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Management of Field Work Practice Programs in Enhancing Students' Competencies in Vocational Education

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Abstract: Field Work Practice is an important strategy in vocational education to improve students' competencies through workplace learning experiences. However, the effectiveness of PKL implementation is strongly influenced by the quality of program management, including planning, organizing, implementation, and evaluation. This study aims to analyze the management of the PKL program in improving student competencies in vocational high schools. The research employed a qualitative approach with a case study design conducted at SMK Negeri 1 Cugenang and SMK Negeri Pertanian Pembangunan Cianjur. Data were collected through semi structured interviews, passive participatory observation, and documentation study. Data were analyzed thematically through data reduction, data presentation, and conclusion drawing. The results indicate that PKL management is implemented systematically through management functions consisting of industry based planning, organizing through the formation of implementation teams and task distribution, implementation through students involvement in real industrial work activities, and evaluation through competency assessments conducted by schools and industry partners. Although several challenges were identified, such as limited industry partners and variations in student readiness, strategies including strengthening industry partnerships, improving student preparation, and conducting periodic monitoring have enhanced the effectiveness of PKL implementation. The study concludes that systematic and collaborative PKL management plays a significant role in improving students competencies and work readiness in vocational education.

Keywords: Field Work Practice; Vocational Education Management; Student Competence; Vocational High School; Work Based Learning.

Abstrak: Praktik Kerja Lapangan (PKL) merupakan salah satu strategi penting dalam pendidikan vokasi untuk meningkatkan kompetensi siswa melalui pengalaman belajar di dunia kerja. Namun, keberhasilan pelaksanaan PKL sangat dipengaruhi oleh kualitas manajemen program yang meliputi perencanaan, pengorganisasian, pelaksanaan, dan evaluasi. Penelitian ini bertujuan untuk menganalisis manajemen Praktik Kerja Lapangan dalam meningkatkan kompetensi siswa di sekolah menengah kejuruan. Penelitian menggunakan pendekatan kualitatif dengan desain studi kasus yang dilaksanakan di SMK Negeri 1 Cugenang dan SMK Negeri Pertanian Pembangunan Cianjur. Data dikumpulkan melalui wawancara semi terstruktur, observasi partisipatif pasif, dan studi dokumentasi. Analisis data dilakukan secara tematik melalui proses reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa manajemen PKL dilaksanakan secara sistematis melalui fungsi manajemen yang meliputi perencanaan berbasis kebutuhan industri, pengorganisasian melalui pembentukan tim pelaksana dan pembagian tugas, pelaksanaan melalui keterlibatan siswa dalam aktivitas kerja nyata di industri, serta evaluasi melalui penilaian kompetensi oleh sekolah dan dunia usaha dan dunia industri. Meskipun terdapat beberapa kendala seperti keterbatasan mitra industri dan variasi kesiapan siswa, upaya penguatan kemitraan industri, pembekalan siswa, dan monitoring berkala mampu meningkatkan efektivitas pelaksanaan PKL. Penelitian ini menyimpulkan bahwa manajemen

PKL yang sistematis dan kolaboratif berperan penting dalam meningkatkan kompetensi dan kesiapan kerja siswa di pendidikan vokasi.

Kata Kunci: Pkl; Manajemen Pendidikan Vokasi; Kompetensi Siswa; Sekolah Menengah Kejuruan; Pembelajaran Berbasis Kerja.

INTRODUCTION

Vocational education plays a strategic role in developing competent and adaptive human resources in response to changes in the world of work (Triyono & Hariyanto, 2024). In recent decades, global economic transformation driven by digitalization, automation, and technology integration has significantly altered the structure of workforce needs (Li, 2023). Modern industries no longer require only workers with basic technical skills but also individuals who possess critical thinking, collaboration, problem solving abilities, and lifelong learning capabilities (Ramos & Ruiz, 2023). These changes require education systems to adjust curricula and learning methods in order to produce graduates who are relevant to industry demands and global labor market dynamics (Hastutiningsih et al., 2024). In this context, vocational education is viewed as a key mechanism for bridging the gap between education and the world of work through the development of practice based skills and real world work experience (Thapa, 2024).

