

Improving Teacher Competence Through Industrial Internship Programs: Multi-case Study at Islamic's VHS 1 Blitar and Veteran's VHS 1 Tulungagung

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Abstract

Advances in technology go hand in hand with innovation in the industry, so teachers must prepare students to satisfy industry needs. Teacher apprenticeship is a program that must be implemented in order to improve teacher competence. The approach used in this study is a qualitative approach with a multicase study type. Research on Islamic Vocational School 1 Blitar City and Veterans Vocational School 1 Tulungagung. Based on the findings, the implementation of teacher apprenticeship cannot be separated from the collaboration that exists between SMK and industry. The cooperation includes planning, implementation, evaluation and certification. Teacher internships can be carried out because schools provide support to teachers and industry which always provide opportunities. Obstacles in the implementation of teacher internships exist in the implementation time which must adjust the teacher's teaching hours, so that the implementation time is limited or waiting for holidays.

Keywords: *competence, teacher apprenticeship, internship programs*

Introduction

Undang-undang No 13 in year 2003 The Ministry of Manpower defines apprenticeship as part of the vocational training system organized in an integrated manner between training at training institutions and working directly under the guidance and supervision of instructors or more experienced workers in the production process of goods and/or services in companies, in order to master certain skills or expertise. Based on this understanding, apprenticeship is defined as work experience provided by training institutions or competent workers. In this context, teacher apprenticeship is defined as work experience provided by the world of work and the industrial world to productive teachers as an effective way to improve teacher competence and professionalism

Participation in teacher internship programs in industry can make a significant contribution to improving teachers' competencies. According to Khan (2011:20), cited by Sunardi and Sudjimat (2016), the quality of teacher education and training has a fundamental impact on the overall success of education. In this context, teacher internship programs in industry serve as an important element in the effort to improve teacher competence. The continuous development of technology causes differences between industry experiences during academic education and training and apprenticeship experiences carried out in daily work. These differences mainly include the dynamics of innovations that are constantly evolving in the industrial world, so the knowledge possessed by teachers must always be updated to remain relevant and up-to-date.

The implementation of teacher internships is based on the importance of improving teacher competence which will have an impact on the quality of teaching. The importance of teacher internships underlies the enactment of Government Regulations and Laws relating to teacher internships in industry. Law No. 14 of 2005 article 14 paragraph 1 concerning Teachers and

Lecturers explains that in carrying out professional duties, teachers have the right to improve competence. Article 20 also states the obligations that must be carried out by teachers including carrying out teacher duties, planning learning, improving and developing academic qualifications and competencies on an ongoing basis in line with the development of science, technology and art.

According to Komar (2017) the objectives of teacher internships are: (1) applying and upgrading knowledge and skills, (2) preparing reliable human resources (HR), (3) improving communication skills, and (4) getting an overview of the latest world of work. In addition, teacher internships also aim to improve harmony and strengthen cooperation between vocational schools and industry. One of the most basic objectives of teacher internships is to improve the professionalism of teachers to know the latest developments in the world of work so that they can implement them in learning activities.

Utami & Hudaniah (2013) interpret SMK as an educational institution that aims to provide special provisions and skills, students are prepared to enter the world of work. Students are more focused on being able to develop their abilities in certain fields, being able to work and adapt in the work environment, see job opportunities, and develop themselves in the future. In this case, students are required to really master the field that has been taken. According to Arikunto (1988:1) vocational education is intended to prepare skilled personnel needed in society. SMK students will be equipped with skills that are in accordance with their interests and are needed by the world of work. This is none other than to make it easier for SMK graduates to enter the world of work. These skills are expected to be able to equip students to compete and develop in line with innovations in science and technology.

