



Optimizing the Implementation of TeFa 6M Through the Role of School Supervisors as Teacher Facilitators and Application of the Block System

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Abstract. The aims of this study was to describe: (1) the pattern of teacher development and academic supervision strategies in the form of the role of school supervisors as teacher facilitators and the application of the block system in optimizing Teaching Factory or TeFa 6M at SMK Negeri 5 Kota Bengkulu; (2) supporting factors and inhibiting factors for the role of school supervisors as teacher facilitators and the application of the block system in optimizing of TeFa 6M in SMK Negeri 5 Kota Bengkulu; (3) solutions as an effort to overcome the inhibiting factors for the role of school supervisors as teacher facilitators and the application of the block system in optimizing of TeFa 6M at SMK Negeri 5 Kota Bengkulu. The research method used in this research is descriptive qualitative. Data collection techniques through documentation techniques, observation and in-depth interviews. The data analysis technique is based on data collection by researchers by conducting data reduction and data presentation in the form of notes from the research place in the form of descriptions and reflections. The results showed that the role of school supervisors in implementing the coaching pattern with the teacher facilitators strategy in compiling and developing learning implementation plans with the TeFa 6M-based learning model and the application of the block system for majors administering TeFa in schools proved well to have theoretical, practical and effective benefits for improve the learning abilities of productive teachers or vocational teachers in the competence of Wood Craft Design and Production or DPKK, Textile Craft Design and Production or DPKT, and Dance Art implementing TeFa at SMK Negeri 5 Kota Bengkulu. This is shown by the results of the learning logs and testimonials as well as guided discussion activities between school supervisors, principals and teachers and based on TeFa implementation activities which are complemented by a learning implementation plan using the TeFa 6M-based learning model and its development at SMK Negeri 5 Kota Bengkulu and the work real product of students who have been collected.

Keywords: Block System · Optimization of TeFa 6M · Teacher Facilitators

1 Introduction

Teachers are professional educators with the main task of educating, teaching, guiding, directing, training, assessing, and evaluating students in early childhood education through formal education, basic education, and secondary education. The teacher is a human component in the teaching and learning process that plays a role in efforts to form potential human resources in the field of development [1]. In this regard, teachers need to have quite extensive knowledge [2]. Government Regulation of the Republic of Indonesia [3] concerning Industrial Resource Development states that the implementation of competency-based industrial vocational education must be equipped with a Professional Certification Agency or LSP, teaching factories, and Competency Test Sites or TUK.

Creativity and competence are one of the most important teacher qualifications [4]. If this creativity and competence is not present in a teacher, he will not be competent in carrying out his duties and the results will not be optimal. With their creativity and competence, in addition to mastering the material and being able to process learning programs, teachers are also required to be able to carry out evaluation and administration. According to the Law of the Republic of Indonesia concerning the National Education System article 39 paragraph 1 it states that educational staff are tasked with carrying out administration, management, development, supervision and technical services to support the educational process in educational units. In the explanation of Article 15 it is stated that "Vocational education is secondary education that prepares students specially to work in certain fields" [5]. It is known that the competency standards of graduates in vocational secondary education units aim to improve intelligence, knowledge, personality, noble character, and skills to live independently and attend further education in accordance with their profession.

Vocational high school as an educational institution that educates prospective workers to have superior and quality Human Resources. To achieve excellence and quality in the development of the education system, programs and/or learning models are continuously being developed, such as the implementation of the Teaching Factory or TeFa implementation program in vocational high schools. Teaching factory learning is prepared for the creation of graduates who can be absorbed by the industry [6]. To see the success of the teaching factory, a comprehensive evaluation is needed so that the strengths and weaknesses of the teaching factory that have been carried out can be identified. Teaching Factory is an approach in the world of vocational education where a learning process is designed like the world of work aimed at modernizing the teaching process of industrial practice closely [7]. The implementation of teaching factories in Vocational Schools that involve entrepreneurship teachers does not only produce creative products or recognized competency achievements but can also foster students' interest in entrepreneurship [8].