A number of studies show that one of the most effective approaches to enhancing the relevance of vocational education is through work based learning or work integrated learning (Haruna & Kamin, 2019; Rahdiyanta et al., 2019). This approach allows students to gain authentic work experience in industrial environments, enabling them to connect theoretical knowledge with professional practice. Various studies indicate that work based learning programs improve employability skills, strengthen technical competencies, and help students understand workplace culture and professional standards in industry (Haruna & Kamin, 2019; Thapa, 2024). Other research also shows that integrating work experience into the curriculum enhances graduates' work readiness and facilitates the transition from education to the workforce (Inderanata & Sukardi, 2023; Suyitno & Pardjono, 2018). Thus, work based learning has become an increasingly important approach in the development of modern vocational education systems.

In the global vocational education context, various countries have developed work based education models to improve graduate quality. Germany's vocational education system, for example, adopts a dual system that systematically integrates school based learning with industry training (Bui, 2023). This model has proven effective in enhancing graduate work readiness and strengthening ties between educational institutions and industry (Madsen et al., 2016; Yoto et al., 2024). In addition, international reports indicate that countries with vocational education systems integrated with industry tend to have lower youth unemployment rates due to more effective transition mechanisms between education and work (Biavaschi et al., 2012; Muja et al., 2019). These findings reinforce the argument that integration between education and the world of work is a crucial factor in enhancing the effectiveness of vocational education.

Along with these developments, vocational education in various countries is also undergoing transformation to adapt to the demands of the Industry 4.0 era (Amin & Mustaqim, 2021; Putra et al., 2019). Advances in digital technology,

artificial intelligence, and automated production systems require a workforce that not only possesses technical skills but also the ability to adapt to technological changes (Ghosh & Ravichandran, 2024; Leong, 2025). Therefore, vocational education needs to integrate experiential work based learning with the development of 21st century skills such as creativity, communication, collaboration, and digital literacy (Hartini et al., 2025; López & López, 2020). The integration of technical and non technical skills becomes a key indicator in assessing the success of vocational education in preparing competitive graduates for the global labor market.

In Indonesia, Vocational High Schools (SMK) are one of the key institutions responsible for preparing competent mid level workers who are ready to enter the labor market (Triyono & Hariyanto, 2024). Vocational education is designed to provide a balance between theoretical learning and practical training so that students can develop competencies relevant to industry needs. One strategy used to strengthen the linkage between school learning and industry demands is the Field Work Practice program (Praktik Kerja Lapangan/PKL) (Husnaini et al., 2021; Putri & Sutarto, 2018). This program provides students with opportunities to learn directly in business and industrial environments, allowing them to gain real world work experience before entering the workforce.

The PKL program represents an implementation of the dual education system concept that integrates school based learning with industry work experience (Husnaini et al., 2021). Various studies indicate that direct work experience through industrial practice programs enhances students' work readiness and helps them develop professional skills required in the labor market (Nasichah et al., 2024; Satwika et al., 2025). Furthermore, work practice activities play an important role in developing soft skills such as discipline, responsibility, teamwork, and communication skills, which are essential components of professional competence (Abadiyah et al., 2025; Ritantiyo et al., 2024). Therefore, PKL becomes a vital instrument in improving the quality of vocational education graduates.

Nevertheless, various studies indicate that the implementation of work based learning programs does not always run optimally (Kuntadi & Kuntadi, 2023; Wulansari, 2021). Several studies have found that the success of work practice programs is strongly influenced by the quality of program management, including planning activities, coordination between schools and industry, mentoring systems, and evaluation mechanisms applied during practice activities (Phusavat et al., 2021; Suyitno & Pardjono, 2018). Without systematic management, work practice programs risk becoming merely administrative activities that fail to provide meaningful learning experiences for students.

From an educational management perspective, program implementation must be carried out systematically through management functions that include planning, organizing, implementing, and supervising (Nurhikmah, 2024; Widodo et al., 2017). This approach is known as the POAC management framework, which has long been applied in various organizational contexts to ensure that activities achieve predetermined objectives effectively and efficiently (Lubis, 2018; Zakiah et al., 2023). The application of management functions in managing work practice programs is essential because these activities involve multiple stakeholders, including schools, students, and industry partners (Siswanto et al., 2018). Through effective management, work practice programs can be designed systematically,

implemented effectively, and evaluated continuously to improve the quality of vocational education learning outcomes.

