

# Management of The Expertise Program Business Center Through The Teaching Factory Concept

## [Manajemen Business Center Program Keahlian Melalui Konsep Teaching Factory]

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**Abstract.** *Industrial revolution 4.0. have an impact on Vocational High School graduates which affects the demand needed by businesses and industry. Productive teachers are required to be creative in developing skills programs by applying the Teaching Factory (TEFA) concept. The Agricultural Product Processing Agribusiness expertise program at Muhammadiyah 1 Nganjuk VHS realizes the application of skills through the development of the "MUSA's CORNER" Business Center. The aim of this research is to analyze the planning, organizing, actuating, an controlling, supporting factors, and inhibiting the successful development of the Business Center. This research uses a qualitative approach with a descriptive method with a case study. Collecting data using interviews, observation and documentation study. The results of management research show that the expertise of the Management Business Center program includes planning to consist of learning planning, product planning, and marketing planning. The organizational structure involves the school principal, vice principal, head of skills program, productive teachers, education staff, and students. In addition, there are external parties, namely partner companies and school supervisors. The actuating step includes production and marketing. The controlling step includes evaluating the implementation of the TEFA concept. Supporting factors include good partnerships with the factory/industry, the curriculum meeting Indonesian National Work Competency Standards, professionally certified teachers, and schedules with a block system. The inhibiting factor is the development of a marketing system with an e-commerce system that still requires support from the school's top management.*

*Keywords: management, Business Center, Expertise Program, Teaching Factory,*

**Abstrak :** Revolusi industri 4.0. berdampak pada lulusan SMK yang berdampak pada permintaan yang dibutuhkan oleh dunia usaha dan industri. Guru produktif dituntut kreatif dalam mengembangkan program keterampilan dengan menerapkan konsep Teaching Factory (TEFA). Program keahlian Agribisnis Pengolahan Hasil Pertanian di SMK Muhammadiyah 1 Nganjuk mewujudkan penerapan keterampilan melalui pengembangan Business Center MUSA's CORNER. Tujuan dari penelitian ini adalah menganalisis perencanaan, pelaksanaan, faktor pendukung, dan penghambat keberhasilan pembangunan Business Center. Penelitian ini menggunakan pendekatan kualitatif metode deskriptif dengan studi kasus. Pengumpulan data menggunakan wawancara, observasi, dan studi dokumentasi. Hasil penelitian manajemen menunjukkan bahwa manajemen Business Center meliputi perencanaan yang terdiri dari perencanaan pembelajaran, perencanaan produk, dan perencanaan pemasaran. Struktur organisasi melibatkan kepala sekolah, wakil kepala sekolah, ketua program keahlian, guru produktif, tenaga kependidikan, dan para siswa. Selain itu, ada pihak eksternal yaitu perusahaan mitra dan pengawas sekolah. Pelaksanaan meliputi produksi, pemasaran. Pengawasan meliputi evaluasi pelaksanaan konsep TEFA. Faktor pendukung terdiri dari kemitraan yang baik dengan pihak pabrik/industri, kurikulum yang memenuhi Standar Kompetensi Kerja Nasional Indonesia (SKKNI), guru bersertifikat profesional, dan jadwal dengan sistem blok. Faktor pengambatnya adalah pengembangan sistem pemasaran dengan sistem e-commerce yang masih memerlukan dukungan dari top manajemen sekolah dan diharapkan akan dikembangkan pada program sekolah selanjutnya .

**Kata Kunci:** Manajemen, Business Center, Program Keahlian, Teaching Factory.

## I. INTRODUCTION

Vocational High Schools (VHS) as educational institutions that produce skilled and competent workers must be capable of producing graduates who are ready to work according to the needs of the industrial world. So that increasing skills as a benchmark for the main priority scale to improve the quality of graduates. The current problem of vocational education is that VHS graduates have not been optimally absorbed in industry. According to Law number 20 of 2003 Chapter II article 3 states that National Education functions to develop capabilities in forming dignified national character and civilization in order to educate the nation's life, has the aim of developing students' abilities to become citizens who have superior resources, have faith, piety, have noble character, are independent, knowledgeable, capable, healthy, creative, and has responsibility for the progress of a nation[1].

