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Strengthening Work Culture to Enhance Student Competence in Vocational High Schools: A Comparative Case Study

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Abstract

This study examines the management of strengthening work culture to enhance student competence in vocational high schools amid technological and industrial advancements. Teachers must continually upgrade their skills for innovative learning, supported by work culture features such as attitudes, skills, knowledge, methods, media, modules, programs, resources, facilities, and budgets—preparing students for business/industry. Using a qualitative descriptive approach, data from interviews, observations, and documentation of implementing schools reveal that effective strategies—planning, organization, implementation, and evaluation—boost competence. Mentoring, periodic reviews, and roles of teachers (role models), principals (strategic managers), staff (operational support), students (active participants), and industry partners (internship sites) amplify impacts. Strengthening work culture offers a strategic solution for industry-ready graduates. Recommendations include school and government policies to promote these programs.

Keywords: industrial world; strengthening management; student competencies; time management; work culture.

INTRODUCTION

Strengthening work culture is a series of activities for vocational high school students in implementing positive habits, attitudes, and behaviors in the work environment to become the foundation for productivity, cooperation, and organizational success. Work culture in vocational schools is not only interpreted as a routine, but as values that shape the way students think and act so that they are ready to enter the world of work. Schein and Schein (2016) emphasize that organizational culture, including work culture in educational institutions, is a pattern of shared basic assumptions learned by a group to overcome problems of external adaptation and internal integration, which are then taught to new members as the correct way to feel, think, and behave (Schein & Schein, 2016).

However, the reality on the ground shows that there is still a gap between ideal goals and actual conditions. Vocational high school students often face internal obstacles, such as low learning motivation, difficulty concentrating, poor time management, and the negative influence of social media and online games.

External obstacles also arise in the form of limited relevant learning resources and minimal support for an optimal learning environment. These conditions impact the development of student competencies less than optimally. These challenges are reinforced by data from the Central Statistics Agency, which show that 2.2 million vocational high school graduates fall into the Not in Employment, Education, or Training (NEET) category. The high NEET rate indicates that most vocational school graduates are not optimally absorbed into the workforce or are not pursuing further education. This data highlights a mismatch between the competencies of vocational school graduates and the needs of the business, industrial, and work worlds (Mashabi & Kasih, 2024).

The ever-evolving world of work demands that vocational schools (SMK) strengthen their students' work culture to align with the needs of modern industry. Strengthening a work culture rooted in discipline, responsibility, professionalism, and teamwork is essential for vocational school graduates to compete effectively. According to the Directorate General of Vocational Education, strengthening work culture in vocational schools is a strategic step in preparing graduates who not only excel in technical skills but also possess strong soft skills, such as communication, work ethic, and adaptability. Furthermore, the current transformation of vocational education is faced with the era of Society 5.0, which places humans at the centre of development (human-centred) but remains technology-based (technology-based). Qur'ani et al. (2024) emphasized that vocational schools as formal institutions have a crucial role in preparing students to become superior human resources in this era, by emphasizing a balance between technical skills, digital skills, and work culture values (Qur'ani et al., 2024).

In the context of vocational education, strengthening work culture is strategic, as vocational schools are required to produce graduates who are not only technically competent but also possess a work ethic aligned with industry needs. The Directorate General of Vocational Education emphasizes that the implementation of work culture in vocational schools must be based on the values of discipline, responsibility, and professionalism as the foundation of work competency. This aligns with the results of a study by Rahmatullah (2023), which showed that work culture strengthening programs in vocational schools contribute positively to building a learning climate that fosters discipline, cooperation, and student readiness to face real-world work challenges (Rahmatullah, 2023).

Management steps for strengthening work culture include planning, organizing, implementing, and monitoring, better known as the POAC cycle (planning, organizing, actuating, controlling). Terry explains that these management functions serve as a universal framework applicable to various fields, including vocational education. In practice, planning describes and formulates the activities necessary to achieve desired results; organizing involves determining and grouping activities; implementation focuses on mobilizing resources; and monitoring serves as a means of evaluation and continuous improvement (OpenStax, 2023).

The relationship between work culture and the strengthening of vocational school students' competencies becomes clearer when linked to the concepts of work-based learning and teaching factories (TEFA) (Imran et al., 2024). Cahyani & Miyono (2024) found that the implementation of a work culture-based teaching factory in vocational schools improves technical competency while shaping students' work character (Cahyani & Miyono, 2024). This finding is reinforced by research by Imran, Marzuki, and Widodo (2024) which states that the implementation of TEFA has a significant effect on students' work readiness by strengthening technical skills and soft skills (Imran et al., 2024). Likewise, Purnami et al, (2021) in the ERIC report emphasized that strengthening the culture of quality in vocational schools through teaching factories is an important instrument in building the quality of work-based learning (Purnami et al., 2021).