The success of implementing the TeFa learning method can simply be seen from two main indicators, namely: (1) utility and sustainability of equipment use; and (2) integration of production processes or services into teaching materials. Teaching materials intended to achieve competency are something that is multipurpose (marketable) [9]. For competency programs that do not produce products/services, they can be directed to simulations of real work situations in the field. The implementation of teaching factory learning uses a variety of learning methods, material in the direction class to job sheets

that are in accordance with industry standards [10]. Model teaching factory is one of the solutions to prepare students to have competencies in accordance with the needs of industrial competencies [11]. Teaching factory learning developed can be integrated into production units organized by schools. The objectives of TeFa learning according to the Directorate of Vocational Development are: (1) Preparing graduates who are more professional by providing modern manufacturing concepts so that they can be effectively competitive in the industry; (2) Improving the implementation of the SMK curriculum that focuses on modern manufacturing concepts; (3) Demonstrate feasible solutions to the technological dynamics of integrated efforts; and (4) Receiving technology and information transfers from industrial partners, especially in the activities of students and teachers during learning [12]. The success of the TeFa program in schools is strongly influenced by several important elements that need to be developed, namely competency standards, students, learning media, tools and equipment (facilities and infrastructure), educators (teachers), assessment of student achievement, and recognition of competence [13].

Based on the results of the interviews after the academic supervision, the teachers in general had never received detailed information about TeFa, especially how to integrate the intended learning model into the lesson plan. Recognizing the importance of the role of school supervisors in participating in ensuring the quality of graduates of their target schools, school supervisors should help productive teachers or vocational teachers at SMK Negeri 5 Kota Bengkulu who apply the TeFa learning model so that they can apply it in the right syntax, quality and purpose. This is also intended to help assisted teachers so that they can always develop themselves so that they can carry out their duties professionally so that the quality of education can continue to be improved. In this study, to help teachers apply the Tefa learning model with a block system that is actually in accordance with the syntax and objectives, the school supervisor acts as a teacher facilitator in every mentoring and training activity through guidance in carrying out daily tasks and workshop activities, thus researchers took the title: "Optimizing the Implementation of TeFa 6M through the Role of School Supervisors as Teacher Facilitators and Application of the Block System at SMK Negeri 5 Kota Bengkulu".

2 Methods

The method used to examine the problems in this study is a qualitative descriptive method. That is, all field findings that are closely related to the questions addressed are described according to reality, not making it up and will then be analyzed using a qualitative approach. Qualitative research is research that uses natural settings, with the intention of interpreting phenomena that occur and is carried out by involving various existing methods [14]. In the context of a qualitative descriptive approach, qualitative research is the main element of research design which includes the research context, study focus, research objectives, research scope and setting, theoretical perspective and literature review, and the methods used [15]. Based on the expert opinion above, qualitative research is a type of research that aims to interpret and or understand a phenomenon or symptoms regarding what is experienced by research subjects which can be from behavior, perceptions, actions, encouragement, interests, etc. how to describe it in the

form of words or a series of sentences or language in certain natural or natural contexts that still pay attention to the rules of scientific thinking. The research design developed in this research is qualitative research with interactive model analysis from [16].

The research location is SMK Negeri 5 Kota Bengkulu. This school was chosen as the research location on the grounds that this school is located in Bengkulu City where the researcher is assigned and is a school that has implemented TeFa for three competency skills, namely: (1) Design and Production of Craft Wood (DPKK), (2) Design and Production of Craft Textiles (DPKT), and (3) Dance as well as in the implementation of TeFa on the three skills competencies in this school applying a block system of subjects. This research was conducted for second semester in 2022. In this study, the subjects studied were 5 teachers in the Design and Production of Wood Craft Competency (DPKK), 5 teachers in the Design and Craft Textile Production (DPKT) while 4 teachers in the Competency of Dance Arts. The number of research subjects was 15 people.

The presence of informants in the research that has been carried out plays a very important role, therefore the researchers in this research design appointed the principal and several senior teachers in group C at SMK Negeri 5 Kota Bengkulu. The principal was chosen as the informant because the researcher considered him to be someone who could provide information, remember and consider the knowledge of teachers and their experiences as principals. Several senior teachers were also used as informants in this study because they were involved in classroom supervision activities for group C teachers administering TeFa. The researcher considered that senior teachers who had carried out classroom supervision activities who received a principal's decree to monitor, guide and provide peer assessment of the performance of teachers in group C who held TeFa could provide information to researchers.

