

A Quality Management Strategy Based on an Internal Quality Assurance System to Improve the Quality of Teaching

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ABSTRACT. Improving the quality of teaching at vocational secondary schools requires a quality management system capable of integrating the entire learning process. This study aims to analyse the implementation of the School-Based Quality Management System (SPMI) in improving the quality of teaching at SMKN Wonosalam, Jombang. The study employs a qualitative approach using a case study design. Data were collected through in-depth interviews, participatory observation and documentation, and were subsequently analysed using the interactive model developed by Miles, Huberman and Saldaña, comprising the stages of data condensation, data presentation and drawing conclusions. The research findings indicate that quality management strategies are implemented through quality control, academic supervision, periodic monitoring and evaluation, and continuous improvement within the SPMI framework. The implementation of these strategies still faces challenges in the form of teachers' administrative discipline, the diversity of students' prior abilities, and differences in the characteristics of each vocational programme. Improvements in the quality of teaching are achieved through strengthening teachers' competencies via subject-specific teacher working groups (MGMP), learning communities (Kombel) and industry training; the transformation of learning towards project-based learning supported by digital technology; and the strengthening of the monitoring system and the creation of a conducive learning environment. This study confirms that the effectiveness of quality management in vocational schools depends not only on the application of the SPMI cycle, but also on the school's ability to integrate quality assurance into daily teaching practices, thereby fostering a culture of quality that supports the continuous improvement of teaching quality.

Keyword: *Internal Quality Assurance System, educational quality management, teaching quality.*

Abstrak *Peningkatan kualitas pengajaran pada sekolah menengah kejuruan memerlukan sistem manajemen mutu yang mampu mengintegrasikan seluruh proses pembelajaran. Penelitian ini bertujuan menganalisis implementasi manajemen mutu berbasis (SPMI) dalam meningkatkan kualitas pengajaran di SMKN Wonosalam Jombang. Penelitian menggunakan pendekatan kualitatif dengan desain studi kasus. Data dikumpulkan melalui wawancara mendalam, observasi partisipatif, dan dokumentasi, kemudian dianalisis menggunakan model interaktif Miles, Huberman, dan Saldaña melalui tahapan kondensasi data, penyajian data, serta penarikan kesimpulan. Hasil penelitian menunjukkan strategi manajemen mutu dilaksanakan melalui pengendalian mutu, supervisi akademik, monitoring dan evaluasi berkala, serta perbaikan berkelanjutan dalam kerangka SPMI. Implementasi strategi tersebut masih menghadapi tantangan berupa kedisiplinan administrasi guru, keberagaman kemampuan awal peserta didik, dan perbedaan karakteristik setiap program keahlian. Peningkatan kualitas pengajaran diwujudkan melalui penguatan kompetensi guru melalui MGMP, Komunitas Belajar (Kombel), dan pelatihan industri, transformasi pembelajaran berbasis Project-Based*

Learning yang didukung teknologi digital, serta penguatan sistem pengawasan dan penciptaan lingkungan belajar yang kondusif. Penelitian ini menegaskan bahwa efektivitas manajemen mutu pada sekolah vokasi tidak hanya bergantung pada penerapan siklus SPMI, tetapi juga pada kemampuan sekolah mengintegrasikan penjaminan mutu ke dalam praktik pembelajaran sehari-hari sehingga terbentuk budaya mutu yang mendukung peningkatan kualitas pengajaran secara berkelanjutan.

Kata Kunci: *Sistem Penjaminan Mutu Internal (SPMI), manajemen mutu pendidikan, kualitas pengajaran.*

Introduction

The quality of teaching is one of the key indicators of the success of the education system, particularly in vocational secondary schools (SMK), which are required to produce graduates with skills that meet the needs of the business and industrial sectors (DUDI). In the context of vocational education, the quality of teaching is determined not only by mastery of the subject matter, but also by the effectiveness of learning management, the development of teachers' competences, and the sustainability of a quality assurance system capable of driving continuous improvement (Afif dkk., 2025). However, various indicators of educational quality suggest that the quality of learning in Indonesia still faces serious challenges. The results of the 2022 Programme for International Student Assessment (PISA) ranked Indonesia 68th, with achievements in reading literacy, mathematics and science still below the international average. This situation indicates that efforts to improve the quality of education have not yet yielded optimal results; consequently, there is a need to strengthen quality management, particularly in the learning process at the school level (Kurniawati, 2022).

