# INDUSTRY BASED LEARNING TECHING FACTORS FOR FORMING THE CHARACTER OF VOCATIONAL HIGH SCHOOL STUDENT

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***Abstract*—Juvenile delinquency such as truancy, brawls, and other negative behaviors are challenges that schools often face. This phenomenon is triggered by various internal factors such as lack of self-control, as well as external factors such as peer influence and lack of involvement in positive activities. To overcome this problem, SMKN 1 Cirebon applies the Teaching Factory (TeFa) learning model, an approach that combines learning in schools with industrial practices. TeFa provides students with real experience in a work environment that resembles industry, forming characters of discipline, responsibility, and cooperation. This program is effective in reducing juvenile delinquency by directing students to relevant and meaningful structured activities. Through the TeFa program, students not only gain technical skills that are in accordance with industry needs but are also trained to face the world of work through industrial culture such as fingerprint attendance, briefings, and work targets. This study uses a qualitative method with a case study approach to explore the implementation of TeFa at SMKN 1 Cirebon. Data collection techniques with observation, interviews and data analysis using Source Triangulation. The results of the study showed that TeFa succeeded in improving student discipline, reducing juvenile delinquency, and strengthening the relationship between schools and the world of work. industry can collaborate with partners such as PT. Dharma Listrik Manufaktur. TeFa as a practical solution to improve the quality of vocational education, Field Work Practices, and bridge the gap between education and the needs of the world of work.**

Keywords— ***Teaching Factori (TeFa); Student character; discipline***

## I. INTRODUCTION

Juvenile delinquency is one of the social problems often faced by schools. This phenomenon not only affects the individual teenagers themselves but also the school environment and society. Juvenile delinquency is often triggered by internal factors, such as lack of self-control and motivation to learn, as well as external factors, such as peer pressure and minimal involvement in positive activities.

Problems in vocational high school students can be resolved well with cooperation between homeroom teachers. To minimize the occurrence of juvenile delinquency, guidance and counseling teachers need to provide education and socialization as a preventive measure. SMKN 1 Cirebon faces similar challenges in forming strong student characters and preventing deviant behavior. As a vocational education institution, this school is tasked with not only providing technical skills, but also forming students' characters so that they are ready to face the world of work and become responsible members of society. One approach that has begun to be implemented in many vocational high schools, including SMKN 1 Cirebon, is industry-based learning through the Teaching Factory concept.

Teaching Factory is a learning model that combines the learning process in schools with industrial practices. Teaching factory learning model. Vocational high school graduates need to be equipped with entrepreneurial skills because not all vocational high school graduates can be absorbed by industry [1]. Soft skills are developed in vocational schools to provide student training from the aspects of career maturity, knowledge and the formation of student discipline character. This principle has a positive impact on students in participating in the TEFA program at school.

Ineffective management can lead to problems such as lack of collaboration with industry, irrelevant curriculum, and low quality of graduates. For [2]. Teaching Factory tends to focus more on student self-development. With structured activities, free time that often triggers naughty behavior can be minimized. The experience of working in an industrial environment encourages students to have a positive mindset and motivation to achieve.

Explicit review with previous research, namely the Utilization of Digital Learning Media on Student Character at SMK Negeri 8 Jeneponto This study examines how the use of digital learning media affects the character of students at SMK Negeri 8 Jeneponto. The results show that the use of digital media can improve student character, such as honesty and wisdom in the use of technology.

The process of implementing the values of character education studied is in the form of planning and implementing the implementation of character values that have been carried out by schools and focuses more on religious values, honesty, perseverance, discipline, and care/responsibility which are priority values [4]. Strategy and Implementation of Character Education in the Industrial Revolution 4.0 Era This article discusses the strategy and implementation of character education in the context of the Industrial Revolution 4.0 era. The importance of technology integration in education is emphasized to form adaptive student characters who are ready to face industry challenges.

Teaching Factory-Based Learning in Vocational High School Revitalization This book discusses the implementation of the Teaching Factory-based learning model as part of the revitalization of Vocational High Schools. This model aims to improve students' skills according to industry needs, so that it can form the character of students who are professional and ready to work. implementation of the teaching factory (TEFA) program. This fact is a balance between the world of vocational school education and the world of industry, so that to overcome the existing balance, it is necessary to carry out various strategies in developing hard skills and soft skills to run in balance.[5]

At SMKN 1 Cirebon, the implementation of Teaching Factory is focused on answering two main objectives: 1. Forming positive student characters: Through industrial simulations, students are trained to improve self-discipline and be responsible and have a distinctive soul of a high-achieving nation. 2. Preventing juvenile delinquency: By involving students in relevant and meaningful activities, the risk of them falling into negative behavior is reduced.

