Teaching Factory Management Model (TEFA) in Improving the Competency of Students in the Hospitality Sector Majoring in Tourism at the Manado State Polytechnic

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ABSTRACT:

The Tourism Department at Manado State Polytechnic has five study programs and produces graduates absorbed by both tourism and other industries. This research investigates the Teaching Factory Management Model (TEFA) in improving the competency of hospitality students. Teaching Factory learning is a concept in vocational education based on goods and services production referring to industry standards and procedures. This research aims to investigate: (1) the implementation of the teaching factory learning program; (2) the teaching factory management model; and (3) the impact on student entrepreneurial spirit and competency enhancement. The research used a descriptive qualitative approach with Research and Development (R&D) methods. Data were collected through observation, documentation, interview, and limited trial. Results show that students' competence with the TEFA learning model has increased significantly. Hotel subjects are integrated with Front Office, F&B Beverage Service, Food & Beverage Product, Housekeeping, and Accounting. Students in Semester III demonstrated increased competence in serving food and drinks and providing excellent service to guests.

Keywords: Learning model, Teaching Factory, Competence, Hotel.

1. Introduction

Education is one of the important factors in development in every country. According to Law Number 20 of 2003 concerning the National Education System, education is defined as a conscious and planned effort to create an atmosphere and learning process so that students actively develop their potential to have spiritual religious strength, self-control, personality, intelligence, noble morals, and the skills needed by themselves and society.

The demands of the 4.0 revolution era, characterized by global, dynamic, and digital transformation, have resulted in changes in

business fields accompanied by changes in employment. Digitalization is able to change the job market massively, supported by today's millennial generation who are always curious, broad-minded, and like challenges. Human resources today are not enough to just have an international outlook; they must also possess critical thinking and problem-solving skills to face the world of work in the era of globalization.

Vocational Education is education for the world of work (Education for Vocation). The tradition of vocational education aims to prepare graduates who are ready to work, with competency-based training as the primary model. With effective and efficient vocational education, it is hoped that prospective workers can be produced who have both soft skills and hard skills. One strategy used to achieve this goal is implementing a Teaching Factory (TEFA). Teaching Factory allows students to learn to produce goods in accordance with their scientific discipline, training them to be disciplined, improving student competency according to their expertise, and instilling a work mentality by adapting directly to industrial world conditions.

The Tourism Department of Manado State Polytechnic is one of the Vocational Higher Education institutions that produces graduates ready to be absorbed by the industry, especially in the tourism and hospitality sector. The department has a laboratory called the Teaching Factory (TEFA); however, the process in the TEFA laboratory has not been fully integrated, and the production results in the laboratory have not been managed optimally. For this reason, this research investigates the Teaching Factory Management Model (TEFA) in Improving the Competency of Hospitality Students in the Tourism Department of Manado State Polytechnic.

1.1 Research Objectives

The purpose of this study is to answer the following questions:

- How is the readiness to support the implementation of the teaching factory learning program in the hospitality sector at the Tourism Department of Manado State Polytechnic?
- How is the implementation model for the teaching factory learning program in the hospitality sector at the Manado State Polytechnic Tourism Department?
- What are the production results achieved from the implementation of the teaching factory learning program in the hospitality sector at the Tourism Department of Manado State Polytechnic?

1.2 Novelty and Breakthrough

The novelty of this research includes:

- The integration of the lecture process in several practical courses in the Hospitality Department Curriculum.
- The production process is designed and carried out by students.
- The administrative process is carried out by students.
- Teaching Factory (TEFA) has been made accessible and utilized by the wider community.

1.3 Learning Models

The use of appropriate learning models is one of the determinants of success in learning activities. According to Komalasari (2010: 58-88), types of learning models that can be used include:

Problem-Based Learning is a learning model with an approach that places students on authentic problems so they can compile their own knowledge, develop higher inquiry skills, and improve self-confidence (Arends in Abbas, 2000: 13). This model is characterized by the use of real-life problems as something that must be studied by students to train and improve critical thinking and problem-solving skills.

Cooperative Learning is a series of learning activities done by students in certain groups to achieve formulated learning objectives. Slavin in Isjoni (2009: 15) states that cooperative learning is a model where students study and work in small

groups collaboratively with heterogeneous structures. Stahl in Isjoni (2009: 15) stated that cooperative learning can improve student learning and improve mutual-help attitudes in social behavior. Sugiyanto (2010: 37) describes it as a model that focuses on using small student groups to work together in maximizing learning conditions.