The low quality of learning is influenced by various factors, including teachers' competence and professionalism, disparities in learning resources, the relevance of the curriculum, and weak management of educational quality (Stronge, 2018; Tanjung & Zainil, 2025). In vocational education, this issue becomes increasingly complex because schools are not only required to meet national educational standards, but must also be able to adapt the learning process to technological developments, the needs of industry, and the characteristics of their students. Therefore, improving the quality of teaching requires a quality management strategy that goes beyond merely meeting administrative standards; rather, it must be capable of fostering a culture of quality through the processes of planning, implementation, evaluation and continuous improvement.

In response to these challenges, the government has developed various policies to improve the quality of vocational education through the Centre of Excellence for Vocational Schools Programme, the implementation of the Merdeka Curriculum, the Merdeka Mengajar Platform, and the strengthening of the Internal Quality Assurance System (SPMI) (Setiawan & Sofyan, 2022). This policy is further reinforced by Regulation of the Minister of Education, Culture, Research and Technology No. 12 of 2024, which identifies the development of learners' competences, the strengthening of project-based learning, and links with the world of work as key elements in

improving the quality of vocational education. Nevertheless, the success of these various policies is largely determined by schools' ability to implement quality management effectively, in accordance with the characteristics and needs of each individual educational institution.

Various previous studies have shown that the implementation of quality management contributes to improvements in the quality of education provision. Research (Febrina & Sesmiarni, 2024) emphasises the importance of implementing quality management in improving the governance of Islamic schools, whilst (Aulia & Alimulloh, 2026; Irdiyanti, 2021) indicates that academic supervision and school culture influence improvements in the quality of vocational school teachers. Other studies have also examined the application of the School-Based Quality Management System (SPMI) as a quality assurance instrument at various levels of education. However, these studies generally address the implementation of quality management, academic supervision and school culture separately. Studies explaining how these various components are integrated into a quality management strategy to improve the quality of teaching, particularly in vocational secondary schools, remain relatively limited.

SMKN Wonosalam Jombang is one of the vocational secondary schools that continuously implements the Internal Quality Assurance System (SPMI) to support improvements in the quality of teaching. As a school situated in an area with distinctive geographical characteristics and local potential, it faces challenges in implementing national quality standards whilst adapting its teaching to the needs of the world of work. These circumstances make SMKN Wonosalam a relevant context for examining how quality management strategies are applied at the operational level of learning through quality control, academic supervision, teacher competence development, the use of learning technology, and evaluation geared towards continuous improvement.

Based on the above, there remains a lack of research explaining how the various components of quality management are integrated into a strategy capable of improving the quality of teaching at vocational secondary schools. Therefore, this study aims to analyse how a quality management strategy based on the Internal Quality Assurance System (SPMI) is implemented to improve the quality of teaching at SMKN Wonosalam Jombang, as well as to identify quality management practices that support continuous improvement in learning. It is hoped that this study will enrich the literature on the implementation of quality management in vocational education by demonstrating the integration of internal quality assurance, teacher professional development, academic supervision, the use of learning technology, and a culture of continuous improvement in enhancing the quality of teaching.

Method

This study employs a qualitative approach using a case study design. A qualitative approach was chosen because the research aims to gain an in-depth understanding of the implementation of a quality management strategy based on the Internal Quality Assurance System (SPMI) in improving the quality of teaching within a natural context. A case study design was used as it allows the researcher to explore a phenomenon comprehensively based on real-world contexts and the relationships between the components that constitute that phenomenon (Creswell & Poth, 2016; Yin, 2017).

