

## Challenges and strategies for improving education quality through teacher supervision

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**Abstract:** This study aims to examine the role of educational supervision in improving the quality of learning in Vocational High Schools (VHS), focusing on the challenges faced and strategies to optimize its implementation in vocational education. Educational supervision is very important in supporting the professionalism of Vocational High Schools teachers, the effectiveness of school management, and improving the quality of learning that integrates vocational theory and practice. The research method used is a literature study, by reviewing scientific journals, books, and research reports related to VHS. The results of the study show that supervision carried out in a systematic, planned and sustainable manner can encourage teachers' professional growth and significantly improve the quality of vocational education. However, the implementation of supervision in Vocational High Schools still faces obstacles such as limited competence of supervisors in vocational fields, high administrative burden of teachers, and lack of structural support and resources. To overcome these obstacles, the study proposes strategies such as collaborative-based supervision between teachers and supervisors and the utilization of information technology for monitoring and evaluation. The findings are expected to provide practical contributions for policy makers, school supervisors and educators in developing educational supervision that is effective, relevant and has a positive impact on the quality of learning in Vocational High Schools.

**Keywords:** educational supervision; quality of education; teacher professionalism; literature study

### 1. Introduction

Education has an important role as a basis in shaping superior human resources and being able to compete at the global level is a primary need ([Alfawaire & Atan, 2021](#); [Poláková et al., 2023](#); [Urbancová et al., 2021](#)). Improving the quality of education is the main focus in realizing the goals of national education, especially at the Vocational High School (VHS) level which plays an important role in producing a skilled workforce. One of the main factors that support the improvement of the quality of education in VHS is the implementation of educational supervision. Educational supervision is a coaching process aimed at all educational personnel in schools, including productive and normative teachers, in order to improve their professionalism and performance in carrying out their roles and responsibilities ([Hepriyanti et al., 2023](#)). Through supervision activities, teachers in VHS receive direction, assistance, and evaluation from supervisors to develop their pedagogical and technical competencies. The practice of educational supervision contributes substantially to strengthening the quality of vocational education that is designed to be in line with the needs of business and industry ([Oswald-Egg & Renold, 2021](#)).

In this process, teachers receive assistance, direction and assessment from supervisors to develop their competencies and improve the overall quality of education ([Al-Zahrani, 2024](#); [Mulyanti, 2023](#); [Putra, 2025](#)). Therefore, supervision has a very vital role in supporting the improvement of the quality of education. Supervision activities involve a variety of steps designed to assist teachers and other staff in expanding their knowledge, skills and capabilities in order to work more effectively. Through guidance in supervision, teachers can improve the quality of learning, apply more appropriate teaching methods and create a learning atmosphere that supports student success ([Hoque et al., 2020](#); [U-Sayee & Adomako, 2021](#); [Zamiri & Esmacili, 2024](#)). The results of research conducted by [Gordon, \(2019\)](#) revealed that educational supervision that is carried out effectively can improve the quality of the learning process and encourage teachers' professional development.. Optimal implementation of supervision in VHS contributes to increasing pedagogical capacity and strengthening educators' instructional skills in organizing vocational learning that is relevant to the demands of the labor market. Supervision that is effectively implemented in VHS has a strategic role in aligning the education curriculum with the reality of industry needs. Although supervision has a strategic role, its implementation at the education unit level still faces various significant obstacles. Some of these include the limited time available, the low professional capacity of supervisors due to less than optimal training, and the lack of effective coordination between the stakeholders involved. Therefore, strategic efforts are needed to optimize the function of educational supervision in VHS, both in terms of planning, implementation and evaluation, in order to support the overall improvement of the quality of vocational education.

Educational supervision that is carried out effectively can have a positive impact on improving the quality of learning in Vocational High Schools ([Tasrif et al., 2022](#)). Through the process of mentoring and direction from supervisors, VHS teachers can design and implement learning methods and strategies that are more contextual and in accordance with the characteristics of vocational students. This includes strengthening project-based learning approaches, industrial practices, and technology integration according to the field of expertise. The learning atmosphere that is built becomes more adaptive to the needs of the world of work, which has a direct impact on improving student learning outcomes and skills. In addition, supervision also plays an important role in encouraging VHS teachers to actively participate in continuing professional development programs, such as technical training, competency certification, and industrial internships. Therefore, educational supervision is one of the strategic components in strengthening the overall quality of vocational education.

