

Curriculum Implementation Improvement Management to Enhance Student Achievement at SMKN 1 Tulungagung

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Abstract: *The quality improvement of education in Vocational High Schools (SMK) is significantly influenced by the effectiveness of curriculum implementation management. This study aims to describe management strategies for enhancing curriculum implementation at SMKN 1 Tulungagung and to analyze their impact on student achievement. A qualitative research approach was employed, using a case study method. Data were collected through observation, in-depth interviews with the school principal, teachers, and students, as well as documentation analysis. The findings indicate that curriculum implementation management at SMKN 1 Tulungagung includes industry-based planning, the application of project-based learning and the teaching factory model, and regular evaluations involving multiple stakeholders. In addition, the professional development of teachers through training and collaboration plays a crucial role in supporting the quality of instruction. The impact of effective management is reflected in improved student learning outcomes, greater participation in skills competitions, and enhanced graduate readiness for the workforce. This study concludes that structured, collaborative, and adaptive curriculum implementation management can significantly improve student achievement and may serve as a reference for other vocational schools.*

Keywords: *curriculum management, curriculum implementation, student achievement, vocational high school, teaching factory*

INTRODUCTION

Education serves as the fundamental pillar in the development of high-quality, independent, and competitive human resources(Tusriyanto et al., 2024). In the era of globalization and the Fourth Industrial Revolution, the education sector is challenged to swiftly adapt to ongoing technological, economic, and social transformations. In this context, vocational education plays a strategic role as a pathway that directly prepares students to enter the workforce with specific competencies. Vocational High Schools (Sekolah Menengah Kejuruan, or SMK) are designed to produce graduates who not only excel academically but are also proficient in technical skills and exhibit work ethics and professionalism aligned with industry demands(Yoto et al., 2024). The implementation of the curriculum in vocational schools is thus a critical factor in determining the direction and quality of education. The curriculum is not merely a planning document; it is a primary instrument in shaping students' competencies, character, and academic achievement.

SMKN 1 Tulungagung, as one of the leading vocational education institutions in Tulungagung Regency, has demonstrated its commitment to delivering vocational education that is responsive to contemporary developments(Purwaningsih & Yoto, 2022). The school has developed a variety of skill-based education programs tailored to meet the needs of industry and the business sector(Darmawan et al., 2025). Nevertheless, the improvement of educational quality at this institution cannot be separated from the crucial role of school management, particularly in the governance and implementation of the curriculum. A well-designed curriculum will not have a significant impact unless it is supported by a strong, structured, and efficient management system. Therefore, the management of curriculum implementation improvement is an essential component of the systematic efforts required to organize the teaching and learning process optimally and sustainably, with the ultimate aim of enhancing student achievement.

Numerous challenges often arise during curriculum implementation in vocational school environments, including at SMKN 1 Tulungagung(Rohaeni et al., 2021). These challenges include the lack of alignment between curriculum content and the actual demands of the labor market, inadequate practical facilities that support contextual learning, limited pedagogical and industrial-based teaching competencies among teachers, and insufficient innovation in

instructional strategies. If not addressed through proper managerial approaches, these challenges can directly impact students' motivation to learn, hinder the achievement of competency standards, and weaken the competitiveness of graduates in the job market (Okolie et al., 2020). Hence, there is a pressing need for curriculum implementation management strategies that are innovative, collaborative, and adaptive to the dynamics of the education sector and the world of work. Such strategies should not only involve school leaders and teachers but also engage students, parents, and external partners, including the business and industrial sectors (Mertkan, 2011).

Based on this background, this study is designed to answer three central questions: (1) What are the management strategies employed to enhance curriculum implementation at SMKN 1 Tulungagung? (Maslamah et al., 2025) (2) What challenges are encountered in the curriculum implementation process at the school? and (3) How does effective curriculum management impact the improvement of student achievement? The objective of this study is to describe and analyze the managerial strategies adopted by the school to improve the quality of curriculum implementation and to assess the extent to which these strategies contribute to student learning outcomes and achievements (Diez et al., 2020). By examining the role of curriculum implementation management comprehensively, this study aims to identify good practices that can be replicated by other vocational schools both regionally and nationally.

From an academic perspective, this topic warrants further investigation, considering that the literature on curriculum implementation management in vocational schools remains relatively limited (Alvunger, 2024). Many studies have focused more on curriculum design or development, while implementation aspects are often overlooked. Yet, proper implementation is the key to realizing a curriculum's intended outcomes and producing high-quality graduates (Chan et al., 2017). From a practical standpoint, the findings of this research can serve as a reference for education policymakers, school principals, and teachers in designing more effective curriculum management systems that are aligned with both learners' needs and industry requirements. Furthermore, the study's results could foster stronger collaboration between educational

institutions and industry partners, ensuring a more coherent link between education and the workforce.