The research was conducted at SMKN Wonosalam in Jombang. The research location was selected on a purposive basis because the school has been consistently implementing the Internal Quality Assurance System (SPMI) and has developed various programmes to improve the quality of teaching that are relevant to the characteristics of vocational education. The purposive selection of the location enabled the researcher to obtain information-rich cases in line with the research objectives (Patton, 2014).

The research informants were selected using a purposive sampling technique based on their involvement in the implementation of school quality management. The informants included the headteacher, the deputy headteacher for curriculum, the quality assurance team, and teachers involved in the planning, implementation, supervision and evaluation of learning. Data collection continued until data saturation was reached, that is, when the information obtained began to show repetition and no longer yielded new categories (Saunders dkk., 2018).

Data were collected through in-depth interviews, participatory observation and a documentary review. The interviews were conducted using a semi-structured approach to gather information on quality management strategies, the implementation of the Internal Quality Assurance System (SPMI), academic supervision, learning evaluation and follow-up on improvements. Observations were made of the learning process and the implementation of the quality assurance programme, whilst documentation was used to verify the data through SPMI documents, learning materials, supervision reports, meeting minutes and other supporting documents (Creswell & Poth, 2016).

Data validity is ensured through source triangulation, methodological triangulation and *member checking*. Triangulation is carried out by comparing information obtained from various sources and data collection methods in order to enhance the credibility of the findings. Next, *member checking* is carried out by confirming the researcher's interpretation of the findings with the informants to ensure that the data obtained corresponds to the participants' experiences and intended meanings (Lincoln & Guba, 1985).

Data analysis utilised the interactive model developed by (Miles dkk., 2014), which encompasses data condensation, data presentation, and the drawing and verification of conclusions. The analysis was conducted concurrently with the data collection process. The data were first condensed through a process of selection, simplification and grouping based on the research focus. Subsequently, the data were presented in the form of narratives and thematic matrices to facilitate the identification of patterns of relationships between findings. The final stage involved drawing conclusions that were continuously verified against the results of interviews, observations and documentation, thereby ensuring credible and consistent findings.

Research Findings and Discussion

Research Findings

Quality Management Strategy Based on the Internal Quality Assurance System (SPMI)

The research findings indicate that the quality management strategy at SMKN Wonosalam, Jombang, is carried out through the implementation of an Internal Quality Assurance System (SPMI) that is integrated into all educational processes. The SPMI not only serves as an instrument for meeting quality standards, but also acts as a managerial mechanism that guides planning, control, supervision, evaluation and follow-up on continuous improvement. Through this mechanism, the school fosters a culture of quality that prioritises the improvement of teaching quality as the primary focus of every programme.

Interview findings indicate that all areas of the school are overseen by the Quality Assurance Team, enabling the systematic monitoring of programme implementation. The Deputy Headteacher for Curriculum stated that:

‘...all activities at the school whether relating to the curriculum, student affairs, public relations or facilities and infrastructure are managed by the SPMI, ensuring that every programme is effectively monitored.’

