

EVALUATION OF TEACHING FACTORY USING CIPP: MODEL TO IMPROVE MARKETING SKILL OF VOCATIONAL HIGH SCHOOL STUDENT

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ABSTRACT

This study aims to evaluate the implementation of the Teaching Factory program at SMKN 2 Padang using the CIPP model, which encompasses the aspects of context, input, process, and product. The study employs a qualitative approach with data collection techniques including interviews, observations, and documentation. The results indicate that regarding the context aspect, the Teaching Factory program has been implemented in accordance with vocational learning needs and is designed to enhance students' competencies, work readiness, and entrepreneurial spirit. Regarding the input aspect, the school was supported by teachers qualified in the fields of E-commerce and Marketing, a rotating practical training schedule, preparatory instruction through relevant subjects, and the availability of supporting equipment such as cash registers, digital scales, and wrapping tools. In terms of process, the implementation of the Teaching Factory has proceeded in a structured manner, beginning with the preparation phase, the scheduling of students, the conduct of customer service practice, equipment operation, merchandise arrangement, and culminating in evaluations and assessments conducted by teachers at the end of the week based on a pre-established assessment format. In terms of outcomes, the Teaching Factory program yields results in the form of improved technical skills, customer service abilities, discipline, responsibility, communication, and real-world work experience for students. Based on these evaluation results, the implementation of the Teaching Factory at SMKN 2 Padang has been successful and supports the development of student competencies aligned with the needs of the workforce.

Keywords: CIPP, Teaching Factory, Vocational High School

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INTRODUCTION

Educational quality is a complex, multidimensional concept that is difficult to evaluate (Zhao et al., 2024). The primary principle of education is to equip students with the knowledge, competencies, and skills needed to perform their jobs and throughout their lives (Irene, 2023; Boud, 2010; Heritage, 2007). The development of modern education systems demands the implementation of more adaptive and dynamic learning approaches. In this context, students' competencies in their respective fields can serve as a vital asset for industrial sector development and economic growth. Therefore, through one of the vocational high school curriculum programs the teaching factory it functions as a strategic tool to develop soft skills while simultaneously enhancing field-specific skills (Hulyadi et al., 2025).

Limited mastery of soft skills and low student proficiency are critical issues that need to be addressed immediately. Soft skills are a primary asset for students, particularly for Vocational High School students whose learning is skill-based (Sanda, 2024). However, these skills will not develop optimally without innovative and structured educational interventions (Kakouris, 2021). One educational innovation that can be implemented in vocational high schools is the Teaching Factory (TEFA) program, an educational approach that integrates academic competencies, soft skill development, and industry needs as the foundation for students' skills upon graduation (Hulyadi et al., 2025).

According to Sudiyanto et al. (2017), their research explains that the Teaching Factory is a learning activity that involves students in productive activities such as

manufacturing products or providing services within the school environment. Meanwhile, Rukmana et al. (2021) state that a Teaching Factory is a school that conducts production or service activities as part of the teaching and learning process. Additionally, the school is required to have facilities such as factories, workshops, or other entrepreneurial activities as learning resources. Many educational institutions strive to align learning practices with the industrial world. Therefore, the development of the Teaching Factory learning model must be based on relevant learning concepts and theories. According to Amar et al. (2016), the implementation of the Teaching Factory is designed with a learning environment that resembles real-world work conditions. The Teaching Factory serves as a new approach in vocational education aimed at modernizing the learning process through a closer alignment with industrial practices, enhancing industrial knowledge through new insights, supporting the transition from manual work systems to automation, and bridging the gap between the education sector and the industrial sector.

The Teaching Factory (TEFA) program is also viewed as one of the best practice models in education for addressing the challenges of the Fourth Industrial (Hulyadi et al., 2025; Mourtzis et al., 2022). The TEFA program is designed to align classroom learning processes with production practices or work processes occurring in industry (Weyand et al., 2023). Through simulations of processes that mirror real-world industrial conditions, the Teaching Factory (TEFA) enriches students' learning experiences and helps them gain a

more practical understanding of the theoretical concepts studied in the classroom (Chryssolouris et al., 2016). This learning approach is designed to bridge the competency gap that often exists between classroom theory and industry needs. This is achieved by providing hands-on learning experiences that mimic real-world work environments and processes (Eesley & Lee, 2021).