Project-Based Learning involves complex tasks based on challenging themes, involving students in designing, solving problems, making decisions, or carrying out investigations, providing opportunities for students to work over a scheduled period to produce a product (Thomas, Mergendoller, and Michaelson, 1999). Stoller (2006) identifies three types of projects: structured projects determined by the teacher; unstructured projects defined by students; and semi-structured projects managed partly by teachers and partly by students.

Contextual Teaching and Learning (CTL) is a concept that helps teachers in the learning process by connecting lesson content with real-world situations. According to Elaine B. Johnson (2008), CTL is a system that stimulates the brain to compile patterns that embody meaning by connecting academic content with the context of students' daily lives. CTL is designed by involving student experience and applying what is taught with reference to real-world problems.

Inquiry Learning refers to questions, examination, and investigation (Gulo, 2004: 84). According to Widja (1989: 48), the inquiry model is a model that emphasizes learning experiences that drive students to find concepts and principles on their own. Sumantri (1999: 164) stated that the inquiry model is a method that gives students the opportunity to find information with or without teacher assistance. The main characteristic of this approach is the emphasis on student activity to the maximum in searching and finding answers independently (Wina Sanjaya, 2009: 196-197).

Concept Achievement Learning originates from studies on the thinking process carried out by Bruner, Goodnow, and Austin (in Suherman and Winataputra, 1992), who designed this model to help learn concepts used to organize information. Eggen and Kauchak (2012: 218) state the concept achievement model is designed to help students of all ages develop and strengthen their understanding of concepts and practice critical thinking abilities.

1.4 Teaching Factory (TEFA)

Teaching Factory, referred to in Government Regulation No. 41 of 2015 as a factory in school, is a means of production operated based on real work procedures and standards to produce products in accordance with real industry conditions and not oriented toward profit.

According to Adi Sutopo in the Teaching Factory Guidebook (2023), Teaching Factory is one of the activities in Vocational Education to produce goods or services that are managed and conducted by teachers and students. Supari Muslim (2019) defines TEFA as the experience integration of working in the school curriculum, where all equipment, materials, and education subjects were designed and ordered to carry out the production process aimed at producing goods/services and reliable and competent graduates. Muh. Nasir Malik Hasanah (2018) defines the Teaching Factory concept as a learning methodology that facilitates efficient and effective learning, which adopts practice and application-oriented training that combines learning and working in realistic and relevant industry atmosphere and experience. Based on these definitions, Teaching Factory is a learning model that optimizes curriculum, resources, and human resources by aligning the production process and standards of the working world to produce graduates who possess the soft skills and hard skills required in the industry.

According to Sovia Veronica Purba (2009), Teaching Factory is production-based learning — a skill learning process designed and implemented based on real work procedures and standards to produce goods or services in accordance with market or consumer demands. According to Suparman (2012), Teaching Factory learning is a series of planned activities focused

on learning outcomes, combining skill learning processes designed and implemented based on DUDI (Business and Industry World) work procedures and standards.

The purpose of Teaching Factory learning based on McQuaid (2011) is: (1) to produce professional graduates with excellence in the concept of modern industry who are able to work effectively; (2) to increase curriculum use focused on the concept of modern industry; (3) to serve as a technology and information transfer facility from partner or local companies with students as the main driver; and (4) to offer solutions to the challenge of dynamic technology development in the industrial world.

The benefits of Teaching Factory learning include:

- Increasing quality learning in accordance with production process standards in the world of work.
- Increasing the competence of vocational graduates in accordance with the demands of the world of work.
- Improving campus independence in providing vocational education in accordance with world work standards.
- Strengthening partnerships between campuses and the world of work.
- Providing alternative venues for Vocational Field Work Practice (PKL) participants.
- Providing alternative fulfillment of community needs for goods and/or services.