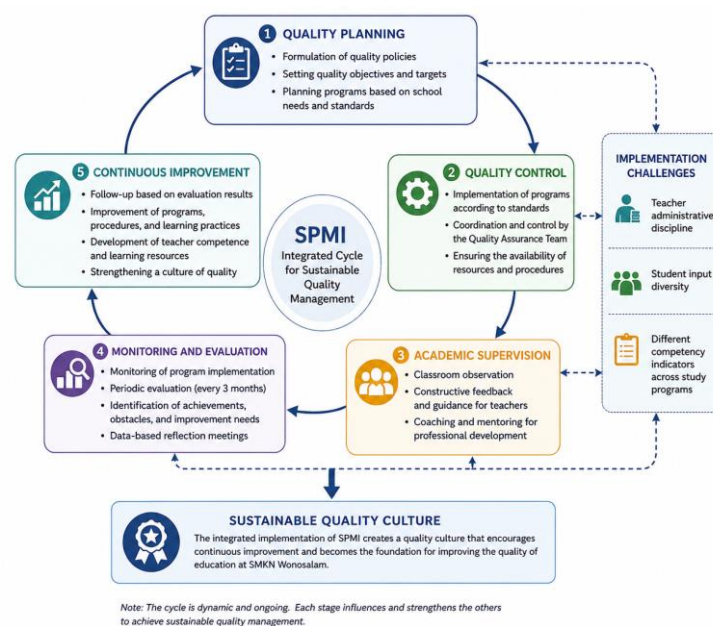
This statement is supported by observations and documentation showing the existence of SPMI work programmes, quality mapping and follow-up plans, which serve as guidelines for monitoring the implementation of school programmes. These findings indicate that quality control has become an integral part of the school’s operational system, rather than merely a matter of administrative compliance.

In addition to quality control, quality management strategies are also implemented through academic supervision focused on professional development. Supervision is carried out to evaluate the learning process whilst providing feedback to teachers as a basis for improving teaching. One teacher explained that following supervision, teachers receive an evaluation accompanied by advice and solutions to various challenges encountered during the learning process. Thus, supervision is understood as a mechanism for professional support that encourages the enhancement of teachers’ competencies, rather than as a process of fault-finding.

Further research findings indicate that the school implements regular monitoring and evaluation as part of the quality assurance cycle. Monitoring is carried out for every school activity, whilst evaluation is conducted periodically every three months to assess programme achievement and identify any obstacles that arise during implementation. The results of the evaluation do not end with the preparation of a report, but form the basis for the development of follow-up plans, ensuring that each quality assurance cycle leads to improvements in the subsequent programme. This approach demonstrates that the implementation of the School-Based Quality Management System (SPMI) at SMKN Wonosalam has adopted the principle of *continuous improvement* through a process of reflection and refinement carried out on an ongoing basis.

Nevertheless, this study also identified several challenges in the implementation of the quality management strategy. The obstacles encountered include a lack of discipline among some teachers in completing teaching administration, the diversity of students' prior abilities, and differences in the characteristics and achievement indicators across each vocational programme. These conditions require the school to adopt more adaptive development strategies to ensure that quality standards can still be met in accordance with the characteristics of each vocational programme.

Overall, the research findings indicate that the SPMI based quality management strategy at SMKN Wonosalam is built through the integration of quality control, academic supervision, periodic monitoring and evaluation, and continuous improvement follow-up. The integration of these four components fosters a culture of quality that supports the improvement of teaching quality, although its implementation still requires adjustments to address the various challenges faced by the school.



Figur 1. Quality Management Strategy Based on the Internal Quality Assurance System

Strategies for Improving the Quality of Teaching

Research findings indicate that improvements in the quality of teaching at SMKN Wonosalam were achieved through three main strategies: strengthening lesson planning and teacher competencies; transforming learning through technology and project-based approaches; and strengthening the monitoring system, supported by a conducive learning environment. These three strategies constitute a further implementation of the Internal Quality Assurance System (SPMI), which is aimed at realising effective, adaptive and learner-centred learning.

The first strategy is realised through the strengthening of lesson planning, which is developed collectively based on the school's quality report, learner characteristics, teacher competencies and the availability of learning resources. The formulation of Learning Objectives (LO) is carried out through workshops, Subject Teachers' Meetings (MGMP), and Learning Communities (Kombel). The History teacher explained that the setting of learning objectives must take into account the actual conditions of the school so that learning can be carried out optimally.

'...we must consider the conditions of the school, the circumstances of the pupils, and the teachers' capabilities so that the learning objectives set are appropriate to the existing conditions....'

The results of observations and documentation show that the school consistently facilitates MGMP and Kombel meetings, as well as industry-specific skills training for teachers, as part of their continuous professional development.