Furthermore, international studies also demonstrate the relevance of strengthening work culture in vocational education. The OECD (2013) emphasized that preparing the younger generation for the future world of work must be supported by education that instills the values of work, discipline, and adaptability (OECD, 2013). A similar thing was expressed by the International Labour Organization (2023) which emphasized the importance of integrating digital skills and a productive work culture in the TVET (Technical and Vocational Education and Training) curriculum in Indonesia (Kent, 2023). The European Training Foundation (2017) also added that work-based learning developed through school work culture can strengthen the connection between vocational schools and industry (ETF: Working Together Learing for Life, 2017).

Several recent studies confirm that strengthening vocational school culture, by instilling values of discipline, collaboration, problem-solving, and a productive ethos, is closely correlated with graduates' job readiness. A study in the Journal of Mechanical Engineering Education shows that developing a work culture in vocational school students is not merely about providing attitudes, but rather a structured, industry-based managerial process (planning, implementation, and evaluation) that internalizes professional work behavior in daily learning activities. This finding underscores the need for an explicit work culture program design (indicators,

instruments, and feedback) so that non-technical competencies (soft skills) develop simultaneously with technical skills (hard skills) (Hermawan et al., 2022).

Empirical support also comes from the teaching factory (TEFA) realm as a learning management platform that instills a culture of quality and industrial work culture in vocational schools. Evaluation of TEFA implementation using the CIPP framework in vocational schools in Indonesia shows that when needs-based planning (context), resource support (input), production practices/service simulations (process), and outcomes (product) are managed consistently, graduates demonstrate improved work skills, administrative order, and discipline—indicators of a work culture relevant to the business/industrial world. This strengthens the argument that strengthening work culture is effective when embedded within a systematic learning management cycle (Imran et al., 2024).

On the other hand, research highlighting "industrial culture" in vocational learning found that the proximity of the school ecosystem to real-world work practices (quality standards, occupational safety and health/SMK3, output targets, and service standards) accelerates the formation of students' professional habits. In other words, the more strongly "industrial culture" is integrated into school culture (rules, routines, symbols, and rewards), the greater the alignment of students' competencies with workplace expectations. This provides a theoretical basis for suggesting that work culture is not a complementary variable, but rather a mediator between vocational curriculum and work-oriented learning outcomes (Sukardi et al., 2020).

The literature on school-industry partnerships also enriches the picture. Studies on JIIP confirm that structural collaboration (cooperation agreements, curriculum synchronization, internships/practicums, visiting industry teachers, certification) contributes to improving student job readiness and discipline. Well-managed partnership practices not only increase the relevance of teaching materials but also strengthen work culture, such as procedural compliance, punctuality, and quality standards, which are directly practiced in the production/service context (Menteri Koordinator Bidang Perekonomian, 2019).

The school climate and culture dimensions also emerged as determinants. A study of the "culture of competition" in MA/SMK environments showed that the school's strategy of fostering a challenging yet supportive atmosphere through skills competitions, performance-based assessments, and appreciation was associated with increased students' achievement motivation, discipline, and fighting spirit. An ethically managed competitive culture becomes a vehicle for internalizing the work values (targets, perseverance, teamwork) required by the modern industrial world. This finding is relevant for the management of strengthening work culture in vocational schools because it provides evidence that planned cultural interventions can transform learning behavior into work behavior (Mulyani, 2025).

At a macro level, evidence from labor policy and economics demonstrates the importance of a work culture approach within the vocational ecosystem. The World Bank found that vocational education pathways in Indonesia provide early job transition advantages for some graduates, but the sustainability of these advantages depends on the quality of delivery, including the proximity of schools to industry and the development of professional work habits within schools. The practical implication: strengthening work culture, along with improving the quality of teaching, is key to ensuring graduates are not only quickly absorbed but also survive and thrive in the job market (Rukmana et al., 2021).

Official employment data also underscores the challenges that strengthening work culture aims to address. The Central Statistics Agency (BPS), through its latest Official Statistical News, notes the dynamics of unemployment and the quality of labor absorption, which require increased skill relevance and youth job readiness. In the context of vocational schools (SMK), these official findings reinforce the urgency of work culture management as an instrument to improve graduate employability, given that the workplace demands discipline, adaptability, and teamwork as equally important as technical skills (Badan Pusat Statistik, 2024).

Based on initial observations conducted by researchers at SMKN 1 Pertanian Sukaraja and SMKN 1 Cibadak, it appears that the practice of work culture strengthening management still faces various limitations, both in planning, organization, implementation, and evaluation. This impacts student competency, which does not fully align with industry expectations or national vocational education goals. Therefore, this research is important to further explore how work culture strengthening management at these two schools can be optimized to improve student competency.

METHOD

This research uses a qualitative approach with descriptive methods, grounded in a post-positivism or interpretive paradigm. The qualitative approach was chosen because this study aims to deeply understand the

phenomenon of strengthening work culture through management to improve student competency in vocational high schools (SMK) in their natural context. The researcher serves as the primary research instrument, so direct involvement in the field is crucial in capturing the true reality (Creswell & Poth, 2018).