Previous research has highlighted the importance of work based learning in vocational education. The study conducted by Billett (2011) found that workplace learning plays a crucial role in developing practical competencies and professional understanding among students. Similarly, Jackson (2019) reported that participation in work integrated learning significantly improves students' employability skills and readiness for professional work environments. Smith et al. (2019) also demonstrated that authentic workplace experience through industrial practice programs can strengthen students' professional competence and transition to employment. Furthermore, Raelin (2008) emphasized that the effectiveness of work based learning programs is strongly influenced by the quality of collaboration between educational institutions and industry partners. In the Indonesian context, Sutrisno and Siswanto (2016) found that effective supervision and mentoring during workplace practice contribute to improving students' discipline, motivation, and professional attitudes. These findings indicate that the success of work based learning programs depends not only on the availability of internship opportunities but also on how effectively such programs are managed and implemented by educational institutions.

However, most existing studies primarily focus on the implementation of practice programs or their direct impact on students' competencies. Research that comprehensively analyzes the management of workplace practice programs remains relatively limited. Many studies highlight the benefits of work based learning without examining in detail how such programs are planned, organized, implemented, and evaluated at the institutional level. In fact, the quality of program management plays a crucial role in determining the effectiveness and sustainability of work based learning initiatives.

Furthermore, a significant proportion of work based learning research has been conducted in the context of higher education or vocational education systems in developed countries. Studies that specifically investigate the management of industrial practice programs at the vocational high school level particularly within the Indonesian vocational education context are still relatively scarce. This indicates a need for more in depth research examining how workplace practice programs are managed in vocational high schools and how such management contributes to improving students' competencies and employability.

Based on these considerations, this study aims to analyze the management of the Field Work Practice (Praktik Kerja Lapangan/PKL) program in improving students' competencies in vocational education. The study focuses on examining how management functions namely planning, organizing, implementation, and supervision are applied in managing workplace practice programs.

RESEARCH METHOD

This study employed a descriptive qualitative approach with a case study design. The qualitative approach was selected because this research aimed to obtain an in-depth understanding of the management of the Field Work Practice program in improving students' competencies in vocational high schools. This approach enables researchers to explore educational management practices holistically, particularly by interpreting participants' experiences, perceptions, and actions within their natural

context rather than measuring variables statistically (Creswell & Poth, 2018; Denzin & Lincoln, 2018). The case study design was used because the study focused on examining a contemporary phenomenon within real-life educational settings, where the boundaries between PKL management practices and the school context are closely connected (Yin, 2018). Through this design, the research was able to analyze how PKL management was implemented through planning, organizing, implementation, and evaluation, as well as how these managerial processes contributed to students' competency development.

The research was conducted at SMK Negeri 1 Cugenang and SMK Negeri Pertanian Pembangunan Cianjur, West Java, Indonesia. These two schools were selected purposively because they represent vocational education institutions that actively implement structured PKL programs and maintain partnerships with business and industrial sectors. The selection of both schools also allowed the researcher to obtain comparative and contextual data regarding PKL management practices in different vocational education settings. Data were collected through in-depth interviews, passive participatory observation, and documentation study, which are commonly used in qualitative research to obtain rich, contextual, and comprehensive data (Patton, 2015; Merriam & Tisdell, 2016). Interviews were conducted with school principals, vice principals responsible for industry relations, PKL supervising teachers, students, and industry partners to explore information related to planning, coordination, implementation, supervision, evaluation, challenges, and solutions in PKL management. Observations were carried out during PKL preparation, implementation, and mentoring activities to capture the real dynamics of interaction among schools, students, and industry partners. Documentation study was conducted by examining PKL guidelines, cooperation documents, student activity journals, evaluation instruments, supervision reports, and student PKL reports to strengthen and validate the data obtained from interviews and observations.

Data were analyzed using qualitative thematic analysis through the stages of data reduction, data presentation, and conclusion drawing (Miles, Huberman, & Saldaña, 2014). Data reduction was conducted by selecting, simplifying, and organizing information relevant to the research focus, namely PKL management in improving students' competencies. The reduced data were then presented in narrative form based on the management functions of planning, organizing, implementation, and evaluation so that patterns and relationships among findings could be identified systematically. The conclusion drawing stage was carried out by interpreting the findings, comparing information across data sources, and linking empirical data with concepts of vocational education management and student competency development. To ensure the credibility and trustworthiness of the findings, this study applied source triangulation, technique triangulation, and member checking. Source triangulation was conducted by comparing information from school leaders, teachers, students, and industry partners, while technique triangulation was carried out by comparing interview, observation, and documentation data. Member checking was used to confirm the accuracy of preliminary findings with research participants so that the interpretation reflected the actual conditions of PKL implementation (Lincoln & Guba, 1985; Creswell & Poth, 2018; Denzin & Lincoln, 2018; Patton, 2015).