Although educational supervision has an important role, its implementation in vocational schools still faces various obstacles. Some of the main obstacles include the limited number of supervisors who have competence in the vocational field, the lack of time allocation and non-standardized supervision policies, as well as the lack of monitoring and follow-up. This situation has resulted in the role of supervision not running optimally in encouraging the achievement of the competency standards of VHS graduates in accordance with the demands of the world of work. A structured and directed approach is needed to optimize the effectiveness of educational supervision, which includes the stages of planning, implementation, and comprehensive evaluation and follow-up. These efforts can be made through increasing supervisor competence, adding and placing relevant supervisors, preparing and standardizing supervision policies, and strengthening follow-up monitoring and evaluation systems as an integral part of achieving national vocational education goals.

## 2. Methods

This research uses the literature review method with the aim of exploring the basic concepts,

principles, techniques, and approaches of educational supervision in the context of VHS. The data collection process was conducted through searching and identifying scientific journals, books, research reports, and relevant documents that discuss supervision in vocational education, by referring to various electronic databases such as Google Scholar, ERIC, and other academic sources. Through a comprehensive literature review, this research aims to provide an in-depth understanding of supervision in vocational education, including definitions, objectives, benefits, and models and approaches that can be effectively applied in the implementation of vocational education supervision (Rochbani & Nurdianingsih, 2023; Sembiring & Risamasu, 2024). Various sources were reviewed and summarized in order to find central themes, recent developments, and unique barriers and opportunities in the implementation of supervision in vocational schools. The findings of this study are expected to provide new understanding and applicable suggestions for vocational education practitioners, researchers, and policy makers, in order to maximize the strategic function of educational supervision in an effort to improve the quality of VHS graduates who are competent and ready to face competition in the world of work.

### 3. Results

#### 3.1 Educational supervision

Through a thorough literature review, this research aims to provide an in-depth understanding of educational supervision in vocational schools, including the definition, objectives, benefits, and models and approaches that can be effectively applied in vocational education settings. All information collected is analyzed and synthesized to identify important themes, recent developments, and challenges and opportunities in the implementation of supervision in vocational schools. This study is expected to contribute new insights and suggestions that can be applied by practitioners, academics, and policy makers to optimize the strategic role of educational supervision in improving the quality of VHS graduates who are competent, professional, and ready to compete in the job market.

The implementation of educational supervision in VHS includes various activities such as classroom learning observations, vocational teacher group discussions, technical training, and expertise-based workshops. In practice, supervisors can apply a variety of supervision techniques and approaches, including clinical, academic, and managerial supervision, which are tailored to the characteristics of VHS and the needs of productive and normative teachers (Zamiri & Esmaili, 2024). Through this process, supervisors are tasked with identifying teachers' strengths and weaknesses, providing constructive guidance, and making recommendations for contextualized improvements to the vocational learning process. Supervision in VHS does not only focus on evaluating teacher performance, but is more directed at fostering and improving overall professional capacity. The implementation of effective and goal-oriented supervision and the role of supervision in developing teacher expertise, it is hoped that educators in VHS can continue to improve the quality of their teaching, so as to create learning experiences that are meaningful and relevant to the demands of the world of work, while contributing to the continuous improvement of the quality of vocational education (Tukiyo et al., 2024).

#### 3.2 The purpose and role supervision

The purpose and role of educational supervision plays a crucial role in improving the quality of education, especially in the VHS environment. Supervision in VHS plays a major role in providing guidance, direction, and coaching to teachers, both normative and productive teachers, in order to carry out their duties and obligations optimally in accordance with the needs and standards that

apply in the world of work. Through the supervision process, supervisors can recognize the strengths and weaknesses of teachers in delivering vocational material, providing feedback that is specific and relevant to their respective fields of expertise. Supervision also encourages the continuous improvement of teachers' professional competence through various activities, such as technical training, vocational workshops, and assistance in industrial practice (Vuong & Nguyen, 2022). In addition, supervision in VHS serves to ensure that all elements of education, including human resources, curriculum, practice facilities, and the vocational learning environment, run effectively, efficiently, and in accordance with national standards and the needs of industry and the world of work.

