materials have been running well. Practical activities use a schedule made using a block system where learning can be carried out from beginning to end. Time-division rotation in Teaching Factory learning is also good, considering the number of students. In practical activities, the students were very enthusiastic. With good implementation, students can carry out learning activities comfortably and enthusiastically.

5. CONCLUSION

From the results of interviews with 26 respondents, it was found that 83.3% of respondents agreed that TeFa in the Edutel field had been well socialized in the school and community environment, was designed and implemented based on actual work procedures and standards. 84% of respondents answered agree that the TeFa learning process in the field of Edutel is learning by doing, improving students' soft skills, developing and sustainably implementing business-based learning patterns. 77% of respondents agree that the implementation of TeFa in the field of Edutel implements big data literacy, teaches critical, creative, communicative thinking skills, improves skills in market research. 69.5% of respondents answered that they agreed that TeFa activities in the Edutel sector were supported by the industrial world. The value of standard error or standard error of 37 questions to 26 respondents has a value of less than 0.15, this shows that the total average value of respondents is close to the true value. It has a standard deviation which is the difference between the sample value and the average, less than 0.8 which indicates a low standard deviation value, so that the data is close to the average value. Has an average sample variant of less than 0.6. the number of respondents is 26. And the majority of respondents answered 1 which means agree, but for question 34. Respondents answered yes by 46% and 46% of doubt with the question whether there are TeFa alumni in the field of Edutel who are entrepreneurs. Therefore, further research may be needed regarding tracer studies of

hospitality accommodation graduates. Supervision in the management of Teaching Factory Edutel at SMKN 1 Surabaya is carried out by an education unit that monitors the implementation of management, namely PPTK which will later be reported to KPA, namely. head. The evaluation is carried out to review the work program that has been carried out on the Teaching Factory edutel at SMKN 1 Surabaya by the school management at the end of the year. With the supervision carried out, it can develop quality in Surabaya.

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