According to Feigenbaum (1989: 7) quality is the overall combination of product and service characteristics of engineering marketing, manufacturing and maintenance that make products and services used to meet customer expectations, while according to Supriyono (2002: 377) the definition of quality is more focused on the level of good and bad of something. Barrie and Paulson (1995) in Rachman (2017: 17) describe the basic elements of quality into 3 dimensions, namely: 1) quality characteristics, 2) quality in design, and 3) quality of suitability. Meanwhile, Hansen and Mowen (1997: 5-6) argue that there are eight dimensions of quality that become consumer expectations. The eight dimensions of quality are: 1) performance, 2) aesthetic, 3) service ability, 4) features, 5) reliability, 6) durability, 7) quality of conformance, and 8) fitness of use. From some of the above explanations, it can be concluded that quality is a measure made by customers of products from various dimensions to suit the needs, comfort, safety, and convenience of customers.

Method

Qualitative research approach and case study research type are the two main components in the research methodology you mentioned. Qualitative approaches focus on in-depth understanding of complex and contextual phenomena. This research method tends to use non-numerical data, such as text, interviews, and observations, to explore the meanings, interpretations, and patterns that emerge from the data. Case study research is often used when researchers want to understand a particular situation in depth, and usually involves collecting data from multiple sources, such as documentation, interviews, and observations. The goal is to provide a comprehensive picture of the phenomenon being studied. Here is why the researcher designed the case study method.

1) The researcher's interest in investigating the case, the case study method can provide in-depth insight into how various factors and elements interact with each other in shaping the observed situation

2) The uniqueness of the phenomenon being investigated, the phenomenon being studied is considered unique, and the researcher believes that a case study is the most suitable approach to explore an in-depth understanding of this phenomenon in its specific context.

This research approaches the context of a school or education system by focusing on factors such as school policies, school programs, school innovations and the role of teachers. The case study method makes it possible to explore each of these aspects in depth and provide a comprehensive picture of how they interconnect and influence the situation in a specific educational context. However, it is important to keep in mind that the research method chosen should be aligned with the research questions and objectives of the study.

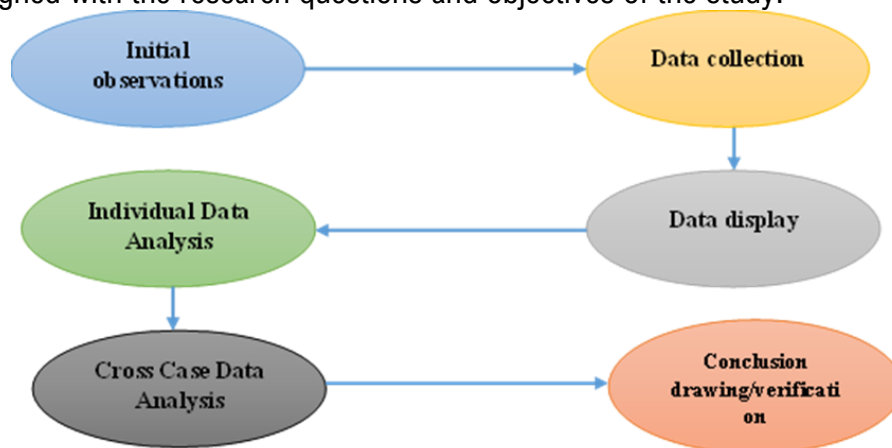


Fig. 1. Research Stages

Results

Through the process of interviews with several resource persons including the Deputy Head of Curriculum, Head of Expertise Competencies, and Productive Teachers who have participated in industrial apprenticeships, as well as observation of related documents, a series of findings were obtained related to improving teacher competence through industrial apprenticeship programs. These findings include the following.