Educational supervision in vocational schools aims to create a learning environment that is conducive and relevant to the world of work, and improve the quality of vocational learning (Tasrif et al., 2022). Through supervision, teachers are nurtured to develop pedagogical and technical competencies, overcome learning obstacles, and encourage innovation in teaching methods and strategies. Supervision also strengthens the link between school and industry (link and match), so that VHS graduates are more work-ready, competent, and highly competitive. The implementation of supervision in vocational schools by school principals requires a comprehensive understanding of the principles of educational supervision. This is an important basis to ensure that supervision is carried out effectively, efficiently and in accordance with the characteristics of vocational education. VHS principals are required not only to understand the democratic, objective, constructive and scientific principles of supervision, but also to be able to adapt them to the unique needs of competency-based learning and the industrial world. By applying these principles, principals can guide teachers in overcoming problems that often arise in VHS, such as limited practical equipment, gaps between the curriculum and industry needs, and low student interest in practical learning. Furthermore, this understanding allows principals to direct teachers in improving pedagogical and technical competencies through a supervision approach that is nurturing, collaborative, and oriented towards graduate quality. Thus, the implementation of supervision in VHS will be more focused, solutive, and have a real impact on improving the quality of vocational learning and student work readiness (Kusuma et al., 2021).

### 3.3 Implementation of education supervision in schools

In the context of VHS, supervision is the implementation stage of the coaching plan to improve the quality of vocational learning. After the principal identifies the problems faced by teachers, supervision is carried out with an approach that is tailored to the characteristics of teachers, such as industrial or academic background, as well as experience level (Yuliana et al., 2023). This approach helps VHS teachers improve pedagogical and technical competencies, so that learning becomes more applicable and relevant to the needs of the world of work. The implementation of educational supervision in vocational schools includes planned activities carried out by principals, supervisors or senior teachers to improve the quality of vocational learning. Starting with the development of a supervision program based on teachers' development needs and previous evaluations, these activities include setting goals, objectives, strategies and schedules. The supervisor then conducts observations, both in theory classes and practical rooms, to assess the teacher's performance in delivering vocational material. Afterwards, constructive feedback is given, along with recommendations relevant to the needs of the VHS, such as improving teaching methods, integrating technology, or increasing linkages with industry.

In VHS, the implementation of supervision is not only through observation, but also includes group discussions, training, workshops and individual coaching to improve teachers' competence in vocational learning. Supervisors can use various approaches such as clinical, academic or managerial

supervision, which are tailored to the needs of teachers and the characteristics of VHSs. The right approach will create a collaborative supervision atmosphere and support teachers' continuous professional development. Educational supervision implemented in VHSs includes evaluation and follow-up of the learning process, with the aim of improving the effectiveness of teaching and the relevance of the curriculum to the needs of the industrial world (Yuliana et al., 2023). Principals as supervisors must have an in-depth understanding of the principles of supervision, such as collaborative and problem-solving-oriented approaches (Sembiring & Risamasu, 2024). Supervision evaluation is used to identify aspects that need improvement, while the follow-up is realized in teacher competency improvement programs, such as Teaching Factory-based training and curriculum workshops. With proper implementation of supervision, the quality of teaching in VHSs can be significantly improved, ensuring the achievement of graduate competencies in accordance with the demands of the world of work.

Appropriate implementation of supervision, the quality of teaching in VHS can be significantly improved, ensuring the achievement of graduate competencies in accordance with the demands of the world of work. Furthermore, the constructive principle in supervision emphasizes the importance of providing constructive feedback to teachers, with relevant solutions to correct deficiencies in the implementation of competency-based learning (Hasanah & Sururi, 2025). On the other hand, the creative principle encourages principals and teachers to think innovatively in facing learning challenges, especially in adapting teaching materials to technological developments and industry needs. Understanding and applying these two principles, principals are able to create a conducive supervision climate, motivating teachers to develop professionally, to improve the quality of learning and the overall quality of education (Hasanah & Sururi, 2025).

### 3.4 The principal's role in conducting supervision

Principals have a very important role as supervisors in ensuring the continuity of an effective learning process that is relevant to the demands of the industrial world. In addition to carrying out supervisory functions, principals also act as coaches and facilitators who actively encourage the improvement of teacher professionalism, especially in strengthening competency-based learning and the implementation of industrial work practices. Supervision is not aimed at finding fault, but rather to foster and motivate teachers to continuously improve their performance through constructive and continuous feedback (Suryani et al., 2024). Principals are required to build a supportive work atmosphere, foster a productive work culture, and mobilize all elements of the school to work in line with the norms and work ethic that support the achievement of the vision and mission of the VHS. Supervision that is carried out regularly and planned, principals can direct the development of teacher capacity optimally, in order to improve the quality of graduates who are competent and ready to face the challenges of the world of work.