The development of science, information and technology has accelerated the pace of development policy dynamics in education. Vocational schools as a subsystem of the Indonesian education system must be able to adapt to improve the quality and outcomes of education by preparing graduates according to the needs of the industrial world and entrepreneurial matters. This can be realized in industry-based learning. One of the priority programs to realize this vision is the Teaching Factory (TEFA) learning development program. The definition of TEFA in PP No. 41 of 2015 explains that "the term factory in the school area is an object of production activities that actively operates during learning activities, guided by real work procedures and standards in producing products according to actual conditions in the industry. In the Grand Design TEFA VHS is defined as a production/service-based learning concept in VHS that refers to standard procedures that apply in the industry and are applied in an industrial-based work environment[2].

The TEFA concept according to Nanyang Polytechnic (2003), is a combination of learning and working in a work environment that is in harmony with the real atmosphere of industry. The concept of TEFA as an approach that combines learning and the work environment with realistic and relevant learning experiences[3]. By Production Based Education and Training learning, TEFA combines Competency Based Training (CBT) and Production Based Training (PBT) learning[4], learning based on business and production. The implementation of the TEFA concept combines the concepts of entrepreneurship and vocational education in accordance with relevant competency skills and those carried out by students[5]. To optimize TEFA management by conducting a needs analysis which able to progress the effectiveness of learning to a higher level from Job Sheet through a block schedule. Optimizing collaboration with stakeholders to procure supporting facilities for new building units that are more representative, and laboratory institutions to support teaching factory learning; and more adequate fulfillment of teacher competencies[6].

To improve the quality of Human Resources in Indonesia, it is necessary to develop them following the developments in the Industrial Revolution 4.0 era which are increasingly global. This also applies to Muhammadiyah 1 Nganjuk VHS. The Agricultural Product Processing Agribusiness Expertise Program is a new major at Muhammadiyah 1 Nganjuk VHS, It was established in July 2020. The purpose of establishing the expertise program is for students to learn to become entrepreneurs through skills in processing agricultural commodities. Nganjuk regency as a rural city develops from the agrarian commodity sector of food crops and horticulture. Students will have a more real learning experience by prioritizing competence mastery.

As the largest private VHS in Nganjuk Regency, development efforts are part of the school's program, as well as in supporting the implementation of the Merdeka Curriculum in elevating the local wisdom of the local area. The Agricultural Product Processing Agribusiness Expertise Program in Muhammadiyah 1 Nganjuk VHS, in three years of its development, will continue to improve to continue to improve the quality of its management through the right path so that graduates who meet the standards of competency are produced to be able to compete in the industrial world era 4.0. through the development of expertise program production units which are part of the facilities in learning practice honing the work skills of skilled students according to applicable curriculum competency standards.

In the aspect of productive learning activities, the management of the Business Center has the goal of realizing marketable competency program expertise[7]. The concept is focusing on graduates who are ready for entrepreneurship through vocational education that has relevance to industry. Learning in schools that are oriented towards the Teaching Factory concept combines the Production Based Education and Training model[8]. Teaching Factory can be applied in the development of an expert program. Expertise Program Business Centers as a practical laboratory/workshop facility to support student learning skills. Learners will have a more real learning experience by prioritizing competence mastery

## **Business Center Management Expertise Program**

In the industrial world, the required work competencies include additional knowledge in the form of strengthening skills, including competencies from professional institutions, soft skills, personal expertise, and interpersonal skills that meet standards[9]. The purpose of the Business Center is to improve cooperation between Vocational High School and other parties, especially with the industry. The growth of ability as an entrepreneur in the school environment [10].

The effectiveness of the learning system and expertise program needed by the industry includes the production and marketing departments. Management when viewed from the perspective of the effectiveness of the use of resources, whether the utilization of existing resources in achieving goals has achieved the goals set based on management functions[11]. Management of the expertise program Business Center through the TEFA concept is the main point with the management formation process, production process, marketing process, and evaluation. The TEFA concept is integrated with the Business Center for student practice.