Theoretically, this study draws upon George R. Terry's educational management theory, which defines management as a process consisting of planning, organizing, actuating, and controlling (Ibrahim, 2024a). In the context of curriculum implementation, these functions must be applied systematically and consistently to ensure that learning objectives are achieved. Additionally, the curriculum implementation theory by Ornstein and Hunkins highlights the importance of school leadership, teacher competence, and the active participation of all stakeholders in the educational process (Handler, 2010). The Teaching Factory (TeFa) approach also serves as an essential theoretical foundation in the context of vocational education, as it integrates learning with real production experiences within the school environment. Implementing the Teaching Factory model requires professional management and full support from industry partners. SMKN 1 Tulungagung has adopted several principles from this approach, although further efforts are needed to strengthen the aspects of evaluation and continuous quality improvement (Rohaeni et al., 2021). Therefore, this study is both relevant and strategic in addressing the evolving needs of vocational education.

METHOD

This study employed a descriptive qualitative approach, aiming to understand and describe the phenomenon in-depth based on the actual conditions observed in the field (Khan, 2014). This approach was deemed appropriate considering the nature of the issue under investigation—namely, the management processes involved in curriculum implementation within Vocational High Schools (SMKs)—which are complex, contextual, and dynamic. A qualitative study enables the researcher to explore various managerial aspects related to the strategies, implementation, and evaluation of the curriculum from the perspectives of key education stakeholders, including the principal, vice principal for curriculum affairs, vocational subject teachers, and students (Roohi et al., 2020). This approach allows the researcher not only to

examine formal documents or policies but also to comprehend the real-world implementation of the curriculum in a holistic and in-depth manner.

The research subjects were selected through purposive sampling, a technique in which informants are chosen based on specific criteria aligned with the research objectives (Tongco, 2007). The primary subjects in this study included the school principal as the top managerial authority, the vice principal in charge of curriculum as the technical manager of curriculum implementation, vocational teachers as the instructional agents, and several students as the direct beneficiaries of curriculum practices. SMKN 1 Tulungagung was selected as the research site for several reasons. First, the school has implemented various curriculum innovations, including the integration of project-based learning and the Teaching Factory (TeFa) model (Cahyaningati et al., 2024). Second, SMKN 1 Tulungagung is recognized as a leading vocational institution in Tulungagung Regency, with a strong record of achievement in both academic and skill-based competitions. Third, the school maintains well-established partnerships with the business and industrial sectors (DUDI), making it a relevant and representative case study for curriculum management aligned with industry needs.

Data collection was conducted using three main techniques: observation, in-depth interviews, and document analysis (Owen, 2014). Observations were carried out directly in the school environment, particularly during classroom instruction and Teaching Factory activities (Rentzos et al., 2014). The researcher observed the interactions between teachers and students, the teaching strategies applied, and the general atmosphere of the learning environment. In-depth interviews were conducted to obtain more detailed information related to the planning, execution, and evaluation of the curriculum. These interviews were held face-to-face and conducted in a flexible manner to allow informants to express their views openly (Irvine et al., 2013). Document analysis was used to obtain secondary data, such as curriculum planning documents, syllabi, lesson plans (RPPs), learning evaluation reports, Teaching Factory activity reports, and documentation of partnerships with industry stakeholders.

The data gathered through these techniques were analyzed using the interactive model of data analysis proposed by Miles and Huberman, which involves three core stages: data reduction, data display, and conclusion drawing/verification(Asipi et al., 2022). During the data reduction phase, the researcher selected, categorized, and simplified the raw data obtained from the field to focus on information relevant to the research questions(Watkins, 2017). The reduced data were then displayed in the form of descriptive narratives, matrices, and conceptual maps to facilitate the identification of patterns and relationships among emerging categories. The final step involved drawing conclusions based on iterative interpretations, supported by continuous verification to ensure the validity and reliability of the findings(Kurasaki, 2000).

To maintain data validity and reliability, several techniques were applied, including triangulation of sources and methods, which involved cross-verifying data obtained from different informants and collection techniques. Additionally, member checking was conducted by returning the interpreted data to the informants to confirm that the researcher's understanding accurately reflected their perspectives(Iivari, 2018). Field notes and interview transcripts were documented thoroughly and systematically to facilitate auditing and ensure research transparency. These steps were critical in upholding the integrity of the research process and in ensuring that the findings accurately represented the realities observed in the field(Adeoye, 2024).