The principles of TEFA that must be observed to achieve objectives are:

- Learning Quality: Collaborative TEFA implementation with the world of work is intended to improve learning quality (fulfillment of practice means, production, technology transfer, and learning methods) according to applicable learning process standards.
- Educative: The implementation of TEFA is not intended to exploit students but to prioritize industry-based learning opportunities involving all students to grow work ethos and culture.
- Accountable: TEFA learning implementation and management is accountable in accordance with applicable regulations, using resources in a transparent and integrity-based manner.
- Efficient: TEFA learning implementation produces appropriate and correct products/goods/services and can save material expenditure by utilizing production materials.
- Professional: TEFA learning develops competence and internalizes work world character — compliance to regulations, quality standards, ethics, aesthetics, work area arrangement — through a fun learning process.

1.5 Competence

According to Dessler (2017: 408), competence refers to personal characteristics that can be demonstrated as knowledge, skills, and behavior such as leadership. Wibowo (2016: 271) stated that competence is the ability to carry out a work or task based on skills and knowledge supported by the required work attitude. Edison, Anwar and Komariyah (2016: 142) define competence as the ability of an individual to carry out work correctly and have excellence based on knowledge, skills, and attitude. MC Clelland (in Sudarmanto, 2015) states that competence is the basic personal characteristic that is the determining factor of success in performing a work or situation.

According to Mangkunegara (2012: 196), competence components related to performance consist of: (1) knowledge that has been determined; (2) abilities possessed in accordance with expertise; and (3) skills that demonstrate a system or order of behavior functionally related to performance achievement. According to Wibowo (2007), competence types include: Planning Competency, Influence Competency,

Communication Competency, Interpersonal Competency, Thinking Competency, Organizational Competency, Human Resource Management, Leadership Competency, Client Service Competency, Business Competency, Self Management Competency, and Technical Operational Competency.

According to Zweel (in Solehatusya, 2017), there are 7 (seven) determinants that influence or form competence: (1) trust and values; (2) expertise/skills; (3) experience; (4) personal characteristics; (5) motivation; (6) emotional obstacles; and (7) intellectual capacity.

1.6 Hotel and Hospitality Departments

A hotel is a business managed commercially to provide the best service for guests and tourists. According to Pradiatiningtyyas (2017), a hotel is a service business that is a supporting means for tourism activities, professionally managed and supported by skilled manpower in the field of hospitality. Inovic (2009) states that a hotel is a temporary stopover for travelers that provides room service as well as food and beverage service, with human service as the most important product.

According to Tarmoezi (2000), a star hotel generally has several departments including: (1) Front Office Department — in charge of direct guest relations, room reservations, guest registration, and providing information; (2) Food and Beverage Department — handling the processing and provision of food and drinks and guest service at the restaurant, divided into Food & Beverage Production and Food & Beverage Service; (3) Housekeeping Department — in charge of hotel cleanliness including rooms and public areas; (4) Human Resource Department — handling employee/trainee recruitment and placement; (5) Engineering Department — handling maintenance and repair of hotel equipment and machinery; (6) Sales and Marketing Department — in charge of hotel marketing to the public and customers; and (7) Accounting Department — handling hotel administration, expenditure, and financial income, including Revenue (General Cashier, Income Audit, Account Receivable) and Logistics (Purchasing, Receiving, Storekeeper, Cost Control, Accounts Payable).

2. Methodology

The research method used is Research and Development (R&D) combined with Design Build Research Methods, using the Borg & Gall (1983) model which consists of 10 steps:

- Research introduction and collection of information
- Planning
- Development of draft product
- Limited trial
- Revision of limited trial results
- Field trial
- Improvement of field trial results
- Operational field trial
- Final product refinement
- Dissemination

Data were collected through observation, documentation, interview, and limited trial. The research was conducted at the Hospitality Laboratory of the Tourism Department of Manado State Polytechnic. The approach used is qualitative descriptive, aimed at investigating the implementation of the teaching factory learning program, the teaching factory management model, and the impact on student entrepreneurial spirit and competency enhancement.

3. Results

The research location was conducted at the Hospitality Laboratory of the Tourism Department of the Manado State Polytechnic, which has been established since 1996 and currently operates multiple study programs including D3 Tourism, S1 Applied Hospitality, D3 Travel Business (UPW), D3 Underwater Ecotourism (EBL), and the newest Global Tourism Management program established in 2023.