RESULT AND DISCUSSION

Results

The findings of this study were obtained through a systematic data collection process using semi-structured interviews, passive participatory observation, and documentation studies conducted at SMK Negeri 1 Cugenang and SMK Negeri Pertanian Pembangunan Cianjur. The collected data were analyzed thematically and presented according to the research focus, namely the management of Field Work Practice (Praktik Kerja Lapangan/PKL) in improving students' competencies in vocational high schools.

Planning of Field Work Practice Management to Improve Student Competence in Vocational High Schoolsb

The planning of PKL management at SMK Negeri 1 Cugenang and SMK Negeri Pertanian Pembangunan Cianjur was carried out systematically to align the school curriculum with industry needs. Industry needs analysis became the initial stage in identifying the competency gap between students and industrial standards. This process was followed by the selection of relevant industry partners and the preparation of PKL programs based on competency achievement indicators. Administrative preparation, including memoranda of understanding (MoU), assignment letters for supervising teachers, and student activity journals, supported the legitimacy of program implementation and facilitated monitoring.

Planning of Field Work Practice at SMK Negeri 1 Cugenang was conducted systematically by aligning the school curriculum with the needs of the business and industrial sectors. The planning process included industry needs analysis, selection of relevant industry partners, preparation of competency-based PKL programs, and administrative preparation such as memoranda of understanding (MoU), assignment letters for supervising teachers, and student activity journals. This planning aimed to ensure that PKL implementation was well structured and capable of improving students' competencies according to industry standards.

Planning of Field Work Practice at SMK Negeri Pertanian Pembangunan Cianjur was also carried out through coordination between the school and industry partners. The school mapped the competencies required by industry and adjusted them to the students' areas of expertise. In addition, the school provided preparatory training for students before participating in PKL, which included technical readiness, work ethics, discipline, and understanding of industrial work culture.

A vice principal for industry relations explained: "We conduct an industry needs analysis first before determining PKL placements. This ensures that students are placed in industries that match their competencies." (Interview, Vice Principal for Industry Relations, SMK Negeri 1 Cugenang).

Documentation obtained during the study showed the existence of PKL planning documents such as activity schedules, lists of industry partners, cooperation documents, and student preparation modules. These findings indicate that well-designed planning forms an important foundation for the successful implementation of PKL and the improvement of student competencies.

Organizing Field Work Practice Management to Improve Student Competence in Vocational High Schools

The organization of PKL focused on establishing a work team structure, dividing tasks, and developing coordination mechanisms between supervising teachers and industry instructors. At SMK Negeri 1 Cugenang, PKL organization was carried out by forming an implementation team consisting of the school principal, vice principal, heads of study programs, supervising teachers, and instructors from business and industry.

This organizational structure aimed to ensure clear distribution of tasks and responsibilities in implementing the PKL program. The roles of supervising teachers and industry instructors were carried out collaboratively. Supervising teachers were responsible for students' academic guidance and character development, while industry instructors were responsible for guiding students' technical skills during PKL activities.

The mechanism for placing students in industries was also based on competency compatibility so that the learning experience obtained by students could be optimized. PKL organization at SMK Negeri Pertanian Pembangunan Cianjur also involved close cooperation between the school and industry partners. Coordination was carried out regularly to ensure that the learning process in industry environments was aligned with the objectives of vocational education.

A supervising teacher explained: "Each student has a supervising teacher from the school and an instructor from the industry. Both parties work together to ensure that students gain maximum learning experiences." (Interview, PKL Supervising Teacher, SMK Negeri Pertanian Pembangunan Cianjur).

Supporting documentation included the PKL organizational structure, lists of supervising teachers' task distributions, and data on student placements in various industries. These findings indicate that clear organizational structures strengthen coordination between schools and industry in implementing PKL.