Through this methodology, the study aimed to provide a comprehensive and in-depth account of how curriculum management is implemented at SMKN 1 Tulungagung, and how such managerial strategies contribute to the improvement of student achievement(Zulkifli et al., 2023a). The qualitative approach employed in this study enabled the researcher to capture not only the procedural aspects of curriculum implementation but also the cultural, structural, and relational dimensions that influence its success. Accordingly, the findings of this study are expected to inform the formulation of more adaptive, context-sensitive, and quality-oriented curriculum management strategies at the vocational education level(O'Grady et al., 2007).

RESULT AND DISCUSSION

1. Curriculum Planning Based on the Needs of the Industrial Sector

The research findings indicate that curriculum planning at SMKN 1 Tulungagung is conducted systematically and oriented towards the actual demands of the business and industrial sectors (DUDI). This planning process is not merely administrative but is the result of in-depth analysis of the competency requirements in the labor market. To support this, the school has established a curriculum development team composed of strategic stakeholders, including school leadership, vocational teachers, and representatives from industry partners already engaged in collaboration with the school (Friska & Nora Saiva Jannana, 2023a). The direct involvement of industry partners ensures that the resulting curriculum documents are contextual and relevant to current industrial developments (Friska & Nora Saiva Jannana, 2023b).

The curriculum documents prepared are not limited to technical content or hard skills but also integrate soft skills such as communication, teamwork, discipline, and work ethics (Ritter et al., 2018). This integration reflects the school's awareness that industries require not only technically skilled workers but also individuals with strong character and work integrity. Accordingly, instructional materials in vocational classes are designed to maintain a balance between cognitive, affective, and psychomotor domains (Subedi, 2022). This is essential to support the formation of holistically competent graduates who are ready to enter the workforce without the need for extensive additional training.

At SMKN 1 Tulungagung, the curriculum planning process is conducted annually through joint deliberation and evaluation forums. In this process, the school analyzes various data sources, including tracer studies of alumni, reports on graduate employment rates, and trends in technology and industry. Therefore, the planning process is not static but adaptive and responsive to changes occurring beyond the school environment (Fidan & Balci, 2017). Tracer study data serve as a critical component in assessing the relevance of subjects and competencies taught, as they provide concrete insights into the conditions faced by graduates in the labor market (Cuadra et al., 2019).

In addition to internal data, input from industry partners is also a primary basis for determining the direction of curriculum development. Industry actors provide specific information on the competencies expected from graduates, as well as updates on evolving technologies and work methods. For example, in the field of Computer and Network Engineering (TKJ), developments in cloud computing, cybersecurity, and the Internet of Things (IoT) have prompted the school to revise its learning content to ensure it remains aligned with industry needs(Matthew et al., 2020). This collaboration is not mere formality but a substantive part of guaranteeing the sustainability and quality of graduates(Mihaly, 2009).

This planning strategy has proven effective in narrowing the gap between what students learn in school and what is required in the labor market(Marshall, 2009). One key indicator of its success is the increased absorption rate of graduates into industry and the reduced need for retraining by partner companies when hiring graduates from SMKN 1 Tulungagung. This demonstrates that the planning process within curriculum management is executed with careful attention to effectiveness and efficiency principles, rather than as a routine annual activity(Oliver et al., 2008).

From the perspective of educational management, the strategy applied by SMKN 1 Tulungagung reflects a strong planning function, as defined by George R. Terry(Mujab et al., 2025). He asserts that planning is the process of defining goals and determining the best way to achieve them. The school does not merely focus on meeting the minimum national curriculum standards but goes further by proactively aligning the curriculum with labor market requirements. This planning function forms the foundation for other management functions, including organizing, implementing, and supervising(Nurhikmah, 2024).

Moreover, the success of curriculum planning at SMKN 1 Tulungagung cannot be separated from the school's visionary and collaborative leadership(UIN Sayyid Ali Rahmatullah (SATU) Tulungagung, East Java, Indonesia et al., 2023). The school principal and management team do not merely carry out administrative roles; they act as drivers of innovation through data-driven educational leadership. They facilitate dialogue between teachers and industry partners,

encourage teachers to pursue training and industry certifications, and adopt project-based learning approaches. In this way, the curriculum planning process is not isolated from implementation but is part of a continuous cycle that supports the objectives of vocational education(Hiim, 2017).

This overall approach demonstrates that SMKN 1 Tulungagung has successfully applied the principles of School-Based Curriculum Development (SBCD). The school no longer relies solely on centrally issued guidelines but is capable of independently designing a curriculum that aligns with local characteristics and global needs(Pellegrino, 2006). SBCD provides space for schools to innovate in developing learning materials, methods, and assessments. This aligns with the spirit of the Merdeka Belajar (Freedom to Learn) policy promoted by the Indonesian government, which grants schools greater autonomy to create meaningful learning experiences for students(Hunaepi et al., 2024).