The procedures that have been carried out in checking the validity of the data obtained are carried out by repeating several observations at the research location, focus group discussions, in-depth interviews from the results of the learning log entries and testimonials. The data analysis technique used in this study is based on the analytical model developed by Miles and Huberman [16]. The data analysis technique of this model has four interacting components, namely data collection, data reduction, data presentation, and conclusion and verification. If the conclusions are still not quite right, the researcher returns to collecting data in the field, and so on so that it forms a cycle.

3 Results and Discussion

In carrying out the noble task of being a school supervisor, so far researchers have carried out various coaching activities that are deliberately planned and continuous for target schools. To carry out one of these main tasks, the researcher carries out the supervisory function in the target schools in the form of academic supervision. Academic supervision is a supervisory function that relates to aspects of fostering and developing teachers' professional abilities in improving the quality of learning and guidance in schools. The reality of the problem is based on the results of the school supervisor's observations of the assisted teachers, particularly on the ability of the assisted teachers administering TeFa in compiling and developing learning tools for preparing TeFa-based learning implementation plans in schools which are still lacking and really concerning. Based on

the findings in the field, it turns out that there are several TeFa teachers in the productive subject group who have very limited knowledge about TeFa and TeFa-based learning models. The reason is the lack of socialization, rarely or almost never participate in training or upgrading activities on TeFa in Vocational Schools and schools providing TeFa in the vicinity of schools in the Bengkulu City area also have not been able to provide correct information about the implementation of TeFa in schools, especially the learning tools considering competence expertise in different schools.

This problem really contradicts the reality of the existence of teachers as educators who should have competence in carrying out learning according to the subjects they teach. Based on the results of interviews with teachers, the root of the problem is the teacher's lack of ability to compile and develop TeFa-based learning tools independently. Seeing this gap, researchers as school supervisors at the Vocational School level then took the initiative to provide guidance in the form of guidance and training by guiding teachers in compiling and developing TeFa-based learning tools with the work technique of school supervisors as 'Fasgur' or 'Teacher Facilitators' and fostering implementation of TeFa at SMK Negeri 5 Kota Bengkulu which implements the implementation of TeFa with the Block system through daily mentoring activities and workshop activities. This technique was chosen because researchers as school supervisors want to guide teachers according to the principle of partnership (collegial approach) teachers and school supervisors in working professionally which in the end can enable teachers individually or in groups to be able to compile and develop TeFa-based learning tools at class levels and competency skills different. The coaching work plan that will be carried out by supervisors begins with identifying and recognizing the weaknesses and strengths of the abilities of teachers resulting from initial academic supervision in the target schools, especially in compiling and developing TeFa-based learning tools and implementing TeFa with the subject block system in the target schools. Optimization of the implementation of TeFa at SMK Negeri 5 Kota Bengkulu is based on data on the implementation of TeFa on the competency skills of Craftmanship Design and Production (DPKK), Craft Textile Design and Production (DPKT), and Dance at schools and their relations with the industrial world in Bengkulu City and its surroundings based on learning logs and teachers' testimonies on the role of school supervisors as 'Fasgur' and the application of the subject block system in the implementation of TeFa and its relations with the industry providing TeFa in schools.

Improvements in the ability of teachers to compile and develop TeFa tools in learning implementation plans based on the TeFa 6M learning model are monitored from their work when designing how to implement the TeFa 6M learning model in learning planning to implement TeFa with a block system in each skill competency they are capable of effectively individuals and/or groups prior to triangulation discussions with school supervisors who act as "FasGur". The joint triangulation discussion between Fasgur and teachers administering TeFa in target schools is to equalize the perception of whether each lesson planning content in the form of a lesson plan that has been made fits the expected TeFa learning objectives. Based on the results of learning logs and teacher testimonials who are the subject of this study are as follows.