The production unit is a business-based learning program as one of the teaching patterns to provide additional skills for students. One cannot master theory well without practice, nor can one practice effectively without being equipped with theory. This production unit is a place to hone or apply the knowledge gained to the real world of work. For this reason, a production unit was created as a place to implement the theory given to a business within the school[12]

## **Teaching Factory Concept**

The practicum learning process in productive / championship lessons plays an essential role in the development of expertise programs. The success of these development activities is supported by the participation of teachers and students as well as support from the school's top management.

Skills programs must innovate in new learning concepts, both vocational theory and practicum activities with the hope that the collaboration of the two is able to maximize the products produced. The curriculum is adjusted through synchronization to suit the needs of the business world and industry. The TEFA concept is integrated learning in the form of Production Based Education and Training learning will equip the practicum with experience's valuable from learning by doing, which is relevant to the role of a practicum in industry[13].

## **Lesson Schedule with Block System**

A curriculum is a learning tool provided by an educational institution to students [14]. Making a block schedule is intended to realize TEFA implementation activities. By setting a schedule with a block system, theoretical and practical activities are carried out in sufficient time to meet the competency requirements[15]. Block system will be integrated with the provisions contained in the basic competence program expertise package, products and allocation of student study time in productive class hours. The production process at the Business center includes activities from product explanations, work instructions, practice questions, assessment rubrics, and assessment formats[16].

## **Product Specifications**

The expertise program in managing Business Centers with the TEFA concept provides students with valuable experience from learning by doing that is relevant to the role of a worker in a factory/industry. Learning that refers to the system of working in the factory / industry based on TEFA implementation governance adjusted based on Indonesian National Work Competency Standards.[17] Vocational High School students have basic skills in processing agricultural commodities both theoretically and practically, which are obtained from the subjects taught at Vocational High Schools.[18]

## II. METHOD

The type of research is Management of Business Center Management Vocational Skills Programs with the TEFA concept using a qualitative approach, namely research that describes the data collected in the form of words or pictures rather than numbers. Data from research results are interpreted against data found in the field [19], with the descriptive method through case studies.

Data collection was carried out through observation, interviews, and documentation studies. Observations were carried out with field studies of the Business Center Agribusiness Expertise Program in Agricultural Product Processing, statement of student practical learning, student skill competency tests, student entrepreneurial activities, and practice rooms, service and infrastructure, as good as products produced in learning. Based on the TEFA concept. Interviews were conducted by debriefing with the main data sources, namely the Principal, Deputy Principal for Curriculum, Deputy Principal for Public Relations, Deputy Principal for Facilities and Infrastructure, Chair of the Expertise Program, and productive teachers and students in the Agribusiness Processing of Agricultural Products competence in Muhammadiyah 1 Nganjuk VHS. The Documentation Study is carried out by viewing and reviewing documents related to the implementation of the TEFA concept, Learning Implementation Plans, job sheets, lesson schedules, implementation of Skills Competency Tests, school MoUs with the industry as well as photographs activity photos..

## III. RESEARCH RESULTS AND ANALYSIS

Preliminary research activities will be carried out at the Agricultural Produce Processing Agribusiness Expertise Program Laboratory at Muhammadiyah 1 Nganjuk VHS under the name "MUSA'S CORNER" Business Center through block learning systems starting in July 2022. Learning still refers to Basic Competency in Skills Competency (C3) according to National Standards.

Preparation of class schedules is a school routine. The lesson schedule is an important key so that learning activities can run effectively. The schedule with the block system has the concept of each study unit in the division of study groups according to the time determined by the curriculum by restructuring the daily schedule to complete one lesson. Grouping time in a block schedule makes learning complete which has a good impact on achieving student competence. "MUSA'S CORNER" Business Center management activities with the TEFA concept with guidelines on the Indonesian National Work Competency Standards as a formulation of job capabilities that include knowledge aspects, skills and expertise and attitudes that are match to the application of duties and position requirements specified in the planning Research work will begin in August 2022 to December 2022 in accordance with the school's work plan in developing the facilities and infrastructure of the "MUSA's CORNER" Business Center, and operational work of the Business Center with the TEFA concept in January 2023 simultaneously with the implementation of eleventh grade students Field Work Practices. So that with the existence of a Business Center with the TEFA concept, the Expertise Program can empower Field Work Practice students in the school's internal area in its management

The results of the research and analysis were carried out at "MUSA's CORNER" Business Center, Agribusiness Expertise Program for Processing Agricultural Products, Muhammadiyah 1 Nganjuk VHS. From the results of interviews, observations and documentation studies, the results of discussing the management of the Business Center with the Teaching Factory concept in terms of education management are as follows :

### **Business Center Management**

Management is a process of using objects effectively and human resources, to achieve the purpose that has been set, to achieve these aims efforts must be made in education management, namely planning, organizing, actuating and controlling.