Teachers involved in the industrial apprenticeship program need to make a positive contribution to the school environment. Therefore, priority is given to the Head of Expertise Program and senior teachers to participate early in the program. The approval process for teacher internship requirements in the industry involves collaboration between the industry and the school. The implementation of teacher internships in the industry is carried out in partnership with companies that have established cooperation with Islamic's VHS 1 Blitar and Veteran's VHS 1 Tulungagung. The selection of partner industries as a place for teacher internships is based on an MoU that has been approved and ratified by the VHS and the world of industry and business. The success of teacher internships in industry depends on the assessment and standards set by the industry itself. Therefore, schools must continue to strive to improve the quality of education so that more industries are willing to collaborate with schools. The industry has an important role in assessing the quality of the school and setting the standards necessary for effective cooperation. Thus, SMKs that want to implement teacher internship programs in industry need to build strong cooperation with partner industries. This will ensure that the teachers involved in the internship program make valuable contributions to

the school environment and follow the standards set by the industry to maintain the quality of the internship program.

Planning for teacher internships

Planning for teacher internships in industry and the business world which includes: 1) requirements for teachers who can/are allowed to participate in teacher internship programs in industry and the business world, 2) requirements for industries where teacher internships are held, 3) school preparation in preparing teacher internship programs, 4) industry preparation in preparing teacher internship programs, and 5) formation of MoUs. The collaboration between industry and Vocational High Schools (VHS) is a synergy that provides sustainable benefits for education. In this collaboration, the school's role does not only focus on determining the teachers who will participate in the apprenticeship program in the industry, but also holds an important responsibility in organizing and managing the Teaching and Learning Activities (KBM) process. The selection of teachers who will be involved in the internship program in the industry is a strategic initial stage. This decision is made by the school by considering the competence, experience and dedication of each teacher. This determination is based on an effort to ensure that the teachers involved have the appropriate capabilities and will make a valuable contribution to the internship program. However, the school's role does not stop at the selection stage. The school also has a central role in organizing and managing the KBM process on an ongoing basis during the implementation of the internship program. When multiple teachers are involved in an internship program, schools need to take concrete steps to ensure that the quality of learning remains optimal: (1) proper schedule planning, (2) teaching alternatives, and (3) support and coordination. In conclusion, collaboration between industry and VHS is not only about selecting teachers for internships, but also involves the school's responsibility in maintaining the quality of learning through effective management of the KBM. The ultimate goal is to ensure that students continue to receive high-quality education and valuable experience, while making a positive contribution to the relationship between education and industry. The industry took preparatory steps relating to the technical aspects of running the internship program for teachers. In this effort, the industry designed scenarios that would guide the implementation of the internship, and also provided special mentoring for the teachers involved in the program. Through this approach, the industry tries to ensure that the apprenticeship program can be run well, benefit all parties, and provide valuable experience for the teachers. The agreement formed between SMK and industry in order to implement teacher internships involves several important aspects, namely:

- 1) The number of teachers involved, the number of teachers dispatched for the internship program ranged from 1 to 2. This indicates a selective approach in choosing suitable teachers to undergo this program.
- 2) Duration of implementation, The internship in the industry ranges from 14 days to 1 month. This period provides sufficient time for teachers to engage in the industry environment and gain in-depth insight into relevant aspects.
- 3) Financing, In terms of financing, the round-trip transportation aspect is covered by the school. However, for accommodation during the internship, the cost will be covered by the industry. In this way, the financial responsibility in this program is clearly regulated.

Teacher internships Implementation

The implementation of teacher internships in industry and business includes the implementation model, implementation process, and monitoring. In the implementation of teacher internships in industrial settings, a block model approach is used, where teachers