Qualitative methods allow researchers to intensively explore the meanings, experiences, perceptions, and practices of principals, teachers, and students through interviews, observations, and document analysis. Lexy J. Moleong (2018) emphasized that qualitative research is intended to understand the phenomena experienced by research subjects, such as behavior, motivation, and actions, holistically by describing them in words and language, in a natural context (Lexy J. Moleong, 2018).

The research locations were SMKN 1 Pertanian Sukaraja and SMKN 1 Cibadak in Sukabumi Regency. These two schools were selected based on accessibility considerations, their representation of public schools with different vocational focuses, and their relevance to the industrial needs of the Sukabumi region. These locations allowed researchers to obtain a rich empirical picture of how work culture management is implemented in vocational schools.

Data collection was conducted through triangulation techniques, namely in-depth interviews, participant observation, and documentation studies. Interviews were conducted with the principal, productive teachers, and several students to explore their views regarding the implementation of work culture. Observations were conducted both in the classroom and in the school environment to record actual practices of habituating work culture. Documentation was used to review school documents, such as the curriculum, student performance reports, school work programs, and learning evaluation records. This triangulation was conducted to increase the validity of the data, as recommended by Patton (2002), who stated that a combination of data collection techniques strengthens the validity and reliability of qualitative research (Patton, 2002).

The research phase is divided into three main parts. First, pre-research, which includes formulating the problem focus, obtaining research permits, and conducting initial explorations with the school. Second, research implementation, which includes data collection through interviews, observation, and documentation. Third, data analysis, which is conducted interactively through the stages of data reduction, data presentation, and drawing conclusions (Miles, Huberman, & Saldaña, 2018). Data analysis is inductive, where patterns of findings are built from collected data, not from predetermined hypotheses (Miles, M. B., Huberman, A. M., & Saldaña, 2018).

The research instruments used were an interview grid and observation guidelines, developed based on the research focus. This grid helped ensure direction in data collection, allowing for a thorough exploration of aspects of work culture management, including planning, organization, implementation, and evaluation. This aligns with Arikunto's (2013) view that a research instrument grid serves as a map that guides researchers in systematic data collection (Suharsimi Arikunto, 2013). Using a descriptive qualitative approach, this study does not aim to test a hypothesis, but rather to build a comprehensive understanding of management strategies for strengthening work culture in vocational schools to improve student competency. The results are expected to contribute to the development of vocational education management practices and serve as a reference for other schools facing similar challenges.

RESULTS AND DISCUSSION

Work Culture Strengthening Planning

Planning is the primary foundation for establishing a strong work culture in vocational high schools. At this stage, schools formulate strategic elements such as a vision, mission, and work programs that specifically instill the values of the work culture itself. The vision and mission of work culture are fundamental in shaping the direction and character of an educational organization such as a vocational high school, and are not merely a formality. At SMKN 1 Pertanian Sukaraja and SMKN 1 Cibadak, the process of formulating the vision and mission of work culture was carried out in a participatory manner, involving school leaders, productive teachers, and student representatives to create a collective commitment to the values of professionalism, discipline, responsibility, and a consistent industrial work spirit. This participatory procedure fosters a sense of ownership and facilitates the internalization of values, as stated in the educational vision and mission reflection guide: that involving all stakeholders is an effective strategy for strengthening a sense of responsibility and ownership of work culture (Kutub Digital, 2024).

The selection of participatory narratives refers to the 5S cultural practice (Seiri, Seiton, Seiso, Seiketsu, Shitsuke), an industrial culture model proven to help internalize the values of order and professionalism.

Research results at SMK Muhammadiyah 1 Wates showed that the implementation of the 5S culture significantly strengthened discipline, a sense of responsibility, and cooperation among students (Karim et al., 2024). Meanwhile, a literature review analysis stated that 5S is an effective approach in strengthening practical competencies and student readiness to enter the industrial world, because this culture introduces routines and quality control in the vocational school environment (Safitri et al., 2025).

This formal foundation for the work culture vision and mission is then transformed into concrete programs. First, a program to cultivate values (such as discipline, creativity, and accuracy) is integrated into students' daily activities, from traditional ceremonies and morning sessions to the organization of industry-based classroom work systems. Second, this vision and mission are also strengthened through integration with the School-Based Management (SBM) policy, where the principal designs an annual work plan that includes work culture indicators, such as attendance rates, practical practicum participation, and laboratory productivity reports. This participatory work culture vision and mission encourages the creation of a learning environment that consistently instills the values of professionalism and industry readiness. This model reinforces the idea that work is not merely a technical activity, but rather a culture that is formed, developed, and lived collectively. As a result, vocational high school graduates possess not only technical competencies but also work behaviors aligned with the demands of modern industry.