To achieve the goal of developing an expertise program by the TEFA concept, the management at the Business Center with the name "MUSA's CORNER" of the Agricultural Product Processing Agribusiness Expertise program is structured through planning, organizing, implementing, and controlling. From the observation results it was found that :

1. Business organizations emphasize the importance of the planning process [20]. Planning in the management of "MUSA's CORNER" Business Center is planning the products to be produced by analyzing the curriculum of the Agricultural Product Processing Agribusiness expertise program which is guided by Indonesian National Work Competency Standards, aligned with processes and products from industry, or curriculum synchronization.
2. The human resources available in schools are teachers, lab technician, administrative staff, and students. Human Resources are needed as assistants at production sites, production unit managers, administration, and marketing. Facilities at the school include laboratories, equipment, and maintenance. School Top Management in support that can be provided by institutions in learning activities, and industry partners to help manage the Business Center.
3. Study of the results of the documentation shows that planning is a Human Resources activity consisting of teaching program planning, and strategic planning for implementing and developing a Business Center with the TEFA Concept.
4. The strategy for implementing Business Center management is carried out by analyzing SWOT on business conditions and potential. Analysis of basic competencies and learning activities of students, marketing plan, and also evaluation of production results.

The results of the interviews showed that the planning of "MUSA's CORNER" management Business Center had been carried out by the expertise program Muhammadiyah 1 Nganjuk VHS. This school applies the TEFA concept according to the basic competencies in the curriculum.

### **Business Center Management Planning with the Teaching Factory Concept**

Planning includes setting goals and figuring out how to achieve those goals. Planning has been considered a major function of management and includes everything that managers do[21]. In general, planning is the process of determining organizational goals and then presenting the business programs, procedures for program application, and operational actions needed to achieve overall company goals. The goal of managing a Business Center with the TEFA concept is to enable students to develop small-scale industrial products and services.

The development involved making prototypes and basic concepts of TEFA and the progress of Business Center management. So planning the TEFA concept begins with a plan for an expert program that is tailored to the school's vision and mission. This work program planning is a follow up after determining the Business Center's vision of . This planning is an essential so that the idea of the school able to be achieved in a planned and systematic instruction .

The process of planning the management of the Business Center with the TEFA concept is carried out by analyzing the results of implementation and evaluation using condition analysis and the potential of the Agricultural Product Processing Agribusiness expertise program at Muhammadiyah 1 Nganjuk VHS, including :

1. The facilities and infrastructure needed in learning are in the form of the availability of facilities that can help smooth practicum activities, including production laboratories, display rooms, marketing places, and marketing media,
2. The necessary machines and practical tools that meet the standards,
3. Human resources for supervising teachers who are competent and by educational background certification,
4. Determination of curriculum synchronization of Agribusiness Processing Agricultural Products expertise program with industry, followed by an MoU,
5. Determination of a learning schedule with a block system,
6. Determine the Business Center work program,
7. Budget funds for activities in managing the Business Center use grants from the government in submitting tools and materials to support practice.

Meanwhile, the addition of large equipment is done based on needs, looking at the work program that has been prepared, if you want additional tools or technology updates, then for funding, submit a proposal to the Directorate. The submission plan is written in detail such as the name of the tool, the specifications then the material requirements needed which will be compiled in the school activity budget plan. With good planning, more optimal results improve the program's expertise. This planning can be seen from the existing facilities and infrastructure at schools, the need

for tools and materials in the Business Center to the funding used to finance all needs in the teaching factory concept. From the results of the study, it was seen that "MUSA's CORNER" Business Center program for Agribusiness Processing Agricultural Products at Muhammadiyah 1 Nganjuk VHS met the appropriate criteria standards.