participate in the internship program for a predetermined period of time. This implementation is based on a structured and cohesive approach, ensuring that teachers are fully engaged in the industrial world over a period of time. The process of implementing teacher internships in industry is carried out in compliance with the rules and cultural norms prevailing in the industry sector. During the internship program, teachers participate in activities that are similar to the tasks performed by workers in the industry. Teachers thoroughly follow the protocols and procedures that exist within the industry environment, creating a match between the internship activities and the day-to-day operations in the industry. As part of their involvement in the industry, teachers are bound by the rules and norms that apply there. Their activities are fully compliant with industry standards and if there are any violations or excessive absenteeism, the industry has the right and authority to sanction accordingly. With this approach, the integrity of the internship program is maintained and teachers are given the opportunity to truly experience the working environment and culture in the actual industry. During the internship implementation phase, the school performs an active monitoring function. This monitoring process is carried out through three different approaches, namely by making direct visits to the industry, monitoring progress through telephone communication, and checking teachers' attendance. The school parties authorized to carry out this monitoring process include the Principal, Vice Principal for Public Relations and Human Resources, and the Head of the Expertise Program. The school's involvement in this monitoring process reflects a commitment to ensuring that the teacher internship goes according to plan and provides optimal benefits for all parties involved. Through these various monitoring approaches, the school strives to maintain the integrity of the internship program and ensure that the teachers gain valuable experience in a real industrial environment

Teacher's Internship Evaluation

Assessment of the results of the teacher internship is carried out after the teacher returns to the school environment. This evaluation process is expressed verbally when the teachers present the results of their internship in the industry. The guidelines that form the basis for awarding certificates to teachers are only known by the industry, while teachers and schools have no knowledge of these guidelines. Before obtaining a certificate, teachers are required to undergo an exam. However, the implementation of this exam is entirely carried out by the industry, as the school does not organize an exam after the apprenticeship program in the industry. The form of the exam involves giving the apprentice teacher a jobsheet. The teacher will design and simulate the process on the Mastercam device, then continue the execution on the CNC machine to produce a product according to the jobsheet. Like students, teachers are also required to prepare a report on their activities during the internship. The preparation of this report is carried out after the internship period is over, and the report must be submitted no later than one week after the internship ends. The contents of the report include documentation, journals, modules, jobsheets, and workbooks that describe the series of internship activities. Certificates are awarded to teachers who participate in the internship according to the schedule and requirements set by the industry. The issuance of certificates or awards for teachers who meet these criteria is carried out by the industry after the teachers have completed the apprenticeship program and met the set standards. However, not all teachers obtained certificates after undergoing the apprenticeship program. Of the six interviewees who participated, only one of them managed to obtain a certificate. Three certificates had not yet been issued by the industry, and the other two teachers did not obtain certificates because their internships were part of the industrial and TeFa class programs. After returning to school, teachers also have an obligation to carry out mentoring to fellow teachers.

Teacher's Internship Supporting and Inhibiting Factors

There are several factors that support the implementation of the teacher internship program in the industry. First, this program is a necessity supported by the government. Second, the drive to gain new knowledge and experience as well as knowledge renewal is also a supporting factor. Third, the support provided by the school also encourages the success of the teacher internship program in the industry. However, based on the research results, there are factors that become obstacles including: (1) the relatively short duration of the internship is an obstacle, (2) the quota available from schools and industries is very limited, and (3) the burden of busy teaching hours is also an inhibiting factor. To overcome these obstacles, there are solutions that can be implemented. First, during the implementation of the internship, teachers must maximize the time given and always be active so that the results obtained are maximum even in a relatively short time. Second, to overcome quota and time constraints, the main option is to increase the number of partner industries involved. In this way, the opportunity for teachers to take part in internships can be expanded. The existence of more flexible scheduling will provide greater opportunities for teachers to be involved in the internship program while maintaining the balance of teaching hours at school.

Teacher internship experience in the industrial environment has a significant positive effect on teacher competence, which in turn has an impact on students' skills in facing challenges in the world of work. Teachers who have experienced the real situation in the industry will be more effective in delivering learning materials and providing guidance to students. As a result, students will have a deeper understanding of the conditions in the industrial world, which in turn increases their confidence in facing the real working environment. Thus, the interaction of teachers who have industrial experience can help students better prepare themselves to face challenges in their future careers.