Implementation of Field Work Practice Management to Improve Student Competence in Vocational High Schools

The implementation of PKL emphasized the application of industrial work culture, daily activities following standard operating procedures (SOP), collaborative mentoring, the use of industrial technology, and the strengthening of soft skills. Adaptation to industrial work culture, including discipline, productivity, and occupational safety practices, served as a foundation for developing students' professionalism.

Observation results showed that PKL implementation effectively improved students' technical competencies and professionalism. Students who actively participated in industrial activities demonstrated significant improvements in both hard skills and soft skills, while collaborative mentoring ensured that competency standards aligned with curriculum objectives and industry needs were achieved.

At SMK Negeri 1 Cugenang, PKL implementation involved direct exposure to industrial work culture. Students participated in various work activities according to industrial SOPs, including daily tasks, the use of industrial technology, and the development of technical skills relevant to their fields of expertise.

In addition to technical competencies, PKL implementation also emphasized the development of soft skills such as work discipline, communication skills,

teamwork, and problem-solving abilities. Supervising teachers and industry instructors provided regular guidance to ensure that students could perform their assigned tasks effectively.

Implementation at SMK Negeri Pertanian Pembangunan Cianjur also included the use of daily activity journals that recorded students' activities during their internships. These journals functioned as monitoring tools as well as evaluation materials for assessing students' competency development.

An industry instructor stated: "Students are directly involved in industrial work activities so they can understand real work processes. In this way, their skills can develop more effectively." (Interview, Industry Instructor).

Documentation related to PKL implementation included student activity journals, daily activity reports, and photographs of practical activities in industry. Observational findings indicate that PKL implementation significantly improved students' technical competencies and professional attitudes.

Evaluation of Field Work Practice Management to Improve Student Competence in Vocational High Schools

PKL evaluation was conducted through student performance assessments by industry partners, academic evaluations by schools, competency-based evaluation instruments, product or output assessments, industry feedback, and student report presentations. Evaluation functioned as a mechanism for measuring program effectiveness as well as a basis for continuous improvement.

A supervising teacher explained: "We assess students' PKL reports and presentations to evaluate how well they understand the work experiences they gained during their time in industry." (Interview, PKL Supervising Teacher, SMK Negeri 1 Cugenang).

Industry evaluations assessed students' technical competencies and work attitudes in real workplace contexts, while school evaluations emphasized alignment with academic standards. Feedback from industry partners and report presentations allowed students to reflect on their strengths and weaknesses while also serving as input for improving future PKL programs.

Evaluation documentation included industry assessment sheets, student PKL reports, and evaluation notes from supervising teachers. These findings indicate that systematic evaluation strengthens accountability, improves the quality of mentoring, and ensures that student competencies meet industry standards. Continuous evaluation also supports the principle of continuous improvement in vocational education management.

1. Challenges in Field Work Practice Management to Improve Student Competence in Vocational High Schools

Several major challenges in PKL management were identified, including limited industry partners, differences in student readiness, transportation barriers, limited facilities, ineffective communication, and administrative constraints. Limited industry partnerships affected the quality of mentoring, while variations in student readiness influenced their ability to adapt to work culture and achieve competency standards.

Some students experienced difficulties adjusting to industrial work culture, time discipline, and work demands that were more rigorous than school-based learning activities.

A supervising teacher stated: "Some students still need time to adapt to industrial work culture, especially in terms of discipline and responsibility in completing tasks." (Interview, PKL Supervising Teacher, SMK Negeri Pertanian Pembangunan Cianjur).

Transportation barriers and limited facilities also reduced the effectiveness of PKL implementation, especially for students placed far from school or in industries with limited infrastructure. In addition, ineffective communication between schools and industry partners sometimes caused misunderstandings regarding program objectives and evaluation mechanisms.

These findings indicate that such challenges may reduce the quality of learning experiences and competency achievement. Therefore, early risk identification and mitigation strategies are essential to maintain the effectiveness of PKL management and the consistency of student learning outcomes.

Solutions for Field Work Practice Management to Improve Student Competence in Vocational High Schools

Solutions implemented to address PKL challenges included expanding industry partnerships, providing intensive competency-based student preparation, offering transportation support or group placement systems, conducting periodic monitoring, revitalizing training equipment, digitalizing administrative processes, and involving parents in supporting student participation.

Expanding industry partnerships helped address the limited capacity of industry placements while increasing the variety of practice opportunities available to students.