On the competency of Design and Production of Craft Wood (DPKK). The transfer of knowledge and technology in the subject of woodcraft is good but specifically in the lathe competence, some equipment is still lacking and efforts are made to continue to

improve learning activities. Transfer of knowledge and technology in woodcraft subjects continues to improve with the support of literature, modules and production equipment so that learning objectives can be achieved. Adequate equipment supports and industrial-based rooms are also adequate, the existence of books on complete work materials and support for materials used to make crafts can be obtained easily and adequately. In its relations with the industrial world or consumers, it always maintains good relations and cooperates in guiding children in industrial practice and in carrying out orders or project assignments. The target schools also establish good relations in various ways, including cooperating in the production process, offering new products, through catalogs and brochures. Good relations are always maintained by communicating, working together, offering new products, sharing orders, sharing information about craft developments with Du/Di. Furthermore, by directly involving Du/Di in making products, for example establishing a direct relationship with Du/Di to design products to be marketed.

The implementation of TeFa for student learning, relations and the industrial world has met the demands of the specified competency standards and KKM, meaning that the implementation of the TeFa 6M learning model for students has achieved the demands of predetermined competency standards and KKM. Even though there are some students who still have deficiencies in terms of this skill, they are given remedial to improve their skills and special assistance from the teacher/instructor intensively. In general, students can meet the standards set in the world market and have fulfilled the existing competencies in the industrial world.

The supervisor's role as FasGur and the implementation of the subject block system in the implementation of teaching factories and their relations with the industrial world in the competency of wood craft production design expertise, supervision is carried out routinely every week. Monitoring to see progress, directing and motivating for progress and improvement of TeFa implementation. The supervisor's role as "FasGur" and the application of the subject block system in the implementation of a truly cooperative teaching factory. Supervision is carried out routinely every week to provide motivation and inspiration for learning to teachers. Monitoring is always carried out to see the progress of the implementation of "TeFa" learning. Its relationship with the industrial world of school supervisors also helps in building good and sustainable cooperation between schools and the industrial world. School supervisors routinely monitor to see progress, provide direction and motivate to advance and improve the implementation of TeFa. The role of the school supervisor as "FasGur" in coaching activities in the form of bimlat in workshops is very good because what is explained by the school supervisor as a presenter related to TeFa and the industrial world is very much in line with the experience support in TeFa issues which really helps and inspires teachers.

Teachers in the Skills Competency Design and Production of Craft Textiles (DPKT), transfer of knowledge and technology in textile craft subjects is very necessary to open students' insights in making products that are in accordance with market or consumer desires. By utilizing the internet and having product samples that can be ordered and preparing sample brochures that can be ordered, this has been done in the target schools. Most of the works produced have met market/industry standards, although there are still products that are not fit for sale. Products that are not yet fit for sale are usually created by students with the help and guidance of the teacher as a consultant in such a way that efforts

are made to become products worth selling. The transfer of knowledge and technology in subjects based on in-depth discussions and interviews with teachers is very good and continues to be implemented to broaden students' insights in making products, especially in embroidery subjects, it really makes it easier for students in the process of working on products. The school also showed examples of work in the form of final prototypes of development results which would be marketed both in real works and through brochures. Learning outcomes are very beneficial for students because they can learn while making work that is worth selling. For products that are not yet fit for sale, improvements and creations continue to be made through remedial learning and intensive mentoring so that these products are fit for sale. Through TeFa learning, students in general already have a way of working like in the actual industrial world, although some of the results are not satisfactory, in general they are acceptable to the market/consumers as evidenced by the continued increase in orders from the local government and consumers.

With regard to the role of school supervisors as "FasGur", school supervisors have provided systematic and clear material, mastered the material very well, and provided material that the teacher could understand, was very communicative and gave guidance patiently, was easy to understand in explaining material. The teacher gets materials and explanations that are needed as long as they are needed and gets examples of implementation plans for the TeFa model of learning that can be further developed according to the essence of their needs. The workshop on the preparation of the teaching factory learning model set with the school supervisor as "FasGur" really inspired teachers in developing the next TeFa learning tool. The supervisor's role in the teaching factory at SMK N 5 Kota Bengkulu has also provided an explanation regarding the preparation of the teaching factory learning model kit which is very helpful for productive teachers, because it is clear how the material and examples are delivered directly to productive targets at school. In the future, it is hoped that there will be even better cooperation in sharing knowledge and experience in implementing TeFa 6M in schools.