The government officially launched Presidential Regulation or Perpres Number 68 of 2022 concerning the Revitalization of Vocational Education and Training (PVPV). Profession. (Kemendikbud.go.id, 21/02/23). It is interesting to note the second point that education in vocational schools graduates are middle-level workers who are expected to become productive workers, ready to enter the world of work and able to develop their skills in their vocational fields [3].

Investment for the development and growth of the country. There are six scopes regulated from the revitalization of vocational education and vocational training as mandated in the Presidential Regulation, namely First, the design of the Job Market Information System to help educational units know the need for competent workers, starting from the number, type, to location. Second, the implementation of competency-based vocational school education, link and match, and vocational school centers of excellence.

Third, the implementation of vocational higher education based on link and match and dual system. Fourth, the implementation of competency-based training and skills courses, future jobs, skilling, reskilling, and upskilling. Fifth, quality assurance of vocational education and training, competency certificates, and accreditation of graduate certificates. And Sixth, increasing the role of stakeholders including Ministries/Institutions, local governments, the Indonesian Chamber of Commerce and Industry (KADIN), and the National Certification Agency for the progress of vocational schools centered on innovation and cultural development created in the school. Schools are a form of organization that has its own culture from a complete and unique system [6]

Graduates produced by educational institutions do not match the needs of the industry. The need for a link and match concept between vocational institutions and industry. The aspects that must be considered to connect and match schools and industry needs are 1) Quality, 2) Quantity, 3) Location and 4) Time [7]. students optimally. Information and communication technology has developed along with globalization, so that interaction and delivery of information will take place quickly. Information and Communication Technology has had a major impact on social activities to communicate, work and utilize information technology for various aspects of life including education. Education is one of the important things that influences the development and progress of a nation, considering that education is a strategic means and vehicle in developing human resources. Quality human resources are capital.

In line with the vision of national education to form a competent young generation And learning based on industry in Factory Teaching contributes to the formation of student character and prevention of juvenile delinquency especially in SMKN 1 Cirebon. Based on the problems above, it can be formulated as follows: Can TeFa improve character, learning This is important To evaluate so far What programs can improve students' understanding of careers in choosing jobs in the future? How is the learning process of the TeFa program at SMK N 1 Kota Cirebon?

## II. METHOD

This research method uses a qualitative method, namely an approach used to understand social phenomena in depth, the context of education, this method is often used to explore the dynamics that occur in the school environment, including at SMK Negeri 1 Cirebon. In this study, the researcher used a qualitative case study method. Case studies are one type of qualitative research that aims to investigate a phenomenon in depth in a particular context. This research can involve analysis of individuals, groups, institutions, or events in a certain time and context. The subjects of the study consisted of students in grades X, XI, XII in the categories of factories, workshops, business units and education. The indicators of students who were used as research subjects were students in grade XI of the Tefa Program from 5 students, 2 students were taken who had met the criteria including the indicators, students in taking

special TEFA classes, students can adjust to new adaptations to the environment and students can have the ability, knowledge, skills, readiness to work by understanding theory and practice in a balanced way that has been developed in the TEFA class.

## III. RESULTS AND DISCUSSION

motivational factors, environmental factors in schools are very supportive of the teaching and learning process, however this process can be hampered by physical aspects such as the availability of facilities which are not yet supportive, the school has not fully provided infrastructure and the teachers' willingness to provide guidance and teaching is still lacking, meaning they are not yet able to create a harmonious and friendly atmosphere.[9].

Factory Teaching is a learning model in Vocational High Schools that is a mixture of the educational process and the industrial world or the world of work. Students not only gain theoretical knowledge in class, but also gain direct experience in practices that are relevant to the industrial world. According to Government Regulation Number 41 of 2015, Teaching Factory is defined as a means of production in schools that are run based on industrial procedures and standards to produce products in accordance with real industrial conditions, without being oriented towards seeking profit. TeFa SMK Grand Design explains this learning concept as a production/service-based model in SMK that refers to industrial standards and is implemented in an atmosphere similar to the real industry. aims to prepare Vocational High School students to be more prepared and skilled when entering the world of work after graduating.