Good planning, more optimal results for implementing the TEFA concept[22]. This planning can be seen from the existence service and school infrastructure, the need for machines, tools and materials in production laboratories, display rooms, and marketing areas to the funding used to finance all needs in implementing activities. From the research results, it can be seen that the Agribusiness Program for Processing Agricultural Products with "MUSA's CORNER" as a Business Center that is running already has machines, tools and materials available in full and arranged according to their functions. From the results of machine documentation, tools and materials are available in sufficient quantities.

### **Business Center Management Organizing with the Teaching Factory Concept.**

An organization is a group consisting of parts that influence each other and have a specific single purpose[23]. The organizational structure makes the task's division, grouping and coordination. The division of tasks, functions and authority needs to be done to differentiate duties and responsibilities towards work[24]. Organisasi bergantung pada lingkungannya[25].

The organizational structure of "MUSA's CORNER" Business Center Expertise Program for Processing Agricultural Products is structured based on the organizational expertise program structure. Expertise program of agricultural technology by working with industry, then management of Business Center in the industry makes innovation capabilities by creating human resources who have knowledge and experience of quality work, motivate them to share knowledge and maintain competence[26]. Productive teachers play an important role in the structure of production and supervision[27]. Meanwhile, the industry supervises production activities. Keep on process mismatches and existing products being produced. The organizational structure of the Business Center consists of a person in charge, coordinator, treasurer, secretary and production executor.

Organizing is governed by the organizational structure. Organizational structure standards must comply with industry standards[28]. The organizational structure of "MUSA's CORNER" Business Center is arranged according to the understanding of each school. "MUSA's CORNER" Business Center Management involves apprentice students in terms of Field Work Practices. In managing the TEFA concept, industries are involved in the business plan for the Vocational High School program, the centre of excellence for the Agricultural Product Processing Agribusiness expertise program. Collaboration that is sustainable and mutually bound, with projects related to physics, equipment and learning processes, in stages. Collaboration in a comprehensive business plan related to the provision of equipment, premises and products and product development and sales of products aimed at improving the system and performance of VHS, so that it conforms to company standards and the development of the TEFA concept.

The TEFA concepts are part of the curriculum development and learning process. The head of the expertise program in controlling the vice principal of the curriculum section contributes to carrying out planning activities and implementing learning block schedules, designing standard operating procedures for production activities, designing the division of labour in the Business Center, carrying out goods/services production activities following the TEFA concept, and carry out technical control over all Business Center management activities. Deputy Head of the Public Relations Section as a liaison for cooperation with companies The treasurer plays a role in recording receipts and financial assessments on operational activities and preparing financial reports. Productive subject teachers are fixed on the learning organizational practices in Business Center. The results of a program of management practices of human resources competency show that human resources give an influence on improving performance and in terms of productivity.

The results of the study show that the TEFA concept organization in the "MUSA's CORNER" Business Center has been going well. This illustrates that the organization is already running. The administration system is running well, the expertise program team already has a report book regarding the inventory of tools. orderly financial records.

## **Business Center Management Actuating with the Teaching Factory Concept**

Actuating is an act of seeking all members of the organization to achieve goals by a predetermined plan[29]. The TEFA concept in the management of the Business Center expertise program in Agribusiness Processing of Agricultural Products at Muhammadiyah 1 Nganjuk VHS adopts product management for the bakery and cafeteria industry. Its products include bakery, processed shallots as a product of local wisdom from Nganjuk Regency, noodles and pasta, frozen food, dessert ice, herbal drinks, snacks and beauty products in the form of organic soap. The school cooperates with industry both locally and outside the city. Effective collaboration between schools and industry is needed to align with global advances in technology and knowledge. The importance of human resources for collaboration between schools and industry to increase trust, innovation and mutual governance. Teaching is co-managed between schools and industry. TEFA includes planning, implementation and assessment.

The actuating of productive learning as well as running a Business Center with the TEFA concept in the Agricultural Products Processing Agribusiness expertise program at Muhammadiyah 1 Nganjuk Vocational School can foster entrepreneurial skills in students. In this stage students are trained and taught to:

1. Be creative to develop innovative products.
2. Developing marketing activities, but still at the offline sales level.
3. Develop communication and excellent service to customers
4. Create a business development plan
5. Final evaluation.