As mentors, principals play an active role in assisting teachers in identifying obstacles in implementing competency-based learning, such as difficulties in managing practical classes or limited facilities, and offering concrete solutions that support the improvement of learning quality in VHS. In the VHS environment, principals have a central role as facilitators in teachers' professional development, which is critical to improving the quality of vocational competency-based learning. Principals organize various activities such as technical training, Teaching Factory workshops, and Merdeka Belajar curriculum discussion forums that are specifically designed to strengthen productive teachers' pedagogical and technical skills. In addition, the principal is also responsible for creating a conducive learning climate by ensuring the availability of practical facilities and infrastructure in accordance with industry standards, as well as establishing active partnerships with the business and industrial world, parents, and the surrounding community (Lani

[& Pauzi, 2024](#)). To support the implementation of this function, VHS principals must have strong managerial capacity, effective communication skills, and in-depth mastery of the principles of educational supervision. Furthermore, principals are expected to be able to build a collaborative, open and continuous development-oriented supervision atmosphere, so that teachers can develop professionally and be able to provide relevant, adaptive and competitive learning in the job market.

### 3.5 The role of supervision in promoting education quality improvement

Educational supervision is an important process that aims to guide, foster, and evaluate teacher performance in order to improve the quality of learning that is oriented towards work competencies. This supervision is not only limited to the technical aspects of teaching, but also includes strengthening all components of learning support, such as the availability of practical facilities that meet industry standards, curriculum suitability to the needs of the business world and the industrial world, the application of project-based teaching methods, and competency-based assessment systems. Principals as supervisors have the responsibility to conduct supervision systematically with methods and techniques that are in accordance with educational supervision guidelines, such as clinical supervision, direct observation, and reflective interviews. The main objective of supervision in VHS is to ensure that teachers have a good mastery of pedagogical competencies and vocational expertise, so that they can manage learning effectively and achieve the targets set in the VHS curriculum. With quality supervision, the learning process in VHS can be optimal, relevant, and produce graduates who are ready to work ([Lani & Pauzi, 2024](#)).

Educational supervision plays a very important role in encouraging the improvement of learning quality based on the needs of the world of work. The implementation of supervision which is carried out in a structured, systematic and sustainable manner is the main means in fostering and developing the professional competence of teachers, especially in delivering vocational material in an effective and applicable manner. Supervision in VHS focuses on technical and pedagogical assistance, including Teaching Factory-based teaching modules, as well as strengthening project-based learning methods and authentic assessment. Through this supervision process, teachers receive clear direction, constructive feedback, and relevant recommendations to improve their teaching skills ([Tukiyo et al., 2024](#)). Effective supervision directly contributes to the improvement of teaching quality and the achievement of competency standards for VHS graduates who are ready to compete in the industrial world.

Supervision in the field of education does not merely act as an instrument to assess teacher performance, but also as a strategic approach in increasing capacity and strengthening overall teacher competence. Through activities such as observations of the learning process in productive classes, group discussions on project-based learning approaches, technical skills training, and Teaching Factory and industry-based learning workshops, VHS teachers are facilitated to broaden their horizons, deepen their expertise, and design learning strategies that are relevant to the needs of the world of work ([Tasrif et al., 2022](#)). These activities directly contribute to improving the quality of students' learning experience, both in terms of technical skills and academic understanding, thus impacting on improving graduates' achievement and work readiness.

The implementation of supervision in Vocational High Schools based on scientific, democratic, cooperative, constructive, and creative principles plays an important role in improving the quality of learning and teachers' professional competence ([Sembiring & Risamasu, 2024](#)). Effective supervision can significantly improve the quality of education in VHS, increase teacher competence, improve learning quality, and provide students with adequate provisions to enter the world of work. Therefore, educational supervision is a key element in achieving the goals of vocational

education and the formation of competent and competitive superior human resources ([Kusuma et al., 2021](#)).