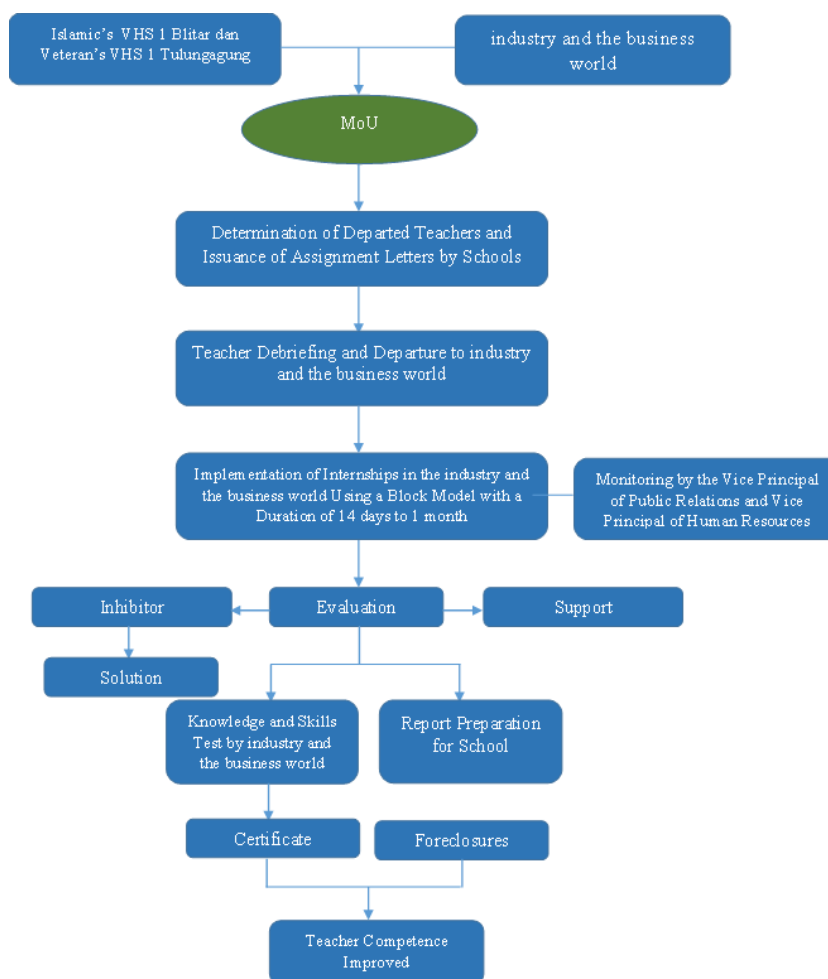


Fig. 2. Teacher Internship Implementation Procedure at industry and the business world

Discussion

In the selection of industries to run the internship program, priority is given to cooperation with partner industries that have suitability in the field of expertise with the existing major programs at school. In other words, the selected industry has a relationship that is in line and consistent with the focus of learning taught at school. In line with the explanation above, Tjiptadi (2017:116) outlines the criteria for finding partner industries involving two main requirements. First, consistency must be found between the educational needs of the school and the situation in the industrial world. Basically, the selected industry must be interrelated and in accordance with the educational programs run at SMK. Second, in an effort to establish cooperation, the existence of a Memorandum of Understanding (MOU) or a form of cooperation contract is an important step as official evidence of the partnership formed between the school and the industry.

Based on the review of previous literature and the findings of this research, it can be concluded that the main prerequisite in finding cooperation partners or partner industries is the alignment between the expertise programs presented in schools and related industrial sectors. Constructive and meaningful cooperation is not possible if the fields of work carried out by the two parties do not have similarities. The findings obtained in this study are in line with previous findings, although they may not be entirely identical. This difference should be anticipated, as each institution or school seeking an industry partner will have unique standards and characteristics that reflect their own principles.