Conceptually, the Teaching Factory (TEFA) aims to build a dynamic and integrative learning ecosystem, thereby supporting the development of both students' technical skills and competencies. In practice, when students engage in Teaching Factory simulations, they are confronted with various complexities typically encountered in industrial settings, such as operational decision-making, resource management, and collaborative work coordination (Maritz et al., 2022; Nugroho et al., 2023). Furthermore, this experience-based learning approach also provides students with the opportunity to apply theoretical knowledge in more contextual and practical situations. This process enables students to understand complex concepts and processes more deeply and effectively, as learning is not merely conceptual but is also supported by hands-on practice that closely resembles actual work conditions (Wang et al., 2021).

When evaluating a Teaching Factory (TEFA), there are many evaluation models to choose from, such as Tyler's, Scriven's, Stakes', Ochave's ABCD, Stufflebeam's Context, Input, Process, and Product (CIPP), and others. In terms of utility, feasibility, appropriateness, and accuracy, the CIPP evaluation model is one of the most widely applied evaluation models

(Irene, 2023; Zhang et al., 2011). The CIPP model provides a comprehensive evaluation framework at every stage of the evaluation process, covering context, input, process, and product. Essentially, the use of the CIPP model in evaluation aims to support decision-making by presenting various alternative options along with their consequences (Rukmana et al., 2021).

The CIPP model was first introduced by Stufflebeam & Zhang in 2017. According to their perspective, the primary purpose of the CIPP model is not to prove a program's validity but to improve the program itself. Each component within the CIPP model is structured sequentially, dynamically interconnected, and not isolated. The uniqueness of this model lies in the interconnection of each type of evaluation with decision-making tools related to both the planning and operational aspects of a program. The focus of evaluation in this model is on every component present in the program implementation process (Arikunto, 2021). One of the strengths of the CIPP evaluation model is its more comprehensive nature compared to other evaluation models, as its evaluation scope does not focus solely on final outcomes but also encompasses the context, inputs, processes, and outcomes of the program. Furthermore, the CIPP model posits that the success of an educational program is influenced by various factors, such as student characteristics, the environment, program objectives, as well as the procedures and mechanisms for implementing the program (Asril et al., 2023).

In this study, the context aspect focuses on the program's objectives as well as the regulations from the ministry and

school policies regarding the implementation of the teaching factory in the Online Business and Marketing Department at SMKN 2 Padang. The input aspect focuses on the evaluation of students participating in the teaching factory program. Furthermore, the process aspect emphasizes how the teaching factory implementation process unfolds in the Online Business and Marketing Department, where the core of process evaluation is reviewing the execution of a plan or program. The final aspect examined is the product, focusing on the outcomes achieved through the teaching factory implementation to determine the level of success in meeting the established objectives.

The implementation of the teaching factory has been successful in terms of facilities and industry involvement. However, a learning application model is needed to enhance students' work readiness skills (Dwijayanthi & Rijanto, 2022). Based on this problem background, the researchers are interested in raising this topic for discussion, as this study aims to thoroughly examine the feasibility of implementing the teaching factory in terms of context, inputs, process, and products. An evaluation of the teaching factory program in the Online Business and Marketing Department at SMKN 2 Padang is necessary to determine the program's achievement level and identify various shortcomings in its implementation. These shortcomings can later serve as considerations for the school in its efforts to improve the quality of the teaching factory program's implementation for better outcomes in the future.

METODE PENELITIAN

This study employs a descriptive qualitative method. The primary objective of the study is to evaluate the teaching factory program using the CIPP model to enhance the marketing skills of students at SMKN 2 Padang, utilizing semi-structured interviews as a data collection technique. The data were obtained from the following informants: the teaching factory program manager (Informant A), a teacher (Informant B), and students in Phase F (Informant C). The research subjects were selected using purposive sampling, taking into account their direct involvement, level of knowledge, and in-depth understanding of the implementation of the teaching factory program at SMKN 2 Padang. The criteria for informants included their direct experience in planning and implementing the teaching factory program, their understanding of the program's implementation, and their ability to provide information relevant to the evaluation aspects of the CIPP model. Informant A represents the context aspect, Informant B represents the input, process, and product aspects, and Informant C represents the product aspect. The research focus in this study is on the teaching factory program implemented in the Business and Marketing vocational program at SMKN 2 Padang based on the CIPP aspects (Context, Input, Process, and Product) with ideal criteria and data collection techniques presented in the following table 1:

Table 1. CIPP Criteria

Aspek	Kriteria Ideal	Fokus Penelitian	Teknik Pengumpulan Data
<i>Context</i>	Evaluating the objectives of the teaching factory program	Background and relevance of the teaching factory program	Observation Documentation Interviews
<i>Input</i>	Analyzing the implementation of the teaching factory program	The recruitment process for prospective students Evaluation of program administrators and teachers Facilities and Infrastructure	Documentation Interviews Documentation Interviews
<i>Process</i>	Implementation Process of the Teaching Factory Program	Practical Tools for the Teaching Factory Program Learning models in the teaching factory, Quality of the teaching factory program implementation (communication skills, ability to organize goods, discipline, ability to operate	Observation Documentation Interviews Assessment Documentation Interviews

Aspek	Kriteria Ideal	Fokus Penelitian	Teknik Pengumpulan Data
		scales and cash registers)	
<i>Product</i>	Achievement of Objectives	Success of the Teaching Factory Program	Documentation

RESULT AND DUSCUSION

RESULT

Teaching factories in vocational high schools (SMK) provide students with the opportunity to learn through work experiences that simulate real-world industrial conditions, ensuring that the competencies they acquire are not merely theoretical but also practical and aligned with the needs of the business and industrial sectors. This approach not only aligns the learning process with professional work standards but also enhances the relevance, effectiveness, and competitiveness of graduates. As a Vocational High School (SMK) with a Teaching Factory program in the Online Business and Marketing department, SMKN 2 Padang plays a crucial role in supporting the development and skill proficiency of students in the field of marketing to foster the growth of competitive human resources in today's globalized era. The implementation of the Teaching Factory program requires evaluation to ensure its continuous improvement and alignment with educational objectives. Using the CIPP model, the Teaching Factory program is evaluated by analyzing the context, input, process, and product aspects.

Context

Based on the evaluation results regarding the context aspect, the implementation of the Teaching Factory program is driven by the need to enhance the alignment of vocational school graduates' competencies with the demands of the Business and Industrial Sectors (DUDI). Changes in technology, production systems, and quality requirements for the workforce mean that theory-oriented learning alone is insufficient to prepare students for the workforce. The Teaching Factory program implemented at SMKN 2 Padang consists of marketing practices named Braja Frozen Food, Braja Store, and Two Mart, where the Teaching Factory sells various daily necessities, food, and beverages. Students engage in practical activities ranging from product display, serving customers, using cash registers and scales, to product wrapping.

Input

Based on the evaluation results regarding the input aspect, the selection of 11th-grade students from the Online Business and Marketing Department at SMKN 2 Padang to participate in the Teaching Factory program was not conducted through a special selection process but rather via a weekly rotation system. Through this system, all students receive equal opportunities to participate in the Teaching Factory at Braja Frozen Food, Braja Store, and Two Mart. By participating in activities on a rotating basis, each student can apply the competencies learned in class in work situations that resemble real-world business conditions. This aims to ensure that every student gains balanced

experience in product arrangement, warehouse administration, packaging, cash register operation, and customer service.

The human resources involved in the teaching factory program play a crucial role in determining the program's success. Assessments of practical activities are conducted by teachers who possess expertise in marketing and have experience as entrepreneurs. This background supports the teachers' ability to understand both the learning material and the real-world conditions of running a business. Teachers are not only responsible for evaluating students but also for guiding, supervising, and providing direction during practical sessions. The grades students earn during the teaching factory activities are then combined with their classroom learning outcomes, particularly in the subjects of cashier operations, visual merchandising, and transaction administration.

The facilities and equipment used in the teaching factory practice include cash registers, scales, wrapping tools, storage spaces, display shelves, and products to be arranged and sold. Cash registers are used to train students in the transaction process, from entering product data, calculating the total purchase amount, accepting payment, to printing receipts. Scales are used to accurately determine the weight of products, while wrapping tools are used to package products so they are neater, protected, and appealing to consumers.