#### 4. Discussion

The role of educational supervision in improving the quality of learning in VHS, with a focus on the challenges faced and strategies to optimize it. Educational supervision is described as a coaching process that does not only aim to evaluate teachers' performance, but rather to strengthen their professionalism and increase their pedagogical and technical capacity. This is in line with the goal of vocational education, which is to create graduates who are work-ready, competent and able to compete globally. One of the main findings of this article is that supervision conducted in a systematic, planned and sustainable manner has a significant impact on improving the quality of learning in VHS. Supervision assists teachers in designing more contextualized teaching strategies, integrating vocational theory and practice, and improving learning methods according to feedback provided by supervisors ([Vuong & Nguyen, 2022](#)). In addition, supervision also contributes to bridging the gap between the VHS curriculum and the needs of business and industry, so that the output of vocational education is more relevant and applicable.

The implementation of supervision in VHS still faces a number of significant obstacles. Some of these include the limited competence of supervisors in the vocational field, the high administrative burden of teachers, and the lack of structural support and resources. These obstacles are a barrier to optimizing the function of supervision in improving the quality of vocational education. Without supervisors who have a deep understanding of the vocational field and the demands of the job market, supervision tends to be formalistic and does not touch the substantial aspects of teachers' professional development. As a solution to these challenges, this article proposes some innovative strategies. One of these is the implementation of collaborative-based supervision between teachers and supervisors, which emphasizes a participatory and constructive approach. With this model, supervision is no longer just a means of control, but rather a means of coaching and self-development for teachers. In addition, the use of information technology for monitoring and evaluation is also cited as an effective alternative in improving the efficiency and accuracy of supervision. Technology can be used to record data on teacher performance development, provide real-time feedback, and facilitate self-reflection and competency improvement planning.

This article emphasizes the importance of the principal's role as the main supervisor in the VHS environment. The principal is required to have not only managerial skills but also a strong understanding of the principles of educational supervision. He or she must be able to create an atmosphere of supervision that is collaborative, supportive and oriented towards continuous professional development ([Rochbani & Nurdianingsih, 2023](#)). Thus, supervision will be a meaningful and beneficial process for both teachers and the educational institution as a whole. From a policy perspective, the results of this study are highly relevant for decision-makers, school supervisors and vocational education providers. The article provides concrete recommendations for improving supervisors' capacity, standardizing supervision policies, and strengthening monitoring and evaluation systems. With an integrated and sustainable approach, educational supervision is expected to become one of the backbones in improving the quality of vocational education in Indonesia.

#### 5. Conclusion

Educational supervision in VHS includes a series of guidance, direction and evaluation processes aimed at teachers and education personnel to improve their skills, knowledge and competence in

teaching and managing vocational learning effectively. Through supervision, VHS teachers receive feedback, recommendations and support from supervisors to improve learning practices, especially in integrating theory with relevant vocational practices, overcoming learning obstacles in the VHS environment, and improving work professionalism. The implementation of planned, systematic and sustainable supervision is essential in improving the quality of vocational learning processes in VHS. The main objectives of educational supervision in VHS are to strengthen teachers' competencies in developing practical and theoretical teaching methods that meet the needs of the world of work, creating a conducive learning atmosphere for students, and encouraging teachers' continuous professional growth. Thus, educational supervision directly contributes to improving the quality of vocational learning, strengthening teacher competencies, and improving the achievement and work readiness of vocational students. In general, educational supervision plays an important role in realizing the goals of national education, especially in producing VHS graduates who have high competence and are ready to face challenges in the world of work and continue to higher education.

#### Author's declaration

#### Author contribution

**M. Jaya Adi Putra:** Developed the research methodology, conducted the literature review, analyzed the findings, and wrote the original draft of the manuscript; **Jhon Hendro:** Provided relevant resources, contributed to the analysis of vocational education supervision strategies, and assisted in writing the manuscript; **Nadia Utari:** Gave conceptual input, refined the discussion and conclusion, and revised the final version of the manuscript.

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#### Conflict of interest

The authors declare that there are no competing interests related to the research or publication of this article.

#### Ethical clearance

This study is a literature review and does not involve human participants, animal subjects, or identifiable personal data. Therefore, ethical approval was not required. The authors have ensured that all referenced materials were properly cited and that the study was conducted in accordance with academic ethical standards.

## AI statement

This article is the original work of the authors, with no content, sections, or figures generated or assisted by artificial intelligence. The use of English language has been carefully reviewed and verified by a professional language expert to ensure clarity and accuracy.

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Universitas Negeri Padang as the publisher, and the Editor of Jurnal Pendidikan Teknologi Kejuruan state that there is no conflict of interest towards this article publication.

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