After establishing the vision and mission of work culture, the next important step is to develop a school work program that explicitly and integratedly incorporates elements of work culture. At SMKN 1 Pertanian Sukaraja and SMKN 1 Cibadak, this approach is implemented by developing programs based on real needs (needs-based), not just formalities. These programs include 5S training (Seiri, Seiton, Seiso, Seiketsu, and Shitsuke), industrial work experience (Prakerin), a work culture reflection forum, and systematic evaluation using valid instruments such as questionnaires and FGDs (Focus Group Discussions).

5S-based work culture training provides a concrete foundation for cultivating discipline, cleanliness, and efficiency. Hermawan, Suyitno, and Riyadi (2022) validated a 5S work culture instrument for productive vocational high school teachers. They found that the instrument had high reliability ($\alpha = 0.793$) and strong content validity, reflecting the excellent implementation of the students' work culture (Hermawan et al., 2022). Implementation of this program helps create a neat, structured learning environment that supports a professional work culture.

Industrial internship programs, or prakerin (internships), not only provide students with technical experience but also introduce them to the culture and actual work standards of the business and industrial world. Irwanto (2021) examined the collaboration strategies between vocational schools (SMKs) and the business and industrial world and confirmed that aligning vocational education with industry needs (link and match) is crucial for improving graduate competencies (Irwanto, 2021). Similarly, a case study at SMKN 1 Bantul demonstrated that the implementation of a link-and-match system as part of the SMK Center of Excellence program successfully reduced the gap between work and education and strengthened the relevance of student competencies to the job market (Tessa & Humaedi, 2024).

The school regularly holds Focus Group Discussions (FGDs) involving teachers, students, and administrative staff to reflect on the implementation of the 5S work culture and industry practices, while also seeking solutions to emerging challenges. Evaluations are conducted using questionnaires and direct observations by the school's internal team and, where possible, industry partners. This approach enables the school to reflect on its program in a participatory and responsive manner, increasing accountability and the effectiveness of strengthening the work culture. In developing its work program, the school also develops synergies with parents and industry partners to strengthen the implementation of the work culture. Industry partners are recruited as guest mentors or guest speakers during workshops or training sessions, providing students with firsthand insights into the world of work. Parents are involved through the socialization of the work culture policy and are called upon during evaluations of their children's involvement, fostering synergy between the school's values and the home environment.

Organizing and Implementation

Organization and implementation are crucial stages in the management of strengthening work culture because it is at this stage that the formulated vision, mission, and work programs are truly realized in real practice at school. At SMKN 1 Pertanian Sukaraja and SMKN 1 Cibadak, organization was carried out by involving all school stakeholders, starting from the principal as the main manager, teachers as technical implementers, and education staff as operational support.

The principal plays a central role as a transformational leader, tasked with directing and coordinating all work culture programs. The principal acts not only as an administrator but also as a role model in instilling discipline, responsibility, and integrity within the school environment. This aligns with research by Mulyasa (2013), which states that the principal acts as an educational manager who must be able to mobilize all potential school resources to achieve shared goals (Mulyasa, 2013).

Teachers, on the other hand, serve as the primary agents in internalizing work culture in the classroom. They not only transfer technical knowledge and skills but also integrate work culture values such as discipline, work ethic, cooperation, and responsibility into learning activities. Research by Patria et al. (2024) shows that vocational high school teachers who integrate industrial work culture into the teaching and learning process significantly improve students' work readiness (Patria et al., 2024). Meanwhile, educational staff play a role in supporting the smooth administration and operations of the school. Although not directly involved in learning, their presence is crucial in maintaining order in the school system. Through an orderly administrative system, professional academic services, and optimal technical support, educational staff contribute to strengthening a conducive work culture atmosphere.

Strategi implementasi budaya kerja di SMKN 1 Sukaraja dan SMKN 1 Cibadak dilakukan melalui berbagai pendekatan. Pertama, penerapan budaya kerja di kelas dilakukan melalui pembiasaan disiplin, seperti kedatangan tepat waktu, penggunaan seragam sesuai ketentuan, dan kepatuhan terhadap tata tertib. Guru membiasakan siswa untuk memulai dan mengakhiri pembelajaran tepat waktu, serta menekankan pentingnya ketelitian dan tanggung jawab dalam menyelesaikan tugas-tugas.

Second, fostering a work culture based on industrial practices. This is realized through practical activities in workshops, laboratories, and school farms. This practical environment is designed to resemble the real world of work, in terms of work rules, tool use, and safety standards. This aligns with Widarto's (2017) findings, which emphasize that an industry-like learning environment can foster both technical skills and a professional work attitude in vocational high school students.

Third, the implementation of a work culture is carried out through extracurricular activities and daily habits within the school environment. For example, the Clean Friday or Community Service program instills a sense of collective responsibility for environmental cleanliness and tidiness. Furthermore, schools also implement the 5S principles (Seiri, Seiton, Seiso, Seiketsu, Shitsuke) as the foundation of a work culture required for students and teachers. Research by Sholeh et al. (2022) demonstrated that the implementation of 5S in vocational schools significantly impacts students' discipline, efficiency, and readiness to adapt to the workplace (Sholeh et al., 2023).