Process

The teaching factory program is carried out through several stages that mimic activities in a retail business environment. Activities range from inventory management and product

display, weighing and packaging, the use of cash registers, to customer service. Inventory management and product display involve organizing and checking the stock of goods in the warehouse. Students first group items by type, brand, size, or product category.

Next, students check the physical condition of the items, stock levels, expiration dates, and the consistency between available items and inventory records. Products are placed neatly and within easy reach; items that arrived first or have a closer expiration date must be placed at the front so they can be used or sold first. Product arrangement is carried out with attention to shelf cleanliness, item grouping, price tag placement, ease of product visibility for customers, and the neatness of the display. This activity trains students' skills in visual merchandising and warehouse administration.

Weighing and packaging products: at this stage, students must ensure that the scale is clean and displays zero. Products are then placed on the scale to determine their exact weight. The weighing results serve as the basis for determining the quantity, price, or information listed on the packaging. After weighing, products are packaged using plastic or provided packaging materials. Students must ensure that the packaging is clean, undamaged, and fits the product's size. The wrapping process is performed neatly to protect the product from dust, air, or contamination and to ensure an attractive appearance. Next, students attach a label containing product information, such as the item name, weight, price, and packaging date if necessary.

When using a cash register, students begin by ensuring the machine and cash

register system are operational. Next, students enter or scan the barcode of the items purchased by the customer. The product data entered must match the product's name, quantity, and price. If there is an input error, students must correct it before the transaction is completed. After all products are recorded, students inform the customer of the total amount due. Payment is then accepted via the available methods. If payment is made in cash, students must accurately count the money received and the change given. Once the transaction is complete, the cash register is used to print a receipt, which is then given to the customer as proof of payment. This practice trains students' attention to detail, honesty, speed, and sense of responsibility when conducting transactions. Students also learn to avoid errors in entering prices, quantities, or calculating change, which could result in losses for the business or the customer.

Students are still required to serve customers well and properly. Service begins by greeting customers politely, providing product information, helping them find items, answering questions, and completing transactions courteously. Students must also maintain a professional appearance, use polite language, demonstrate responsiveness, and handle customer complaints appropriately. If there are issues they cannot resolve on their own, students may bring them to the attention of a teacher or manager.

Product

The expected outcomes of the teaching factory program extend beyond the products that have been arranged, weighed, packaged, and sold; the focus is primarily on the development of students'

skills. These skills are assessed through two main aspects: soft skills and hard skills. Soft skills assessment includes discipline, diligence, teamwork, appearance, and creativity. Discipline is evident in students' punctuality during activities and adherence to work rules. Diligence is evident in students' earnestness in completing tasks, while teamwork is assessed by their ability to coordinate and assist group members. Appearance relates to cleanliness, neatness, and appropriate attire during practical sessions. Creativity is demonstrated through students' ability to arrange products, solve problems, and propose ideas to enhance sales appeal.

The assessment of hard skills includes sales service, visual merchandising, and warehouse administration. Sales service is evaluated based on students' ability to communicate with customers, provide product information, and process transactions. Visual merchandising skills are evident in how students arrange products to be neat, attractive, and easy to find. Warehouse administration is assessed based on students' ability to record, check, categorize, and manage inventory.

DISCUSSION

Context

State Vocational High School 2 Padang (SMKN 2 Padang) strives to be a vocational school that equips students with the ability to hone their skills through teaching factory practices. The teaching factory is not merely a practice to earn grades for students; rather, it serves as a framework to prepare students to enter the Business and Industrial Sectors (DUDI). Through collaboration with the Business and Industrial Sectors (DUDI), specifically

Transmall, Ramayanan, Suzuya, and Hypermart, students are expected to develop their existing capabilities during teaching factory activities to prepare them for entry into the Business and Industrial Sectors. This aligns with research conducted by Habibi et al., (2026), which explains that the success of the teaching factory strategy is determined by the strengthening of infrastructure and strategic partnerships with the Business and Industrial Sectors (DUDI). Research by Sabariah et al., (2025); Wahjusaputri & Bunyamin (2022) found that teaching factories can serve as the cornerstone of vocational learning processes aligned with DUDI needs, expand collaboration with DUDI, and enhance the quality of learning or competencies at schools so that students possess hard and soft skills that meet global/ industry standards, and help students enter the industrial sector after graduating from vocational high school. Government funding is needed to establish DUDI partnerships and provide adequate facilities or infrastructure in line with global industry standards, as well as to boost student motivation and interest. Teaching factories can help students prepare to enter society, the workforce, and the industrial sector.