In addition to these considerations, it is also important that the selected industry must have comprehensive clarity, both in terms of licensing and legality. This point is in line with the views expressed by Sukardi and Hargiyarto (2007: 157) in Tjiptadi (2017: 116) referring to several criteria applied in the selection of industries as cooperation partners. These criteria involve the selection of companies with legal status (legal), commitment to the implementation of regulations that prioritize labor protection, implementation of transparent employment contracts, and guarantees of work safety for all employees who work.

The form of agreement established in this collaboration includes several aspects, namely: First, the number of teachers involved in each internship session. Second, the duration of the internship, which includes the start and end dates of the internship period. Third, the costs associated with teacher internships, which involves the division of responsibilities between vocational schools and industries regarding internship costs. The study found that round-trip transportation costs are covered by the school, while accommodation costs during the internship are paid for by the industry. The number of teachers dispatched for each internship ranges from 1 to 2 teachers.

The next step is the selection of teachers to be included in the industry internship program. Based on the research results, the researcher's observations indicate that the first priority goes to the head of the skills program and senior teachers. This approach ensures that the teachers selected already have proven experience and dedication to the school. After determining which teachers will join the internship program, the next task for the school is to make thorough preparations, including compiling the necessary documents, organizing lesson plans for students, and detailing the cost aspects. Once all the preparations are complete, the selected teachers will depart for their internship in the industry according to the set plan.

Internships are organized in accordance with the requests and needs of partner industries. Usually, this program lasts for a period of 14 days to 1 month, with an implementation approach in the form of a block model. In other words, teachers who take part in the internship will be involved in industry activities during a predetermined period. In the implementation of this teacher internship, schools play an important role in ensuring that the teachers involved actually undergo the internship program in the industry. This monitoring process is carried out according to the conditions and distance between the SMK and the industry. Monitoring can take place through various means, such as direct physical visits, communicating by telephone, checking reports prepared by teachers, or interacting directly with the industry through available communication channels.

In the implementation stage, teachers who undergo internships in an industrial environment are subject to the rules that apply in the industry. They follow the same working hours as the workers in the industry, and are required to take attendance and prepare in the workshop before working hours begin. The use of personal protective equipment and uniforms identical to those of industry workers is mandatory for these teachers. In addition, these teachers are expected to follow the culture and norms that exist in the industrial environment, in line with applicable standards.

The evaluation process of teacher internships in the industry takes place after the internship period ends. The industry conducts an evaluation that focuses on the execution of the internship program, including an assessment of the work achieved by the teacher during the internship. On the other hand, schools also carry out evaluations related to this internship program, but the scope is broader. The evaluation carried out by the school does not only focus on the execution of the internship in the industry, but also includes an evaluation of the learning in the classroom when the teachers concerned are undergoing the internship program.

After the implementation stage of the teacher internship in the industry, the school does not implement a post-internship exam. The responsibility of organizing this exam is fully borne by the industry, which aims to provide evaluation and preparation for the issuance of internship certificates to teachers. This certificate issuance process is only carried out when the teachers have met the necessary qualification requirements. In this case, the issuance of the certificate is the authority of the industry as the final action of the internship program.

After completing the apprenticeship program in the industry, teachers have several obligations that must be carried out. First, teachers have an obligation to share the knowledge and experience they have gained with fellow teachers who have not participated in the industrial apprenticeship program. They can do this by organizing workshops or training in the school environment. Secondly, teachers will also teach in industrial classes. In situations where the teacher internship is part of the industrial classroom program, teachers who have completed the internship are eligible to provide instruction in the industrial classroom. Thus, their participation in the apprenticeship program provides an opportunity to contribute more broadly to the enhancement of experience and learning in both school and industrial settings.

The research findings in the form of supporting factors include: 1) teacher apprenticeship is a government program, 2) school support for productive teachers, 3) the enthusiasm of productive teachers to gain new knowledge and knowledge, and 4) the importance of updating knowledge. The existence of these supporting factors facilitates the implementation of teacher internships in the industry.