Fourth, schools build synergy with the industrial world as a strategy for implementing a work culture. The link and match program between vocational schools and industry serves as an important platform to ensure that the work culture developed in schools aligns with applicable business and industrial standards. Tessa and Humaedi (2024), in a case study of SMKN 1 Bantul, found that the implementation of the link and match-based SMK Center of Excellence program successfully improved student competency in both hard and soft skills, as well as strengthened the internalization of industrial work culture values within the school (Tessa & Humaedi, 2024). Finally, the implementation of work culture is also strengthened through a continuous monitoring and evaluation system. The principal and teachers jointly conduct periodic evaluations of work culture implementation, through direct observation, activity reports, and group reflections. Through continuous evaluation, schools can identify obstacles and develop improvement strategies to make strengthening work culture more effective in improving student competency.

Evaluation and Monitoring

Evaluation and monitoring are crucial stages in the education management cycle, serving as quality assurance mechanisms for all implemented programs. At SMKN 1 Pertanian Sukaraja and SMKN 1 Cibadak, evaluation activities are systematically implemented through monthly evaluation meetings involving the principal, vice principal for curriculum, productive teachers, and representatives of the education staff. These monthly evaluations serve as a forum for collective reflection for all school stakeholders to assess the achievements and challenges of the work culture strengthening program.

Operationally, evaluation is conducted at three main levels; first, the learning level, evaluation of learning focuses on aspects of discipline, student attendance, compliance with Standard Operating Procedures (SOPs), and the achievement of basic competencies in the curriculum. Teachers conduct continuous assessments through formative assessments (daily tests, attitude observations, learning journals) and

summative assessments (practical exams, end-of-semester exams). According to Darling-Hammond et al. (2017), assessments integrated with learning provide a real picture of student skill development, both hard skills and soft skills (Darling-Hammond et al., 2017).

Second, at the level of extracurricular activities, monitoring student involvement in extracurricular activities is carried out by observing students' activeness, leadership, and contributions in school organizations (OSIS, Scouts, UKM). This is important because extracurricular activities are a vehicle for developing soft skills such as cooperation, leadership, and social responsibility (Eccles et al., 2003). Evaluation in this area does not only consist of administrative reports, but also reflections from supervising teachers and participatory student input. Third, at the level of industrial work experience (prakerin), evaluation of prakerin is carried out collaboratively between the school and industry partners. Industrial supervising teachers provide written feedback on students' work discipline, technical skills, and work ethic. This input becomes the basis for curriculum improvements and adjustments to learning strategies. According to Canning (2013), workplace-based assessment is very effective in fostering a work culture because it places students in the real context of the industrial world (Canning, 2013).

The evaluation results of these three aspects are then reflected in school forums and used as the basis for follow-up actions. For example, if low student discipline is identified, the school strengthens discipline training and reinforces discipline. If competency gaps are identified based on internship results, the school invites industry partners to conduct workshops or revise the curriculum. Thus, evaluations don't stop at the administrative stage but instead generate practical recommendations.

The evaluation model applied in both schools is in line with the CIPP Evaluation Model (Context, Input, Process, Product) developed by Stufflebeam, this model emphasizes that evaluation is not just assessing the final result, but a comprehensive process involving (Stufflebeam, 2003; Stufflebeam & Coryn, 2014): first, context: analysis of student needs and industry demands as the basis of the program, second, input: assessment of resources, strategies, and work culture program design, third, process: monitoring the implementation of work culture in the classroom, extracurricular activities, and internships, and fourth, product: results in the form of increased hard skills and soft skills competencies of students.

By adopting the principle of continuous evaluation, schools can maintain the quality of their work culture programs while ensuring continuous improvement. This aligns with the OECD's (2019) findings in its Future of Education and Skills report, which emphasized that evaluation mechanisms focused on developing 21st-century competencies (creativity, collaboration, communication, and critical thinking) are key to preparing vocational school graduates for Industry 4.0 and Society 5.0 (OECD, 2019). Thus, evaluation and monitoring at SMKN 1 Agriculture Sukaraja and SMKN 1 Cibadak are not only administrative control instruments, but also strategic instruments in creating a work culture that is in line with the needs of the world of work.

Supporting and Inhibiting Factors

The success of work culture strengthening management in vocational high schools is inseparable from the existence of adequate supporting factors and the school's ability to overcome emerging obstacles. Based on the results of research at SMKN 1 Pertanian Sukaraja and SMKN 1 Cibadak, there are several internal and external factors that interact to support or hinder the process of strengthening work culture. From an internal perspective, the principal's commitment is a fundamental aspect. The principal acts as an educational manager who determines policy direction, makes strategic decisions, and maintains consistent work culture implementation. This commitment is evident in the principal's seriousness in encouraging innovation, discipline, and openness to collaboration with external parties. This is in line with the opinion of Mulyasa (2013), who emphasized that effective principal leadership can create a conducive work climate, encourage teacher participation, and strengthen work culture in schools (Mulyasa, 2013).