Lamancusa, Jorgensen, Zayas-Castro, Ratner, the basic principle of factory tear is an the industrial revolution 5.0 is a real movement towards the development of increasingly sophisticated information and technology. The two revolutions actually have different essences, but with the same core, namely technology. The first is industry 4.0, an industry that combines automation technology with cyber technology. This is a trend of automation and data exchange in manufacturing technology. This includes cyber-physical systems, the Internet of Things (IoT), cloud computing and cognitive computing [11] Education in the era of the industrial revolution 4.0 is seen as the development of three major competencies of the 21st century, namely the competence of thinking, acting and living in the world. Thinking competencies include critical thinking, creative thinking, and problem solving. Competence in action includes communication, collaboration, digital literacy and technological literacy [12]

Moerwismadhi said that the dynamics of educational transformation have grown rapidly, along with increasingly developing technology. This can happen because of the existence of learning systems and methods supported by digital world technology [13]. The learning process cannot be separated from the role of teachers or educators, the teachers are needed who have strong core competence including educational competence, competence in research, competence for digital, competence in globalization, and competence in future strategies. [14]

Character education is one of the steps in instilling character to build a strong foundation for the nation's successors. [15]. Students who have a habit of time discipline can be the foundation of self-learning to increase awareness in working students need to be trained in work readiness since being in the vocational education environment, this is done periodically and continuously so as to create a professional attitude and resilience. Working is not an easy thing for students to do after graduating from school because the age of work readiness is considered not mature enough. Students after graduating are one of the efforts to form self-character to be more disciplined and understand the capacity, knowledge, academic potential, skills and suitability in pursuing a career in the industrial world in principle the willingness and ability and attitude of student discipline are formed by positive habits and environments. A positive environment can affect the quality of life of students in industry and schools to be more active, creative and innovative in carrying out activities at school and in the world of work so that there needs to be career readiness and maturity. The following graph shows the differences in majors in vocational schools from 3 levels starting from class X, XI, XII from the Factory or Industry, Workshop, Business and Education departments.

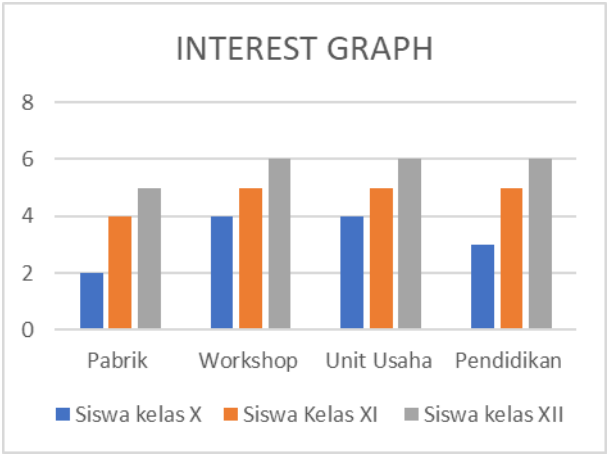


**Figure I. Interest Graph**

TABLE I. GRADE STUDENT

| | Grade X students | Grade XI Students | Grade XII students |
|---|---|---|---|
| Factory | 2 | 4 | 5 |
| Workshop | 4 | 5 | 6 |
| Business Unit | 4 | 5 | 6 |
| Education | 3 | 5 | 6 |

Based on the results of the graph analysis above, it can be understood that the interests of students in grades X, XI, XII have differences in terms of knowledge, skills and interests. BK teachers can analyze students by providing regular counseling and understanding in improving students' abilities so that they are able to develop their talents and interests and have basic competencies and train personal responsibility. The 4 categories that students are interested in in developing their potential, talents and interests include aspects of personal development, such as the ability to process emotions, understand self-potential, other supporting aspects such as future career choices including choosing interests and implementing careers in the future. Factories, Workshops, Business Units, and Education are the priority career choices for students in the future. BK teachers can help each student in developing talents and interests as well as career choices in the future.

Implementation of Factory Teaching, Vocational High School graduates expect to have skills that are more ready and relevant to the needs of the world of work, thereby improving the quality of competent human resources. This learning also provides opportunities for students to expand their industrial networks, which often open up internship or work opportunities after graduation.

The implementation of Teaching Factory in vocational schools not only adds to students' practical experience, but also maintains a close relationship between schools and industry, which supports the achievement of more applicable and quality vocational education goals.