The next strategy was implemented through a transformation of learning that shifted from conventional teaching methods to technology-supported, project-based cooperative learning. A teacher of Agribusiness for Food Crops explained that pupils are given projects in stages, ensuring that communication between teachers and pupils is intensive throughout the learning process.

'...we usually assign projects to pupils, starting from seedling production right through to planting, so that communication with pupils continues throughout the activity....'

These findings are reinforced by observation results showing the use of Wi-Fi, *Belajar.id* accounts, LCD projectors, computer laboratories, and Android-based assessments as learning support tools. School inventory records also indicate the provision of transport for field practice activities, ensuring that learning is more contextual and aligned with vocational competencies.

The final strategy is realised through the strengthening of the monitoring system and the creation of a conducive learning environment. Learning monitoring is carried out through the integration of *e-presence*, CCTV and duty teachers, whilst teachers establish class agreements from the start of the academic year to foster discipline in learning. The results of the observations show that classrooms are equipped with supporting facilities and the school environment is organised to

create a learning atmosphere that is safe, comfortable and conducive to the effectiveness of the learning process.

Overall, this study demonstrates that improvements in the quality of teaching at SMKN Wonosalam are achieved through synergy between adaptive lesson planning, teacher competence development, technology- and project-based learning transformation, and strengthened supervision supported by a conducive learning environment. The integration of these three strategies forms a more effective and sustainable learning system that supports improvements in the quality of teaching.

Discussion

Quality Management Strategy Based on the Internal Quality Assurance System (SPMI)

The research findings indicate that the implementation of the Internal Quality Assurance System (SPMI) at SMKN Wonosalam has evolved into a management strategy that integrates quality control, academic supervision, monitoring and evaluation, and continuous improvement within a single learning management cycle. These findings indicate that the SPMI is no longer viewed merely as an administrative tool for meeting national education standards, but has become a management system that guides the process of continuous improvement in the quality of teaching. Consequently, the effectiveness of the SPMI is determined not only by the completeness of quality documentation, but also by the school's consistency in implementing the entire quality assurance cycle.

These finding is in line with the concept of *continuous quality improvement* developed by (Deming, 2000), which emphasises that quality improvement must be carried out through a continuous cycle, namely *Plan–Do–Check–Act (PDCA)*. In the context of education, this approach forms the basis for the implementation of a quality assurance system that emphasises planning, implementation, evaluation, control and follow-up as a single, interconnected process. Recent studies also indicate that the implementation of PDCA is capable of fostering a systematic, adaptive and data-driven culture of quality, thereby enabling the continuous improvement of the quality of learning (Hasnawi dkk., 2026).

The quality control measures implemented at SMKN Wonosalam demonstrate that all learning activities are coordinated by the Quality Assurance Team, ensuring that each programme can be monitored, evaluated and improved on a regular basis. This finding is consistent with the concept of the *Quality Trilogy* put forward by (Juran & Godfrey, 1999), namely *quality planning*, *quality control* and *quality improvement*, which positions quality control as an integral part of the process of organisational quality improvement. The integration of Juran's concept with the PDCA cycle has proven capable of fostering a more comprehensive quality culture, as it combines the aspects of

planning, control and improvement within a single quality management framework (Mahmuda & Faslah, 2025).

The academic supervision implemented at SMKN Wonosalam also exhibits the characteristics of a supportive form of supervision. Teachers receive feedback and guidance to improve their teaching practices, rather than merely an assessment of the completeness of administrative paperwork. This approach supports teachers' professional development as it encourages reflection on their teaching practices. Findings from a study on the implementation of the education quality assurance system indicate that collaborative supervision can strengthen a culture of quality and enhance the effectiveness of the learning process when accompanied by continuous follow-up (Mujahidin dkk., 2025; Zahiq & Kusuma, 2025).