Research by Supriyantoko et al., (2020) explains that learning through teaching factories aims to develop the character and work ethics (discipline, responsibility, honesty, cooperation, leadership) required by industry and to elevate the quality of learning outcomes from merely imparting competencies (competency-based training) to learning that fosters the ability to produce goods and services (production-based training). Teachers of vocational subjects can use the

teaching factory model as an alternative learning model, which needs to be adapted into other materials aligned with students' competencies. This is what SMKN 2 Padang, which offers Digital Business and Retail Business programs, has implemented to ensure academic relevance and enhance students' professionalism, preparing them to enter the workforce.

Input

The planning of teaching factory learning activities is highly dependent on the management that has been carried out. If teaching factory management has been carried out properly including planning, organizing, implementing, and supervising, then these activities can be conducted professionally. This aligns with research (Sari et al., 2022), which states that management is a distinctive process consisting of planning, organizing, directing, and controlling actions to determine and achieve objectives through the utilization of human resources and other resources.

The aspect of teacher readiness was explored through interviews with vocational teachers in the Online Business and Marketing department at SMKN 2 Padang. The information obtained indicates that these vocational teachers hold bachelor's (S1) or master's (S2) degrees, have completed the Teacher Professional Program (PPG), and teach subjects aligned with their educational backgrounds. All active teachers have more than two years of teaching experience; some have had the opportunity to intern in the industry in fields aligned with the required skills and also engage in entrepreneurship as a supplementary

activity alongside their teaching roles. This is highly relevant, as the Online Business and Marketing program requires students to be capable of conducting marketing activities and serving customers effectively. The findings regarding teacher readiness align with and support the research by Sudiyono et al. (2019), which states that instructors or teachers involved possess academic qualifications, are competent in their fields, have industry experience, and demonstrate commitment to implementing the teaching factory. This is also consistent with Kasman (2017) research, which states that teachers in a teaching factory must possess appropriate qualifications and skills/competencies.

Furthermore, the Teaching Factory program can operate effectively if the school's facilities and infrastructure meet the standards required for production activities, whether involving goods or services in accordance with its educational program. This aligns with the research by Nurtanto et al. (2017), which states that 60-70% of the facilities and infrastructure owned by schools are utilized for business/production activities. Based on the results of observations conducted regarding the availability of equipment, raw materials, and supporting materials for Teaching Factory learning, it is evident that SMKN 2 Padang has prepared these resources. Specifically, the availability of equipment in the Online Business and Marketing department, as shown in Figure 1, includes cash registers, digital scales, wrapping machines, refrigerators, display shelves, showcases, and other items.

Figure 1. The Teaching Factory Practical Training Process



Source: SMKN 2 Padang

After determining teacher qualifications and preparing the facilities and infrastructure, the next step is to develop an assessment format for students' practical activities. Based on the interview results, the assessment format for the Teaching Factory program has been developed with reference to the skills students must possess. This format assesses not only theoretical understanding but also practical ability, work accuracy, quality of results, discipline, responsibility, cooperation, and the application of work procedures in accordance with industry standards. This demonstrates that the assessment is focused on the achievement of competencies relevant to the needs of the workforce. The development of the assessment format shown in Figure 2, which is based on student skills, is a crucial component of the evaluation.