Productive teachers mobilize street vendor students as marketing agents from teaching factories, at least for themselves and their families or closest relatives.

Management of the Business Center with the TEFA concept in the Agricultural Product Processing Agribusiness expertise program including laboratory management, production units including layout, procedures and production implementation instructions are arranged like workspaces in the industry. "MUSA's CORNER" management arrangement is based on the level of competency that must be achieved. Based on this setting students' activity with situations and work concepts in the industry. The collaboration will give the benefits school and industry. Schools get adequate facilities and infrastructure, on par with the industry. The students of Muhammadiyah 1 Nganjuk VHS get competencies appropriate to the industry. In this case, "MUSA's CORNER" joins Tulip Bakery, Aluna Bakery, and Alya Bakery. Productive teachers use synchronisation with those industries to get appropriate competencies and teaching models. The TEFA concept gives excellent contributions to the environment of the team, innovation of the Business Center's products, strong links with those industries and fixes on development competency projects for the training and development of students. The eleventh-grade students who were involved in street vendors came from within the school. Some of them carry out street vendors in industries that have collaborated with schools, and some other students contribute to "MUSA's CORNER" Business Centre operations

## **Business Center Management Controlling with the Teaching Factory Concept**

Controlling in education management has the goal of monitoring the extent to which activities are processed[30]. The school principal will carry out the control stage. The block schedule system is part of the characteristics in the implementation of TEFA in vocational high schools another characteristic of PBET and TEFA is practice activities in the block system continuously, meaning that the block system means practices implemented over a long period, such as for two weeks of training and 1 week of theoretical learning tailored to the skills program.

Muhammadiyah 1 Nganjuk VHS in carrying out learning activities has implemented a lesson schedule using a block system. So that the concept of TEFA can be controlled properly.

Implementation of “MUSA’s CORNER” Business Center instructions is given to the Business Center section to be carried out in the production unit. Quality control of raw materials, production processes, product packaging processes and analysis is carried out in each production process. Instead, the product marketing process goes through cafeteria and starts towards the digital marketing system.

The purpose of management control with the TEFA concept is to evaluate activities. Skills program students at Muhammadiyah 1 Nganjuk VHS learn entrepreneurship by becoming part of the workers at “MUSA’s CORNER”. Thus students have the skills to control product quality. Assessment is carried out by industry and productive teachers. In terms of digital marketing through social media, “MUSA’s CORNER” product marketing process at the “MUSA’s CORNER” Business Center involves effective teachers of the Agricultural Product Processing Agribusiness expertise program and students as social media administration managers, so in its development, it needs support from the Top Leadership of Muhammadiyah 1 VHS Nganjuk to involve expertise programs another in this case is Software Engineering in the development of digital marketing to be able to enter the realm of online shopping and shopping applications via android.

“MUSA’s CORNER” product marketing in the future is the development of e-commerce systems for a significant point in online business strategy. It makes a major contribution to increasing network value. Digital marketing like this provides several advantages, such as interactive advertising, advertising websites, social media networks, video marketing, being able to reach customers optimally, fast responses, practical ways, and time efficiency. In developing “MUSA’s CORNER” product marketing using a market strategy with this system, special personnel are needed to handle digital marketing methods. Activity reporting is carried out at the semester's end, including financial reports and Business Center management programs.

#### IV. CONCLUSION

Based on the results of research conducted at the Agribusiness Expertise Program Business Center for Processing Agricultural Products at Muhammadiyah 1 Nganjuk VHS, the concept of TEFA in managing Business Centers is brought in line with industrial management, but its management still requires optimal support from the School. Part of the Business Center is responsible for their work. Collaboration with the industry goes according to the agreement made by the Head of the expertise program under the control of the vice principal of the Curriculum and Public Relations section as the person in charge of managing the Business Center including strategic marketing, namely product innovation learning and marketing plans. Management Business Center through the TEFA concept is taken by producing products that are joined with bakery companies, and future marketing for “MUSA’s CORNER” Business Center products is the development of e-commerce systems.

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**Conflict of Interest Statement:**

*The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.*