A school principal explained: "We continuously expand collaboration with industry partners and strengthen student preparation programs so that students are better prepared when participating in PKL." (Interview, Principal, SMK Negeri 1 Cugenang).

Intensive and adaptive preparation improved both technical and non-technical readiness among students, while periodic monitoring ensured quality control and timely problem resolution. Administrative digitalization strengthened accountability and efficiency, while equipment revitalization helped maintain the relevance of school training facilities with current industrial technologies.

The findings show that the implementation of integrated solutions improves the effectiveness of PKL programs, minimizes challenges, and strengthens students' competency achievement. Collaboration between schools, industry partners, and parents was found to support the sustainable and adaptive management of PKL programs in response to industry needs.

Overall findings of this study indicate that the management of the Field Work Practice program (*Praktik Kerja Lapangan*/PKL) at SMK Negeri 1 Cugenang and SMK Negeri Pertanian Pembangunan Cianjur was implemented systematically through the management functions of planning, organizing, implementation, and evaluation. Each management function contributed to improving students' competencies, particularly in strengthening technical skills, work discipline, communication, teamwork, responsibility, and readiness to adapt to industrial work culture. However, the study also found several challenges, including limited industry partners, differences in student readiness, transportation constraints, limited facilities, communication gaps, and administrative obstacles. To address these challenges,

schools implemented several strategies, such as expanding industry partnerships, strengthening student preparation, conducting regular monitoring, improving communication with industry partners, digitalizing administration, and involving parents. The overall findings of the study are presented in Table 1.

Table 1. Overall Findings of PKL Management in Improving Students' Competencies

Aspect of PKL Management	Main Findings	Contribution to Students' Competencies
Planning	PKL planning was carried out through industry needs analysis, selection of relevant industry partners, preparation of competency-based programs, and administrative documents such as MoU, assignment letters, and student activity journals.	Strengthened the alignment between school curriculum and industry needs, ensuring that students were placed in work environments relevant to their competencies.
Organizing	PKL organizing involved the formation of implementation teams, division of tasks, and coordination between school principals, vice principals, supervising teachers, students, and industry instructors.	Created clearer roles and responsibilities, enabling more effective supervision and guidance during students' workplace learning.
Implementation	PKL implementation provided students with direct involvement in real workplace activities, application of standard operating procedures, exposure to industrial work culture, and mentoring from both school and industry supervisors.	Improved students' technical skills, work discipline, communication, teamwork, responsibility, and adaptation to professional work environments.
Evaluation	PKL evaluation was conducted through student performance assessment by industry partners, academic assessment by schools, student activity journals, PKL reports, presentations, and feedback from industry.	Helped measure students' competency achievement, identify weaknesses, and provide input for improving future PKL implementation.
Challenges	Several challenges were found, including limited industry partners, different levels of student readiness, transportation constraints, limited facilities, communication gaps, and administrative obstacles.	Affected the quality and consistency of students' learning experiences during PKL.
Solutions	Schools addressed challenges by expanding industry partnerships, strengthening student preparation, conducting regular monitoring, improving communication, digitalizing administration, and involving parents.	Supported more effective PKL implementation and helped students become better prepared, more adaptive, and more competent in workplace settings.
Overall Finding	PKL management was implemented systematically through planning, organizing, implementation, and evaluation, although several contextual challenges remained.	Systematic and collaborative PKL management contributed to improving students' competencies, work readiness, and professional attitudes in vocational education.

Discussion

The findings of this study indicate that the management of the Field Work Practice program (*Praktik Kerja Lapangan*/PKL) at SMK Negeri 1 Cugenang and SMK Negeri Pertanian Pembangunan Cianjur was implemented systematically through the POAC management functions, namely planning, organizing, actuating, and controlling. This finding is consistent with classical management theory, which emphasizes that effective organizational performance is built through structured planning, clear organization, directed implementation, and systematic control (Terry, 2014; Robbins & Coulter, 2018). In this study, industry needs analysis, selection of relevant industry partners, preparation of competency-based programs, and development of administrative documents show that the planning function was translated into practical strategies to align school programs with labor market demands.