FORMAT PENILAIAN PRAKTEK TEACHING FACTORY SMKN 2 PADANG

Mendislay Barang				
Nama	Mendislay barang dengan kecepatan yang tepat	Mengelom pokkan barang dengan akurat	Menata barang dengan benar sesuai ukuran dan warna	Menyusun barang agar mudah dijangkau dan terlihat menarik

Melayani Konsumen				
Nama	Menyapa pembeli dengan senyum dan keramahan	Membimbing pembeli untuk menemukan barang yang mereka cari	Memberikan tanggapan terhadap keluhan yang disampaikan pembeli	

Kasir						
Nama	Login dengan memasukkan nama pengguna dan kata sandi yang sesuai	Men-scan barang yang dibeli oleh pembeli	Memberikan penawaran untuk barang promo dan diskon	Menerima pembayaran dan mengembalikan kelebihan uang belanja	Mengategorikan dan membungkus barang berdasarkan jenisnya	Mengucapkan terima kasih dan menawarkan pembeli untuk berkunjung lagi

Figure 2. Teaching Factory Assessment Format

Source: SMKN 2 Padang

The Teaching Factory approach provides a more objective assessment of students' competency levels. Every aspect of the assessment is aligned with the tasks or products produced during the learning process (Perdana, 2018). Consequently, teachers can identify the skills students have mastered as well as those that still need improvement.

Process

Based on the interview results, the implementation of the Teaching Factory in the Online Business and Marketing program at SMKN 2 Padang has been carried out through a fairly systematic process. This process begins with preparing and selecting teachers who possess qualifications aligned with the competencies of the Online Business and Marketing field. The alignment of teachers' competencies is a critical component because teachers are not only responsible for delivering content but also for providing guidance, supervising practical activities, monitoring customer service, and ensuring that teaching factory activities proceed according to established

procedures. This aligns with Supriyantoko et al. (2020), who state that one of the key elements in implementing a teaching factory is having teachers with competencies that match the specialized field being taught. Thus, the selection of relevant teachers demonstrates the school's commitment to ensuring the quality of the teaching factory learning process.

After selecting the teachers, the school schedules students to participate in the teaching factory practice on a rotating basis each week. This scheduling aims to ensure that all students have equal opportunities to engage in practical activities. The rotational system also facilitates teachers in providing guidance and supervising students because the number of participants in the practical sessions can be adjusted to the capacity of the venue, equipment, and service activities. Structured scheduling is part of the organization of teaching factory learning. Muhitasari & Purnami (2022) explain that the management of a teaching factory encompasses the stages of planning, organizing, implementation, and evaluation. In that study, block scheduling was also viewed as a solution to manage practical training time more effectively.

Before participating in teaching factory practical training, students are equipped with skills through relevant school subjects. This preparation serves as a foundational step to ensure students possess basic knowledge and skills before directly interacting with customers. The knowledge gained in the classroom is then applied in a work environment that simulates real-world business conditions. During the teaching factory program, students are directly involved in

operational activities, such as serving customers, using cash registers, operating digital scales, using wrapping equipment, and regularly arranging and updating product displays. These activities demonstrate that learning is not merely a classroom simulation but provides students with real-world work experience. Yoto et al. (2024) explain that the teaching factory offers authentic learning experiences through practical activities, management, marketing, and entrepreneurship. Student involvement in serving customers is one of the strengths of the teaching factory process at SMKN 2 Padang. Through these activities, students not only learn to use equipment but also practice communication, provide service, maintain accuracy in transactions, take responsibility for their work, and respond to customer needs. The use of cash registers and digital scales trains students' technical skills and precision, while wrapping and product arrangement activities foster neatness, creativity, and an understanding of product presentation. These competencies align with the characteristics of jobs in the retail and marketing sectors.

At the end of each week, the teacher conducts evaluations and assessments based on a pre-established format. These evaluations are necessary to determine the students' mastery of skills while performing tasks. Assessments may include the ability to use equipment, accuracy in conducting transactions, quality of service, discipline, responsibility, communication, teamwork, neatness in arranging merchandise, and adherence to work procedures. Weekly evaluations also allow teachers to provide direct feedback on skills that have been

mastered and those that still need improvement. In the CIPP evaluation, this activity falls under the process aspect because it is used to monitor program implementation and ensure that every activity proceeds according to plan.

Product

Based on interviews with teachers managing the teaching factory in the implementation of CIIP, the final stage is the product. At this stage, the expected output is not merely the production of a product, but rather the success of the teaching factory program itself. This success is marked by two assessments: soft skills and hard skills. In the soft skills aspect, there are five points assessed by the teachers, each with a different weight.