Some of the obstacles that hindered the smooth implementation of this teacher internship program are as follows: First, not all industries are willing to cooperate with schools. Secondly, there is a gap between teachers' knowledge and experience and work practices in the industry, encouraging teachers to study hard and work harder so that they are not left behind. Third, schools need to organize teacher replacement in the case of teachers participating in internships, as well as address the situation of abandoned classes so that they are not neglected. Fourth, teachers should design alternative assignments and lessons for students during their absence. In the face of these obstacles, various solutions can be implemented. First, efforts to improve school performance can open up opportunities for increased cooperation with more industries. Second, teachers need to uphold the spirit of hard work and continuous self-development, and not hesitate to seek information and learn so that the gap between teacher competence and industry workers can be minimized. Third, finding suitable substitute teachers can help maintain the smooth running of classroom activities left by teachers who are undergoing internships. Fourth, teachers need to try to be smart in managing their time and tasks so that both their responsibilities in the industry and at school can be carried out properly. Thus, these solutions are expected to overcome various obstacles that may arise in the implementation of this teacher apprenticeship program. According to the results of Wahana's research (2019:41), obstacles also arise in the aspect of financing. The amount of funds allocated by schools to support the costs of productive teachers involved in the apprenticeship program is still limited, so they sometimes rely on apprenticeship programs that are fully funded by the government or industry, with the costs provided in full.

According to Sutijono (2016: 210) the teacher internship program has a positive impact in several areas, including teacher promotion, improvement of teachers' professional knowledge and competence, as well as influence on the performance of students taught by teachers who have participated in the internship program. This results in variations in the learning outcomes produced. Through these statements and the findings from the research related to the impact of teacher internship programs in industry on students' skills in facing the world of work, it can be concluded that teachers who experience internships in industry have a

positive influence on students' skills in facing challenges in the world of work. Teachers who have a direct understanding of the real situation in the industrial world tend to be more effective in transferring knowledge and providing guidance to students. This ultimately prepares students with a more in-depth understanding of the industrialized world, which boosts their confidence in facing challenges in the world of work.

Conclusion

Teacher participation in the industrial apprenticeship program has a significant impact on improving teacher competence. Through this program, productive teachers have the opportunity to develop their knowledge and skills according to the actual needs in the industrial world. Thus, teachers have the capability to convey the latest information they have gained from the industrial experience to fellow teachers and students. Before implementing the teacher internship program, SMKs need to establish partnerships with various industries. The greater the number of partner industries, the more opportunities for productive teachers to improve their knowledge and skills through science and technology updates. In an effort to increase the number of partner industries, schools should focus on continuous improvement in the search for suitable industry partners. The main criterion in the selection of partner industries is the suitability of the industry field with the expertise program offered by the school.

The approach used in the implementation of teacher internships in SMK is the block model. This means that teachers are required to be in an industrial environment for a predetermined period of time, usually ranging from 14 days to 1 month. However, a study by Hasanuddin (2019) revealed that the vocational education program for productive teachers in SMK only lasts for 12 working days. In the program, 2 days are allocated for theory activities, 9 days for practicum, and the last day for certification. The working time and activities of teachers during internships in the industry are adjusted to the working hours of workers in the industry. Teachers have to adjust to the culture and regulations that apply in the industrial environment. During the internship, the school also conducts monitoring through various means, either by direct visits, telephone communication, or checking attendance and activity reports submitted by teachers after the internship ends. To obtain an apprenticeship certificate, a teacher is required to undergo apprenticeship activities in accordance with the provisions and guidelines set by the partner industry. In addition, teachers are also required to undergo exams organized by the industry and achieve graduation. However, there are cases where some industries do not issue internship certificates to teachers. This may occur because the internship conducted by the teacher is part of a series of TeFa programs, which may have specific regulations or objectives that make the industry not issue certificates as part of the program.

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