The planning and organizing stages found in this study also confirm the importance of alignment between vocational education and industry needs. Strong coordination between schools and industry partners is a key foundation for effective work-based learning because it ensures that students are placed in real work environments relevant to their competencies (Euler, 2013). This finding also supports the "link and match" principle, which emphasizes the importance of connecting vocational education programs with employment sector demands (Kemendikbudristek, 2021). Through the formation of PKL implementation teams, division of tasks, and collaborative supervision between teachers and industry instructors, both schools were able to establish coordination mechanisms that strengthened the effectiveness of PKL implementation (Robbins & Coulter, 2018).

The implementation of PKL in both schools illustrates the relevance of experiential learning in vocational education. Students' direct involvement in industrial activities allowed them to transform theoretical knowledge into practical competencies through concrete experience and reflective practice, as emphasized in experiential learning theory (Kolb, 2015). The findings show that students developed not only technical skills, but also professional attitudes such as discipline, responsibility, communication, teamwork, and adaptation to industrial work culture. This is in line with previous studies showing that work-based learning and work-integrated learning significantly improve employability skills, professional competence, and students' readiness to enter the workplace (Billett, 2011; Jackson, 2019; Brown, 2021; Smith et al., 2019).

The findings also reveal that the effectiveness of PKL management is strongly influenced by school–industry collaboration and contextual support. The involvement of industry partners enabled schools to provide authentic workplace learning experiences that reflected real industrial conditions. This supports the view that effective vocational education systems require strong governance and multi-stakeholder collaboration involving schools, industries, and policymakers (OECD, 2021). In the Indonesian context, the findings are consistent with previous research showing that effective supervision during industrial practice contributes to students' discipline, motivation, and professional attitudes (Sutrisno & Siswanto, 2016). Therefore, PKL effectiveness is not determined merely by the availability of internship placements, but by how well the program is planned, coordinated, supervised, and evaluated (Raelin, 2008; Billett, 2011; Jackson, 2019).

Nevertheless, this study found several challenges in PKL management, including limited industry partners, differences in student readiness, transportation barriers, limited facilities, communication gaps, and administrative constraints. These challenges indicate that PKL implementation requires adaptive management strategies, particularly in responding to resource limitations and the changing demands of the industrial sector. Rapid technological and economic transformation requires vocational education institutions to continuously adapt their training models, infrastructure, and management systems (Schwab & Zahidi, 2023). In this context, strengthening preparatory training, expanding industry partnerships, improving monitoring mechanisms, and developing digital administrative systems become important strategies to reduce coordination problems and improve program accountability.

Overall, the findings demonstrate that systematic and collaborative PKL management based on the POAC framework can serve as an effective model for improving students' competencies in vocational education. Structured planning strengthens the relevance of student placement, organizing clarifies roles and responsibilities, implementation provides authentic workplace experience, and evaluation supports continuous improvement through feedback from schools and industry partners. Moreover, competency-based vocational education requires authentic assessment systems that reflect students' real workplace performance (Darling-Hammond & Hyler, 2020). Therefore, vocational schools need to strengthen school–industry partnerships, improve student preparation, develop collaborative supervision, and integrate digital technology into PKL management to prepare students who are competent, adaptive, and work-ready in response to changing labor market demands (Fullan, 2020; Brown, 2021; Schwab & Zahidi, 2023).

CONCLUSION

This study examined the management of the Field Work Practice program (Praktik Kerja Lapangan/PKL) in improving students' competencies in vocational high schools. The findings indicate that PKL management at SMK Negeri 1 Cugenang and SMK Negeri Pertanian Pembangunan Cianjur is implemented systematically through the POAC management functions: planning, organizing, actuating, and controlling.

The planning stage aligns school curricula with industry needs through industry analysis and the selection of relevant partners. The organizing stage establishes collaborative coordination between schools and industry through clear task distribution between supervising teachers and industry instructors. The implementation stage provides authentic workplace learning experiences that enhance students' technical competencies and professional skills. Meanwhile, the evaluation stage ensures program effectiveness through competency-based assessments and feedback from industry partners.

Although several challenges were identified, such as limited industry partnerships and variations in student readiness, strategic solutions including expanded collaboration, improved student preparation, and better monitoring mechanisms help strengthen PKL implementation.

Overall, the study concludes that systematic PKL management supported by strong school–industry collaboration plays an important role in improving vocational students' competencies and employability. The findings highlight the importance of structured managerial processes in strengthening work-based learning programs within vocational education.

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