In addition to the principal, the role of teachers, particularly productive teachers, is also a crucial factor. Teachers serve not only as instructors but also as role models for students in terms of discipline, work ethic, and responsibility. As Hoy and Miskel (2013) point out, teachers are the primary agents in the internalization of values and work culture in schools, as students tend to emulate the attitudes and behaviors demonstrated by their teachers in their daily activities (Hoy & Miskel, 2013). Another contributing internal factor is the availability of facilities and infrastructure. Laboratories, practical workshops, and other supporting facilities are crucial elements in fostering a work culture relevant to industry needs. Adequate facilities enable students to become accustomed to industry work standards, both in the use of modern equipment and the application of

occupational safety procedures. UNESCO (2015) confirms that the quality of vocational education facilities has a significant relationship with graduates' readiness to enter the workforce (UNESCO, 2015).

In addition to internal factors, external support is also very influential. One example is collaboration with the industrial sector. Through the industrial work experience (prakerin) program, students have the opportunity to experience firsthand the work culture in the field, while industry contributes in the form of internships, instructors, and feedback on student performance. This collaboration aligns with the link and match concept stipulated in Minister of Education and Culture Regulation Number 50 of 2020. Government support is equally important. The Vocational High School Revitalization Program and the Center of Excellence Vocational Schools (SMK PK) launched by the Ministry of Education, Culture, Research, and Technology provide financial assistance, teacher capacity building, and strengthening collaborative networks with the business and industrial world (Tim Publikasi, 2025).

Furthermore, the role of parents and the community is also a determining factor. Parental support, both in the form of moral motivation and financial support, significantly contributes to the development of a student's work ethic. Parents contribute to maintaining children's discipline, supporting their involvement in extracurricular activities, and fostering a sense of responsibility. Research by Epstein (2018) shows that active family and community involvement in education can improve student motivation, achievement, and self-confidence (Epstein, 2018). However, schools also face a number of obstacles. One is the limited availability of facilities and infrastructure that meet current industry standards. Although practical facilities have improved, some of the equipment schools possess still lags behind the technology used in the Industry 4.0-based workplace. This situation aligns with a World Bank report (2020), which stated that one of the main weaknesses of vocational schools in Indonesia is the gap between learning facilities and industry technology standards (World Bank Group, 2020).

Another obstacle is the gap between school curricula and industry needs. Vocational high school curricula do not always move as quickly as the world of work, resulting in a mismatch between graduate competencies and required standards. The OECD (2016) noted that the skills mismatch is a major challenge in global vocational education, particularly in the face of rapidly changing labor market dynamics (OECD, 2016). In addition to curriculum factors, low motivation among some students is also a significant obstacle. Many students come from lower-middle socioeconomic backgrounds, so their orientation toward education tends to be low. For some students, education is seen as merely a formality, not a primary means of developing work competencies. Research by Deci and Ryan (2000) using Self-Determination theory confirms that intrinsic motivation is key to developing consistent, responsible, and sustainable work behavior (Ryan & Deci, 2000).

Thus, the supporting and inhibiting factors in strengthening the work culture at SMKN 1 Pertanian Sukaraja and SMKN 1 Cibadak play equally important roles. Internal support in the form of principal leadership, teacher involvement, and facilities is reinforced by external support from industry, government, parents, and the community. However, inhibiting factors such as limited facilities, curriculum mismatch with industry needs, and low student motivation remain challenges that need to be addressed. Therefore, strategies to strengthen work culture must be implemented collaboratively and adaptively, by maximizing supporting factors while anticipating various existing obstacles.

Strategy for Optimizing Supporting Factors and Overcoming Obstacles

To strengthen the work culture in vocational high schools, concrete strategies are needed that can be implemented by schools and other stakeholders. This strategy is crucial to maximize supporting factors, while minimizing inhibiting factors through appropriate solutions. First, from the perspective of principal leadership, leadership capacity building is needed through leadership training programs based on vocational education management. Principals need to be given space to innovate, including in building a contextual work culture system that aligns with the school's characteristics. Research by Bush (2018) confirms that visionary and adaptive educational leadership plays a direct role in improving school quality, including work culture (Bush, 2018).

Second, to strengthen the role of teachers, schools need to develop continuous professional development (CPD) programs so that teachers can internalize a strong work culture. Teachers should not only emphasize technical aspects (hard skills), but also integrate soft skills such as discipline, responsibility, and collaboration into daily learning. According to Darling-Hammond et al. (2017), continuous training that focuses on real-world practice has been shown to improve the quality of learning and student competency (Darling-

Hammond et al., 2017). Third, regarding facilities and infrastructure, it is necessary to modernize learning facilities to adapt to developments in Industry 4.0, for example by adding automation systems, the Internet of Things (IoT), and the latest practical equipment. If limited funding is a constraint, schools can partner with industry to utilize their practical facilities through co-sharing programs or teaching factories. UNESCO (2015) emphasizes that teaching factories are an effective strategy for reducing the gap between school learning and the needs of the workplace (UNESCO, 2015).