Table 1. Soft Skills Assessment Criteria for the Teaching Factory

No	Soft Skill	Bobot Penilaian (%)
1.	Disiplin	15%
2.	Kerajinan	20%
3.	Kerjasama	40%
4.	Penampilan	10%
5.	Kreativitas	15%
Total		100%

Source: SMKN 2 Padang

In terms of soft skills, there are five assessment criteria: discipline, diligence, teamwork, appearance, and creativity. The most significant assessment criterion is teamwork, which accounts for 40% of the total score. Based on our observations and interviews with the teachers managing the teaching factory, the success of the teaching factory program is marked by students' abilities in discipline, diligence, teamwork, presentation, and creativity. In

the discipline assessment aspect, which carries a 15% weight, students demonstrated consistency in adhering to school rules and punctuality in completing tasks. This reflects that CIPP-based learning is able to instill a sense of responsibility, which serves as a crucial foundation in the workplace. Furthermore, regarding the diligence assessment aspect, weighted at 20%, it is evident from the students' earnestness in participating in the learning process, both in the classroom and during field practice. Observations show that they actively work on tasks, practice diligently, and do not easily give up when facing difficulties. This reaffirms that the CIPP model fosters the development of a strong work ethic.

On the other hand, the collaboration assessment aspect, with a 40% weighting, serves as the most dominant indicator. Students are able to work in teams, share roles, and complete group projects with effective communication. Interviews with teachers and observers indicate that this collaboration not only enhances learning outcomes but also cultivates mutual respect and solidarity. Furthermore, the performance assessment aspect, with a 10% weighting, reflects students' readiness to maintain neatness, professional conduct, and ethics when interacting. This is important because appearance serves as a representation of oneself in both work and social environments. Lastly, the creativity aspect, with a 15% weighting, is evident in students' ability to generate new ideas when completing tasks, whether in the form of product innovation or problem-solving strategies.

The success of the CIPP model in the product aspect at SMKN 2 Padang can be

assessed through students' measurable soft skills, as determined by the established weightings: discipline (15%), diligence (20%), cooperation (40%), appearance (10%), and creativity (15%). Based on the results of interviews and observations, the product aspect indicates that learning not only produces academic outcomes but also shapes character and interpersonal skills relevant to the demands of the workplace. Student discipline is reflected in adherence to school rules and punctuality in completing tasks, which serve as a crucial foundation for building responsibility. Diligence is evident in their earnestness in following the learning process, both in class and during practical sessions, as well as their consistency in completing work with full dedication. The collaboration aspect, which carries the highest weight, demonstrates the most notable success as students are able to collaborate effectively, divide roles, value team members' contributions, and complete group projects with good communication. Student demeanor also serves as an indicator of success, as they are able to maintain neatness, a professional attitude, and ethical conduct in interactions, thereby reflecting their readiness to face the workplace. Meanwhile, creativity is evident in their ability to generate new ideas, product innovations, and creative problem-solving strategies in both assignments and projects.

The success of the CIPP model in the product aspect at SMKN 2 Padang demonstrates that this evaluation-based learning approach can produce graduates with holistic competencies who excel not only in academic knowledge but also possess measurable soft skills aligned with the assessment criteria. The dominance in

the collaboration aspect indicates that students are ready to face the challenges of the workplace, which demands collaboration, while discipline, diligence, appearance, and creativity serve as supporting factors that strengthen graduate quality. Thus, the CIPP model has proven effective in producing educational outcomes oriented toward work readiness, character, and balanced social skills.

Meanwhile, for the assessment of hard skills, there are seven points evaluated by teachers, each with a different weighting.

Table 2. Hard Skill Assessment Aspects of Teaching Factory

No	Hard Skill	Bobot Penilaian (%)
1.	Pelayanan Penjualan	20%
2.	Visual Merchandising	20%
3.	Administrasi Gudang	10%
4.	Promosi Produk	20%
5.	Perancangan Aplikasi Penjualan Online	10%
6.	Pengoperasian Aplikasi Penjualan	10%
7.	Basis Data	10%
Total		100%