Factory teaching (tefa) Vocational High School N 1. Cirebon was established on September 1, 2021. It has started to pioneer but will be implemented to students on September 1, 2023. The person in charge of tefa is led by the principal of SMKN 1 Cirebon, currently the principal has given the mandate as tefa coordinator to Mr. Suwardi, he is also the deputy principal for facilities and infrastructure and a teacher from the electrical engineering department at the school. The existence of this teaching factory is an order from the education office which aims to train vocational school students to get used to the world of work which will later become Field Work Practices in class XII.

The views of modern society with technological advances have brought major changes, including the way of looking at an action in making decisions [16].

According to Mr. Ardi as one of the tefa coordinator members at SMK N 1 Cirebon, tefa was established in 2021 and was implemented for only 6 months for grade 11. The selection was carried out by the company and then the decision on the selection results was checked directly by PT. Dharma Electrindo Manufacturing so that the results were purely from the company in conducting the selection, the tefa entrance selection was in the form of a written test and a physical test. Mr. Ardi explained that until now there have been no students accepted or parents Complaints which are related to tefa industrial learning. There are many benefits to be gained from this tefa activity, firstly the character of students changes when participating in tefa juvenile delinquency activities is reduced by tefa activities such as brawls. Students who have participated in tefa are no longer interested in juvenile brawls, because they are more focused on their responsibilities. Jobs available at tefa (Adolph, (United Kingdom, 2016). Second, the skills possessed by students have been honed in advance before facing Field Work Practice at the target company, third, discipline increases because arrival and departure times and attendance are monitored directly by the company using finger attendance.

According to Mr. Riyanto as the person in charge of the company, he said that the school had signed a memorandum of understanding with so that every year a tefa would definitely be held, but Dharma Electrindo Manufacturing has its own procedure by taking care of permits with the parents of each student so that it can be held at Cirebon 1 Vocational High School. This makes children understand the meaning of not being responsible enough because when they are in the company later, each child has their own responsibilities, both in terms of targets and punishments that will be received if they violate existing regulations. He said it was very different when being responsible at school compared to in the company, but all of that was not a problem for me because students here are easy to manage to carry out all their duties and obligations. Even the habits in the school also follow.

company habits where every morning the morning assembly is led by Nadhif as the head of the 2024 tefa, joint gymnastics are held and continued with direction by Mr. Riyanto as the person in charge of the company before starting the tefa activities. Many students have changed starting from their attitudes which have become better and also their habits of no longer doing things that are prohibited by school regulations, because when tefa learning begins all students focus on their respective targets that have been determined and calculated by each leader. Changes in education in the digital era require teachers or lecturers to have the ability to integrate information and communication technology into the learning process [17].

According to Nadhif as the head of the 2024 class, he said that this tefa is very effective to implement because it is not easy to get bored receiving theory and practice but not going into the field so that later when the Field Work Practice is carried out, they are not surprised by the habits that exist in the company because there is already experience learning the tefa industry in grade 11 at school. Teaching Factory (TeFa) is one of the learning models applied in vocational schools to integrate the education process with world industry standards. This concept emphasizes production-based or service-based learning that is in accordance with industry standards and procedures, without being profit-oriented, as explained in Government Regulation Number 41 of 2015. TeFa at SMKN 1

Cirebon was pioneered on September 1, 2021 and began to be applied to students on September 1, 2023. The implementation of this program is led by the principal with coordination involving various parties, including partner companies such as PT. Dharma Electrindo Manufacturing. The selection of students who take part in TeFa is carried out directly by the company through written tests and physical tests, with the results of the selection being entirely the company's decision.

The benefits of implementing TeFa are very significant, including Character Development and Discipline, namely students show positive character changes, such as reduced juvenile delinquency and increased discipline.

## IV. CONCLUSIONS

The world of work for vocational high school students is one of the places to practice self-readiness by understanding knowledge, developing skills and academic potential, and good attitudes. Work readiness in the vocational high school environment provides opportunities for students to practice and improve time discipline, work speed, and accuracy. In principle, vocational high school students have limitations in facing the working age after graduating from vocational school, but with the process of providing and innovating the skills learned, they are able to form a concept of thinking and acting skills in real terms. Students of SMK N 1 Kota Cirebon can prepare their potential, talents, and interests to develop future careers through the TeFa program, one of the leading programs in schools that can help students developing potential by improving skills and training responsibility in the business world and the world of work. The TeFa program is a solution to improve vocational education a practical and applicable manner.

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