The Tourism Department has several laboratories used for student practice:

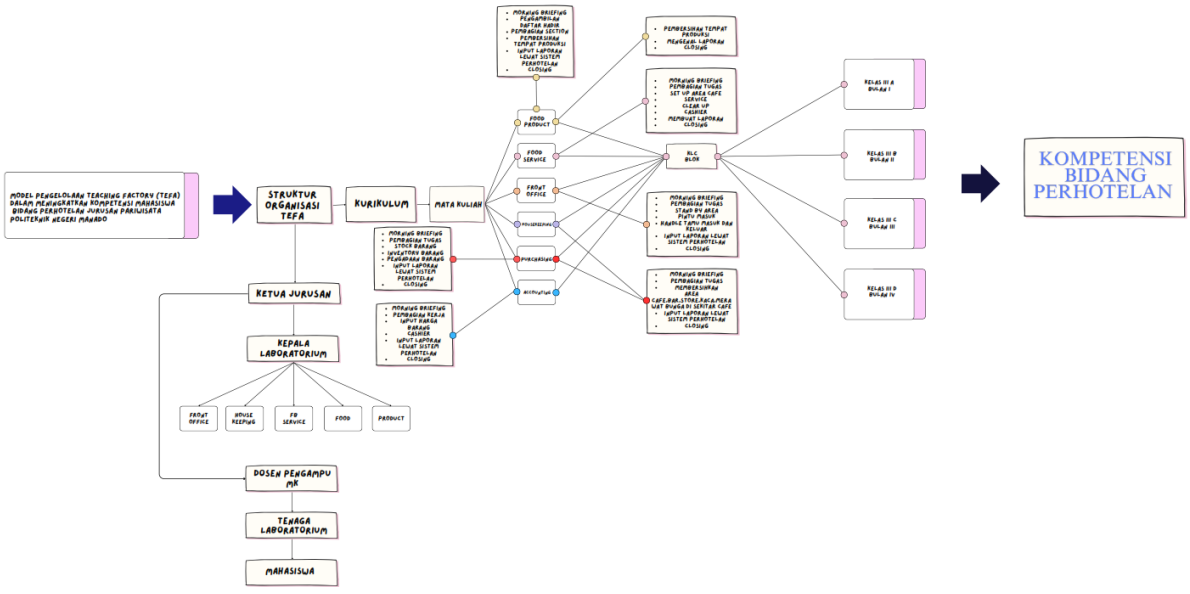
- Food & Beverage Service Laboratory
- Food Product Laboratory
- Housekeeping Laboratory
- Front Office Laboratory
- Tourism Data Management Laboratory
- Diving Laboratory

3.1 Field Trial Observation Results

After conducting observations, literature studies, and field trials for the Teaching Factory in the Tourism Department, the following stages were identified:

- Planning: Initial planning involves studying the applicable curriculum in the Tourism Department. Practical courses included in Teaching Factory (TEFA) learning are: Food Product, Food & Beverage Service, Front Office, Housekeeping, Purchasing, and Accounting. Planning covers the list of integrated courses, the semester to follow TEFA process, classes to be blocked, and lecturers and laboratory staff on duty.
- Implementation: The Teaching Factory (TEFA) Implementation Schedule runs Monday to Saturday during lectures. Students are rotated in each section and activities on holidays are adjusted accordingly.
- Monitoring: The Head of Department monitors work results. Educators and laboratory staff evaluate work results every day using prepared forms.
- Evaluation: Direct evaluation is carried out by each lecturer during the teaching factory process. Administrative evaluation is conducted every week.

3.2 Teaching Factory (TEFA) Management Model



From the trial activities carried out at the Tourism Department cafe, the researcher formulated the Teaching Factory Management Model (TEFA) as follows:

- Organization Structure: Implementation begins with the formation of an organizational structure. The person in charge of activities is the Department Chairman, with Lecturers and Laboratory Staff involved in TEFA activities.
- Applicable Curriculum: Related courses integrated with Teaching Factory are Food Product, Food & Beverage Service, Front Office, Housekeeping, Purchasing, and Accounting.

These courses are blocked for each class valid in Semester III.