Source: SMKN 2 Padang

The success of the teaching factory implementation can be seen in the aspects of sales service, visual merchandising, warehouse administration, product promotion, online sales application design, sales application operation, and databases. The success of the CIPP model in the product aspect at SMKN 2 Padang can be seen from the achievement of students'

hard skills as measured through the assessment weights that have been determined in seven main indicators. Based on the results of interviews and observations, the product aspect shows that learning not only produces theoretical knowledge, but also practical skills relevant to the needs of modern industry. In the sales service assessment aspect with a 20% assessment weight, students are able to provide friendly, fast, and professional service to consumers, thus reflecting their readiness to face the world of work in the marketing field. On the other hand, the visual merchandising aspect with a 20% assessment weight shows students' success in arranging products attractively, utilizing display space effectively, and creating visual strategies that can increase consumer purchasing interest. This confirms that the CIPP model successfully instills practical skills that support graduates' competitiveness in the retail sector. Furthermore, in the warehouse administration assessment aspect with a 10% assessment weight, students demonstrate abilities in recording, managing stock, and organizing the distribution of goods systematically. Observations demonstrated their ability to maintain data accuracy and operational efficiency, essential foundations for logistics management. Furthermore, the product promotion assessment, which carries a 20% weighting, also demonstrated outstanding performance, with students able to design both traditional and digital promotional strategies and communicate product value persuasively. This demonstrates that the CIPP model fosters applicable business communication skills that align with developments in marketing technology.

Success was also evident in the design of an online sales application, which carries a 10% weighting, and the operation of a sales application, which carries a 10% weighting, where students were able to develop and use digital platforms to support sales transactions. Interviews with teachers revealed that students not only understand theory but also apply technology in real-world practice, preparing them for the digital era of commerce. The final aspect, databases, which carries a 10% weighting, demonstrated students' ability to manage sales information in a structured manner, maintain data security, and utilize database systems to support more accurate decision-making.

The success of the CIPP model in the product aspect at SMKN 2 Padang demonstrates that this evaluation-based learning can produce graduates with holistic competencies, excelling not only in academic knowledge but also in hard skills aligned with the demands of the modern workplace. With a focus on sales service, visual merchandising, and product promotion, along with support from warehouse administration, sales applications, and databases, graduates are prepared to become competent, adaptive, and competitive workers in the digital age. This success confirms the CIPP model's effectiveness in developing educational products oriented toward practical skills, technology, and job readiness. This ensures SMKN 2 Padang graduates are highly competitive in the labor market. This can be further explored by examining the contribution of hard skills to job readiness or the effectiveness of the CIPP model in vocational education to confirm

the relevance of the product aspect to industry needs.

CONCLUSION

The Teaching Factory Program (TEFA) is also considered a best-practice educational model for facing the challenges of the Industrial Revolution 4.0. The conclusion of this article confirms that the application of the CIPP evaluation model in the Teaching Factory program at SMKN 2 Padang has proven effective in comprehensively improving students' marketing skills. Evaluation of the context aspect shows that this program arose from the urgent need to align graduate competencies with the demands of the Business and Industrial World (DUDI), so that learning is not only oriented towards theory but also real-world practice. In the input aspect, success is evident in the readiness of teachers with relevant qualifications, adequate facilities and infrastructure, and a student rotation system that provides equal opportunities for practice. The process aspect demonstrates that practical activities are carried out systematically, from product arrangement and warehouse administration to cash register use and customer service, allowing students to gain work experience that mimics real-world industrial conditions.

The most obvious success is seen in the product aspect, where students not only produce goods or services but also develop measurable skills in two main dimensions: soft skills and hard skills. Soft skills such as discipline, diligence, teamwork, appearance, and creativity are proven to improve through hands-on practice that demands responsibility, collaboration, and innovation. Meanwhile, hard skills such as

sales service, visual merchandising, warehouse administration, product promotion, and the operation of sales applications and databases demonstrate that students are able to master technical skills relevant to the needs of modern industry. This article concludes that the CIPP model provides a comprehensive and effective evaluation framework for assessing the success of the Teaching Factory program. This program not only increases the relevance of learning to the world of work but also produces graduates who possess holistic competencies mastering theory, practice, as well as interpersonal and technical skills needed to compete in the era of globalization and digitalization. The success of the product aspect is proof that the Teaching Factory at SMKN 2 Padang has functioned as a bridge between the world of education and the world of industry, as well as a vocational learning model that can be used as a reference for other schools.

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