Fourth, to strengthen relationships with industry, schools need to expand their collaborative networks, not only with local industries but also with national and multinational ones. Collaboration can be expanded to include co-curriculum design, guest instructors, and joint competency certification programs. This aligns with the Merdeka Belajar – Link and Match policy, which emphasizes the need for direct industry involvement in the learning process at vocational schools (Tim Publikasi, 2025). Fifth, in terms of government support, schools need to actively access various vocational school strengthening programs, such as Vocational School Centers of Excellence and revitalization assistance. Furthermore, local governments are also expected to act as facilitators, connecting vocational schools with industry and ensuring the existence of supporting regulations to make vocational school graduates more competitive in the job market.

Sixth, to enhance the role of parents and the community, schools can establish intensive communication forums, for example through parent-school partnership programs. This way, parents can better understand the importance of work culture and also help oversee their children's character development at home. Epstein (2018) demonstrated that systematic partnerships between schools, families, and the community can significantly improve students' discipline and motivation to learn (Epstein, 2018). Seventh, regarding the constraints of limited facilities, schools need to implement more efficient asset management strategies. Existing practice facilities must be well-managed through regular usage schedules, regular maintenance, and optimization of laboratory functions. To supplement missing equipment, schools can develop innovations by leveraging local resources or collaborating with nearby polytechnics and vocational universities.

Eighth, to address the gap between the curriculum and industry needs, schools must establish regular curriculum review mechanisms with industry partners. With regular evaluations, the curriculum can be more adaptive to rapidly changing industry dynamics. The OECD (2019) emphasizes that curriculum flexibility is a key element in 21st-century vocational education (OECD, 2019). Finally, to address the problem of low student motivation, schools need to design motivational development programs based on student engagement. This can be achieved through mentoring programs, career counseling, or awards for students who demonstrate a good work ethic. Furthermore, schools can utilize the theory of self-determination (Deci & Ryan, 2000) by creating a learning environment that supports students' basic psychological needs: autonomy, competence, and relatedness. In this way, students' intrinsic motivation can be increased, so they are more encouraged to actively participate in the process of strengthening work culture (Ryan & Deci, 2000). By implementing these strategies, it is hoped that supporting factors can be continuously strengthened while inhibiting factors can be minimized. Strengthening work culture in vocational schools can be more effective, sustainable, and relevant to the needs of the modern workplace.

The Impact of Strengthening Work Culture on Student Competence

Strengthening work culture in vocational high schools (SMK) not only aims to foster discipline within the school environment but also significantly impacts student competency, both technically (hard skills) and non-technically (soft skills). Consistent implementation of a work culture directly impacts students' readiness to face the world of work, which demands high professional standards. First, in terms of hard skills, the implementation of a work culture in practical learning in laboratories and school workshops contributes to improving students' technical skills. For example, the habit of working by following standard operating procedures (SOPs), using tools according to instructions, and applying occupational safety principles familiarize students with industrial work patterns. Research by Majumdar (2011) in the UNESCO-UNEVOC Discussion Paper shows that vocational students' technical skills improve significantly when a work culture is consistently implemented in practical learning (Majumdar, 2011). This is also reinforced by the findings of Canning (2013) who emphasized that practice-based learning experiences with a real work culture are able to form technical skills that are more relevant to the needs of the industrial world (Canning, 2013).

Second, from a soft skills perspective, work culture plays a crucial role in shaping students' character, discipline, responsibility, cooperation, and work ethic. Teachers and instructors who emphasize the values of

discipline and responsibility will encourage students to be on time, complete assignments on time, and work in teams. According to Heckman & Kautz (2012), soft skills such as responsibility, cooperation, and communication skills are key factors influencing individual success in the workplace, often even more so than technical skills (Heckman & Kautz, 2012). In the Indonesian context, research conducted by Rahmatullah (2023) at vocational schools in Central Java showed that strengthening work culture had a positive effect on the formation of productive work attitudes, especially in the aspects of discipline and teamwork (Rahmatullah, 2023).

Third, the impact of work culture can be seen in the relevance of competencies to industry needs. Implementing a school work culture integrated with industrial practices (for example, through internship programs or teaching factories) familiarizes students with the industrial work rhythm. Thus, vocational high school graduates are better prepared to enter the workforce without having to go through a lengthy adaptation process. This aligns with the Link and Match policy launched by Maulina & Yeonanto (2020), which emphasizes that vocational high schools must prepare graduates with competencies that meet the needs of the business and industrial world (Maulina & Yoenanto, 2022). The World Bank report (2020) also emphasized that vocational schools that successfully integrate work culture with industrial curriculum and practices are able to produce graduates who are more competitive and relevant in the global job market (World Bank Group, 2020).