- Student Rotation: Semester III students are selected for the TEFA program and prepared for the Competency Test and Field Work Practice (PKL) and Village Development.
- Two Shifts System: Students are divided into Shift 1 (07.00–14.00) and Shift 2 (14.00–20.00), and assigned to all sections including Food & Beverage Service, Food & Beverage Product, Housekeeping, Marketing, Cashier, Accounting, and Steward.
- Daily Operations: Before the cafe opens, the Duty Manager lecturer conducts a morning briefing. After shift changes, students fill out the look book to communicate incomplete tasks and material needs to the next shift.
- Lecturer Evaluation: Teaching staff evaluate each student monthly, giving direct guidance during the teaching factory process.

3.3 Operational Duties by Department

The duties and responsibilities for each operational department in the Teaching Factory (TEFA) are structured as follows:

- Food Product Department: Morning Briefing, Attendance, Menu Division, Cleaning the Work Area, Food Production/Processing, Cleaning after Production, Input in Hospitality System, Briefing, Closing.
- Food & Beverage Service Department: Morning Briefing, Attendance, Task/Area Distribution, Cleaning the Cafe Area, Table Setting, Sequence of Service, Clear Up, Cashier Data Input, Cleaning, Briefing, Closing.
- Front Office Department: Morning Briefing, Attendance, Task Distribution, Door Standby, Guest Form Entry, Hotel System Report, Briefing, Closing.
- Housekeeping Department: Morning Briefing, Attendance, Section Division, Cleaning Cafe/Bar/Store/Glass Areas, System Data Input, Briefing, Closing.
- Purchasing Department: Morning Briefing, Attendance, Task Distribution, Price Input in Hospitality System, Inventory, Material Procurement, Briefing, Closing.
- Accounting Department: Morning Briefing, Attendance, Data Input in Hospitality System, Cashier Document Preparation, Briefing, Closing.

The learning process at the Teaching Factory (TEFA) Tourism Department is blocked for Semester III, consisting of 4 classes (IIIA–IIID). Each class follows the integrated learning process for one month (1 month). The class block is designed so that students may also follow lectures outside TEFA learning and not fall behind on other courses. At the end of the TEFA learning process, students take a competency test according to the applicable scheme, preparing them for Field Work Practice (PKL) and Village Development.

4. Discussion

Curriculum Alignment: Based on the applicable curriculum in the Tourism Department (Independent Learning Curriculum – MBKM), TEFA accommodates student competencies through direct practice simulating real industry conditions. Graduates' competencies are greatly needed in the industrial world, and TEFA bridges this through structured, integrated learning.

Organizational Structure: The organizational composition defined in the Teaching Factory Management Model ensures clear distribution of work and responsibilities, allowing all activities to run efficiently.

Integrated Courses: Several courses in the TEFA are already present in the hotel industry laboratory in the Tourism Department: Front Office (FO), Food & Beverage Service (F&B Service), Food & Beverage Products (FBP), Housekeeping, Accounting, and Purchasing. These courses are essential foundations before TEFA implementation.

Class Blocking: Semester III classes are blocked so all students can follow the TEFA learning

process, as they have already received the relevant lecture materials. Each class follows the process for one month on rotation.

Competency Achievement: At the end of the learning process, students are expected to possess the competencies required by industry. Students take a competency test with the same scheme as the TEFA learning process.

Implementation Stages: The implementation includes an initial meeting between Department Chairman, Study Program Coordinator, Laboratory Head, and relevant lecturers; communication with university leadership; laboratory setup by the Laboratory Head; timetable creation by the Study Program Head; and assignment of lecturers with hospitality competence as TEFA supervisors.

Dissemination: The TEFA model has been disseminated at Manado State Polytechnic Tourism Department and tested with Semester III students, demonstrating measurable improvements in student competency and readiness for the industry.

5. Conclusion

The Teaching Factory Management Model (TEFA) at the Tourism Department of Manado State Polytechnic enables students to develop confidence in performing hospitality services and conducting related administration in hotel management.

The TEFA learning model helps students understand financial management and improve production capabilities through integrated, industry-based practice.

TEFA learning fosters student independence and responsibility in the hospitality sector, aligning with the Merdeka Belajar Kampus Merdeka (MBKM) curriculum.

It is recommended to provide students with broad opportunities to practice hospitality competencies in real settings, improve proficiency in financial and hospitality management systems, and offer opportunities for international-level field work practice.

Author Declaration

This work is original and has not been previously published or submitted for publication elsewhere.

The authors declare no conflicts of interest.

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