The block system provides convenience in making a product for students. The application of the block system makes it easy to create works for students because when one work is completed, a new work moves on to the next work, thus students are more focused on working on works/products. Maximum time is needed so that the work produced is in accordance with the specified time. As long as it is running, the subject block system at school has the advantage of being more effective in achieving student learning outcomes and for teachers who still lack mastery of certain subjects can learn directly. The learning atmosphere for students is more effective. The drawback is when block subjects are taught by those who are not supporting teachers, the implementation of learning is lacking in responsibility. The application of the subject block system is very good because students are more focused on completing one product even though teachers also need to be given knowledge in the department or to master all subjects. At SMK Negeri 5 Kota Bengkulu, in the future, efforts will be made to support teachers in accordance with their areas of competence by involving teachers in dual expertise program activities and education and training by the government and the private sector. The implementation of TeFa at SMK Negeri 5 Kota Bengkulu is in accordance with industry or Du/Di, especially in terms of system alignment.

Teachers in the competence of the Arts of Dance, the transfer of knowledge and technology in the subject of dance is very good and useful in supporting the productive learning of dance being taught. Student learning outcomes are very good and help students in carrying out their practice, and help them learn dance lessons more quickly. This activity is accompanied by efforts to speak good and polite words to consumers/industry, convince the industry that the dance products in the target schools are the best by displaying examples of products that are already selling well in the market/consumers, selling well and explaining the various types of dance products owned by the school as a creative product of students. This has been very satisfying in establishing relationships with the industry and its relations in receiving orders. The transfer of knowledge and technology is directly proportional to interests and media, progress in learning models that goes hand in hand with the times, always reflects on Du/Di on a local and national scale, and always strives for IT literacy. In establishing relationships and convincing the industry to involve Du/Di in project tasks or obtain orders without fictitious information, meaning that it is based on real work that has been carried out (the best information for the best quality), make agreements in determining and implementing orders/make a deal on an ongoing basis term/periodic and sustainable, and has the principle of a buyer, in this case the user of dance services is king.

TeFa and industry relations and standards achievement have been good. The implementation of TeFa has also been satisfactory and can meet the Minimum Completeness Criteria Value or KKM standards that have been set. The word satisfactory is actually relative, but moving from the main goal of TeFa at SMK Negeri 5 Kota Bengkulu, dance majors in particular have been able to meet market demand and the KKM is of course flexible from year to year. The supervisor's role as FasGur in TeFa learning is very helpful and provides support through bimlat both in carrying out daily tasks and through workshop activities for teachers at SMK Negeri 5 Kota Bengkulu in carrying out the TeFa (Teaching Factory) program intensively. The relationship in the implementation of TeFa in the area of expertise in dance is very good and growing. In establishing relations and convincing the industry, the school conducts conversations or speaks well to convince him that all kinds of dance products are very good and have won several times at the national level and have also frequently appeared in classy venues, for example at the Bengkulu Mayor's office and local government agencies others, at various exhibitions and celebrations in Bengkulu Province. Dance products from the field of expertise in schools have been very popular among the government and the community, which can be seen from the indicators of the continued increase in orders for each dance product.

Determination of teaching materials in the block system for the interests of Du/Di starts in the same direction as seen from the placement of appropriate teaching materials. The implementation of the subject block system in teaching factory implementation, with the government's role in implementing the TeFa program, is able to save time because the subject block system can be more intensive. In order to achieve improvements in synergizing between TeFa and Du/Di relations, of course, this is always accompanied by quality control and fulfillment of infrastructure and tools or facilities and open skills for teachers where at SMK Negeri 5 Kota Bengkulu it has been going well.

Based on the results of learning logs and testimonials as well as focused discussion activities between school supervisors, principals and teachers and based on TeFa

implementation activities which are complemented by learning implementation plans with the TeFa 6M-based learning model and its development at SMK Negeri 5 Kota Bengkulu and students' real work products that was successfully collected it can be said that the implementation of TeFa 6M through the role of school supervisors as 'FasGur' and the application of the subject block system at SMK Negeri 5 Kota Bengkulu is optimal. The strategy implemented by school supervisors in coaching teachers through bimlat in routine mentoring activities and workshops in assisted schools with the "FasGur" strategy in compiling and developing learning implementation plans with the TeFa 6M-based learning model and fostering the implementation of the subject block system for majors administering TeFa in schools is proven to have theoretical, practical and effective benefits for increasing the ability of productive teachers or teachers in group C in the competency skills of Wood Craft Design and Production (DPKK), Textile Craft Design and Production (DPKT), and Dance Arts that implement TeFa in schools built.