Furthermore, strengthening work culture also has a long-term impact in the form of improving students' employability skills. The OECD (2016) defines employability skills as a combination of technical skills, soft skills, and work attitudes that make someone more easily absorbed in the workforce. In the context of vocational schools, a work culture instilled through daily learning, extracurricular activities, and industrial work experience makes students more adaptable to work dynamics, more competitive, and better prepared to face the demands of the Industry 4.0 era (OECD, 2016). Thus, it can be concluded that strengthening work culture has a strategic contribution to student competency, not only improving technical skills but also developing professional attitudes aligned with the needs of the workplace. A balanced improvement in hard and soft skills will produce vocational school graduates who are more competitive, adaptive, and ready to compete in the job market, both nationally and globally.

The Role of Transformational Leadership in Strengthening Work Culture

The positive impact of strengthening work culture on student competency, as previously described, is certainly inseparable from effective leadership at the school level. The principal, as an educational leader, plays a crucial role in ensuring that work culture is consistently and sustainably implemented. In this regard, a transformational leadership style is a relevant approach because it can inspire, motivate, and empower all members of the school community. Bass and Riggio (2006) emphasize that transformational leaders have the ability to build intrinsic motivation, instill collective values, and create a conducive work climate. A principal with this leadership style not only acts as an administrative manager but also as a driving force behind work culture, encouraging teachers, staff, and students to work beyond personal interests to achieve a shared vision (Bass & Riggio, 2006).

In practice, transformational leadership in vocational schools is reflected in the principal's efforts to formulate a vision for a work culture that aligns with industry needs, communicates this vision in an inspiring manner, and empowers teachers to be more innovative in their learning. This also encourages students to be more disciplined, responsible, and motivated in developing a work ethic. Consistent with Leithwood and Sun's (2012) perspective, transformational leadership has been shown to contribute to improving school quality by establishing a positive and sustainable work culture (Leithwood & Sun, 2012). Thus, it can be emphasized that the success of strengthening work culture is not only determined by policies, facilities, or partnerships with industry, but also by the transformational leadership of the principal who is able to mobilize all human resources in the school ecosystem.

CONCLUSION

Management of work culture strengthening in improving student competency has proven to be an effective strategy in improving the quality of learning while preparing graduates who are ready to face the demands of the workplace and industry. Strengthening work culture is not only oriented towards cultivating discipline, but also includes the formation of professional character, technical skills, and awareness of the

importance of a work ethic in accordance with industry standards. The results of research at SMKN 1 Sukaraja and SMKN 1 Cibadak indicate several key aspects that are the conclusions from the implementation of work culture strengthening. First, internal policies and collaboration across all school components have been proven to improve student competency through a work culture oriented towards industry needs. The involvement of the principal, teachers, education staff, and parental support have significantly influenced the success of this program.

Second, collaboration with industry is key to strengthening the relevance of learning. The presence of industry practitioners as instructors and mentors allows students to gain real-world experience with work standards applicable in the business and industrial world. This program aligns with link and match policy, which emphasizes the importance of connecting schools with the workplace. Third, the implementation of the 5R Work Culture (Tidy, Neat, Clean, Maintain, and Diligent) has proven effective in shaping students' work character. Through daily habits, students are trained to be disciplined, maintain cleanliness, care for equipment, and work in an orderly manner, which directly contributes to their readiness to enter a professional work environment.

Fourth, strengthening work culture also aims to increase student awareness and motivation. Through socialization, coaching, and role models from teachers and education staff, students increasingly understand the importance of work culture, thereby fostering intrinsic motivation that encourages them to work hard, be disciplined, and take responsibility for assigned tasks. Fifth, curriculum revitalization is a crucial step to make learning in vocational schools more adaptive to industrial developments. Aligning the curriculum with the latest work competency standards makes students better prepared to face the dynamics of the labor market, including the needs of the Industry 4.0 era, which demands a balance of technical and non-technical competencies.

Overall, this study confirms that work culture strengthening management contributes significantly to improving student competency. However, the effectiveness of implementation is highly dependent on the school's management strategy in planning, organizing, implementing, and evaluating the program. At SMKN 1 Cibadak, work culture management practices are more structured, supported by facilities, funding, and regular evaluations, which have contributed to overall improvements in student competency. Meanwhile, at SMKN 1 Sukaraja, despite collective efforts, limited infrastructure and low parental support remain obstacles, resulting in an optimal impact of competency improvement yet to be achieved.

From these findings, it can be concluded that principal leadership, a collective work culture, the availability of facilities, and internal policy support are key factors in successfully strengthening work culture in vocational high schools. Without the active involvement of all parties, work culture strengthening programs have the potential to be partial and less than optimal. Ultimately, this study demonstrates that strengthening work culture is not merely a matter of imparting knowledge, but also a systematic effort to instill a professional work ethic that aligns with the demands of industry and business. Therefore, strengthening the work culture in vocational high schools can be viewed as a strategic tool for improving students' competence, competitiveness, and readiness to face a dynamic, competitive workforce.

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