Monitoring and evaluation carried out periodically every three months show that the school has implemented an evaluation mechanism as a basis for decision-making. Evaluation does not stop at the preparation of reports, but is used as the basis for drawing up subsequent improvement programmes. This approach is in line with the principle of *continuous quality improvement*, which emphasises that evaluation results must form the basis for organisational change so that quality can be improved on an ongoing basis (Kurniawan dkk., 2024).

Nevertheless, this study also identified several implementation challenges, namely teachers' discipline in completing teaching administration tasks, the diversity of learners' prior abilities, and the differing characteristics of each vocational programme. These findings indicate that the effectiveness of the SPMI is influenced not only by the system's design but also by the readiness of human resources and the characteristics of the school organisation. Consequently, the implementation of quality assurance in vocational schools requires a more adaptive approach to ensure that quality standards can still be met without disregarding the characteristics of each vocational programme.

Overall, this study demonstrates that the implementation of SPMI at SMKN Wonosalam has established an adaptive quality management system through the integration of quality control, academic supervision, monitoring and evaluation, and continuous improvement. These findings reinforce the view that the effectiveness of quality assurance is determined not only by compliance with procedures, but by the school's ability to internalise a culture of quality into its day-to-day teaching practices.

Strategies for Improving the Quality of Teaching as Part of the Implementation of Educational Quality Management

The research findings indicate that improvements in the quality of teaching at SMKN Wonosalam were achieved through three mutually integrated strategies: strengthening teachers' competencies through continuous professional development; transforming learning through

technology-based approaches and *Project-Based Learning* (PjBL); and strengthening the monitoring system, supported by a conducive learning environment. These three strategies demonstrate that the quality of teaching is not determined solely by individual teachers' abilities, but is the result of a quality management system that integrates human resource development, learning innovation and continuous quality control. These findings show that the implementation of quality management in vocational schools brings about changes that are not merely administrative in nature, but also impact classroom teaching practices.

One of the key strategies identified was the strengthening of teachers' competences through Subject Teachers' Working Groups (MGMP), Learning Communities (Kombel), and ongoing industry-led training. These findings indicate that schools implement collaborative teacher professional development, such that the process of competence enhancement takes place through reflection, the sharing of good practice, and the joint resolution of learning challenges. This approach aligns with the concept of the *Professional Learning Community* proposed by Richard DuFour, which identifies collaboration amongst teachers as a key factor in improving the quality of learning (Hudson, 2024). Various recent studies also show that teacher learning communities are capable of enhancing pedagogical capacity, strengthening a culture of reflection, and producing learning that is more adaptable to pupils' needs. Consequently, the strengthening of the MGMP and Kombel at SMKN Wonosalam is not merely a forum for coordination, but serves as an organisational learning mechanism that supports the improvement of teaching quality.

In addition to teachers' professional development, this study found that schools provide opportunities for active teachers to undertake industry training as part of strengthening their vocational competences. This strategy has significant implications as it enables teachers to update their knowledge of technological developments, industry standards and the competences required by the business and industrial sectors (DUDI). This finding is consistent with various studies on vocational education which emphasise that the quality of learning will improve if teachers' competences evolve in line with changing industrial needs and digital transformation. A systematic review of the integration of digital skills into vocational education indicates that the success of learning transformation is significantly influenced by teachers' digital competences, institutional support, and the alignment of the curriculum with industrial developments (Kurnia dkk., 2026).

The next strategy is implemented through a shift to *Project-Based Learning*, combined with the use of digital technology. Research findings indicate that learners do not merely receive theoretical material, but are involved in real-world projects ranging from the seedling stage to fieldwork, in line with their specialist competencies. This approach demonstrates that learning is directed towards authentic experiences that encourage students to develop critical thinking, problem-solving, collaboration and decision-making skills. Various studies have concluded that *Project-Based*

Learning is one of the most relevant approaches in vocational education as it is able to link classroom learning to the needs of the world of work and enhance students' practical skills (Ahmad dkk., 2023).