4 Conclusion

Based on the discussion of this research, it can be concluded that the "FasGur" strategy in compiling and developing learning implementation plans with the TeFa 6M-based learning model and coaching on the application of the subject block system for TeFa organizing majors in schools has proven to have theoretical, practical and effective benefits for improving teacher abilities. Productive or teachers in group C in the competence of Design and Production of Craft Wood (DPKK), Design and Production of Craft Textiles (DPKT), and Dance who implement TeFa in target schools. This is shown by the results of learning logs and testimonials as well as focused discussion activities between school supervisors, principals and teachers and based on TeFa implementation activities which are complemented by learning implementation plans with the TeFa 6M-based learning model and its development at SMK Negeri 5 Kota Bengkulu and real work products students who were successfully collected. Thus the "FasGur" strategy in compiling and developing learning implementation plans with the TeFa 6M-based learning model and coaching on the application of the subject block system has proven to optimize the implementation of TeFa at SMK Negeri 5 Kota Bengkulu.

References

1. Sardiman, *Teaching and Learning Interaction and Motivation*. Jakarta: Raja Grafindo Persada, 2007.
2. Suparlan, *Become an Effective Teacher*. Yogyakarta: Hikayat Publishing, 2005.
3. Republic of Indonesia Government Regulation Number 41 of 2015, concerning Development of Industrial Resources. 2015.
4. Subari, *Educational Supervision*. Yogyakarta: Bumi Aksara, 2004.
5. Law of the Republic of Indonesia Number 20 of 2003, concerning the National Education System. 2003.
6. Prasetyo Budi, "Teaching Management Factory in the Industrial Age 4.0 in Indonesia," *J. BISNIS dan Teknol.* , vol. 12, no. 1, 2020.

7. A. R. Rukmana, A. Rahmawati, J. S. Murni, and V. H. Adzani, "Evaluation of the Teaching Factory Implementation Assistance Program at SMK Central Jakarta 1," *Aksara J. Ilmu Pendidik. Nonform.*, vol. 7, no. 3, p. 959, Sep. 2021, doi: <https://doi.org/10.37905/aksara.7.3.959-966.2021>.
8. D. . Puspita, M. Muchlas, and T. Kuat, "The Implementation of Teaching Factory to Improve Student Interest in Entrepreneurship at Multimedia Competencies," *J. Technol. Humanit.*, vol. 1, no. 2, pp. 42–50, 2020.
9. ATMI-BizDec, *Teaching Factory Coaching Programme*. Jakarta: Kemendikbud., 2015.
10. W. Rohmah, D. Efitasari, and A. Wulansari, "Teaching Factory-Based Learning at State Vocational School 2 Surakarta," *J. Pendidik. Ilmu Sos.*, vol. 29, no. 2, pp. 78–85, Dec. 2019, doi: <https://doi.org/10.23917/jpis.v29i2.9171>.
11. E. Diwanggoro and Soenarto, "Development of Teaching Factory Learning Models in Vocational Schools," *J. Phys. Conf. Ser.*, vol. 1456, no. 1, p. 012046, Jan. 2020, doi: <https://doi.org/10.1088/1742-6596/1456/1/012046>.
12. Kemendikbud, "Dynamics of Curriculum Development for Vocational High Schools," in *Kemendikbud*, Jakarta: Kemendikbud, 2017.
13. A. Kuswantoro, *Teaching Factory, Entrepreneurship Plans and Values*. Yogyakarta: Graha Ilmu., 2018.
14. Denzin and L. J. Moleong, *Qualitative Research Methodology*. Bandung: PT Remaja Rosdakarya, 2007.
15. B. Burhan, *Qualitative Research Data Analysis. Philosophical and Methodological Understanding towards Mastery of Application Methods*. Jakarta: PT Raja Grafindo Persada, 2005.
16. B. M. Miles and A. M. Huberman, *Qualitative Data Analysis*. Beverly Hills: CA: Sage Publication, 1984.

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