The research findings also indicate that the successful implementation of *Project-Based Learning* at SMKN Wonosalam is closely linked to the provision of adequate learning technology. The provision of Wi-Fi, *Belajar.id* accounts, computer laboratories, LCD projectors and Android-based assessments demonstrates that the digitalisation of learning has become an integral part of the learning management system, rather than merely the use of technological devices. This reinforces the findings of the study, which state that digital transformation in vocational education will have a significant impact if technology is integrated with pedagogical strategies and project-based learning, thereby enhancing student engagement and the quality of learning outcomes (Dzattadini dkk., 2025).

The research findings also show that the quality of teaching is influenced not only by teaching strategies, but also by the quality of the learning environment. The layout of the classroom, the provision of supporting facilities, and the creation of a comfortable school environment demonstrate that the school regards the physical environment as part of its quality assurance system. A conducive learning environment provides teachers with the opportunity to deliver teaching to the best of their ability, whilst also enhancing pupils' comfort whilst participating in the learning process. This demonstrates that quality management at SMKN Wonosalam is not only focused on improving teachers' competences but also takes into account the supporting factors that influence the effectiveness of learning.

Compared to previous research, which generally treated teacher competence development, the digitisation of learning, or *Project-Based Learning* as standalone variables, this study shows that these three aspects form part of an interrelated quality management system. Consequently, the quality of teaching is not the result of a single specific programme, but rather a consequence of the integration of teachers' professional development, learning innovation, the use of technology, and consistent academic supervision. These findings expand our understanding of the implementation of quality management in vocational schools by demonstrating that the effectiveness of teaching quality improvement is determined more by the school's ability to integrate all these components into its organisational culture than by the separate implementation of individual programmes.

Overall, this study confirms that the strategies for improving the quality of teaching at SMKN Wonosalam represent a concrete implementation of educational quality management oriented towards continuous improvement. The integration of teacher competence development, project-based learning, digital transformation, and academic supervision forms a learning system that is adaptable to the changing needs of the world of work. These findings provide empirical evidence

that the success of quality management in vocational schools depends not only on the application of quality standards, but also on the school's ability to link the quality assurance system with day-to-day teaching practices, thereby creating a culture of learning that is sustainable and relevant to the demands of 21st-century education.

Conclusion

This study shows that improvements in the quality of teaching at SMKN Wonosalam have been achieved through the implementation of an Internal Quality Assurance System (SPMI) that is integrated with all aspects of the learning management process. Quality management strategies do not stop at meeting administrative standards, but are realised through quality control, supportive academic supervision, regular monitoring and evaluation, and continuous improvement as part of the school's organisational culture. Although its implementation still faces challenges in the form of teachers' administrative discipline, the diversity of students' prior knowledge, and the differing characteristics of each vocational programme, the quality assurance mechanisms applied are able to maintain consistency in the delivery of learning whilst also serving as the basis for decision-making in continuous quality improvement.

This study also found that improvements in the quality of teaching are built through synergy between the development of teachers' competencies, the transformation of learning based on *Project-Based Learning* and digital technology, and the strengthening of the monitoring system, supported by a conducive learning environment. Strengthening teachers' capacity through subject-specific teacher working groups (MGMP), learning communities (Kombel), and industry-led training enhances teachers' professionalism whilst reinforcing the relevance of learning to the needs of the business and industrial sectors (DUDI). On the other hand, the utilisation of learning technologies, digital assessment, and integrated academic monitoring creates a learning process that is more effective, adaptive, and learner-centred.

The contribution of this research lies in the assertion that the effectiveness of quality management in vocational secondary schools is determined not only by the implementation of the SPMI cycle, but by the school's ability to integrate quality assurance into everyday teaching practices. The integration of quality control, teacher professional development, learning innovation, and a culture of continuous improvement forms a management model capable of supporting systematic improvements in the quality of teaching. These findings imply that the implementation of SPMI in vocational education needs to be positioned as a strategic instrument in building a culture of quality that is adaptable to technological developments, industry needs, and the characteristics of individual educational institutions.

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