In conclusion, curriculum planning at SMKN 1 Tulungagung is not merely procedural but constitutes a strategic process involving multiple stakeholders to ensure that graduates possess high competitiveness in the job market(Nurdiansyah, 2025). Through an industry-oriented approach, the integration of soft and hard skills, and adaptive school leadership, curriculum planning serves as a fundamental pillar for improving the quality of vocational education and strengthening its relevance to the real world(Rhafiiqul Azhari Karim et al., 2025).

2.Implementation of Learning through the Teaching Factory and Project-Based Models

The curriculum implementation at SMKN 1 Tulungagung has been strategically directed to integrate the Teaching Factory (TeFa) approach and Project-Based Learning (PjBL) as the main instructional models(Tanjung et al., 2025). Teaching Factory is a learning method based on real production processes that simulate an industrial work environment. This approach goes beyond ordinary practice, serving instead as a professional simulation involving industrial operational standards and quality control requirements(Boulet et al., 2010). On the other hand, Project-Based Learning is implemented to foster students' critical and creative thinking through meaningful and challenging project completion. Both models have been synergistically applied within the

curriculum framework to align students' learning experiences with the actual needs and demands of the labor market(Khodyreva et al., 2017).

In practice, teachers play a central role as facilitators in designing production- and project-based instruction while ensuring that every learning activity adheres to industry standards. Teachers are not only knowledge transmitters but also mentors who guide students through all stages of work processes—from planning and production to product evaluation(Hudson, 2013). In technical workshops, computer laboratories, and creative studios, students collaborate to complete real and applicable tasks such as manufacturing machine components, developing applications, designing graphics, and producing food and beverages(Edmonds et al., 2005). Consequently, learning transcends classroom theory and is grounded in practical experience that holistically engages the cognitive, affective, and psychomotor domains.

This learning model has significantly enhanced students' motivation to learn(Tran, 2019). Students feel more challenged and enthusiastic because the lessons are relevant to real-world contexts and open up future career opportunities. The learning atmosphere becomes more vibrant, dynamic, and interactive. Students engage actively, solve problems, make decisions, and work collaboratively. Independence, discipline, and communication skills also develop naturally through the production or project-based activities. This demonstrates that the TeFa and PjBL approaches foster not only technical competencies but also character development and self-confidence(Irfan et al., 2024).

From an educational management perspective, the implementation of these models reflects the actuating function as outlined by George R. Terry—namely, the process of motivating and executing activities in accordance with pre-established plans(Ibrahim, 2024b). The school principal and curriculum management team at SMKN 1 Tulungagung play a vital role in ensuring that learning implementation runs effectively by organizing practical schedules, managing production facilities, strengthening teacher capacity, and establishing networks with industry partners(Hastuti et al., 2025). Effective management ensures that production-based

learning is not merely a slogan, but a living practice embedded in the daily teaching and learning process.

Furthermore, the involvement of industrial partners is a key success factor of the Teaching Factory model(Wijanarka et al., 2023). Industry players not only act as end-users of graduates but also serve as active partners in developing instructional materials, conducting teacher training, providing equipment, and evaluating student competencies. These partnerships are mutual and sustainable, as industries also benefit from shaping prospective workers who match their specific needs. This collaboration ensures that the learning process at SMKN 1 Tulungagung remains highly relevant to labor market dynamics(Baitullah & Wagiran, 2019). As a result, students are not only academically prepared but also mentally and technically equipped to enter the workforce professionally.

The implementation of TeFa and project-based learning has also had a direct impact on improving student achievement(Isa & Azid, 2021). According to internal school data and interviews with department heads, students actively engaged in project-based and production learning tend to demonstrate higher technical skill scores, more frequent success in competitions such as the Student Skills Competition (LKS), and faster absorption into the labor market upon graduation. They also present stronger portfolios, which serve as added value during job recruitment processes. In other words, this learning model plays a tangible role in shaping students who excel not only within the school environment but also in external competitive settings(Hanna, 2019).

In conclusion, the Teaching Factory and Project-Based Learning approaches adopted by SMKN 1 Tulungagung reflect a genuine effort to operationalize a competence-based curriculum. This practice-oriented learning implementation can serve as a reference model for other vocational schools seeking to enhance the quality of their graduates(Smirnova et al., 2019). The success of this model stems from the synergy among school management, teachers, students, and external partners, along with a shared commitment to delivering vocational education that is relevant, contextual, and future-oriented(Carney et al., 2019).

3.Periodic and Participatory Curriculum Evaluation

Curriculum evaluation is a vital element in the educational management cycle that cannot be overlooked(Maryati et al., 2024). At SMKN 1 Tulungagung, curriculum evaluation is carried out periodically and in a participatory manner, involving a wide range of stakeholders, both internal and external. Evaluation is conducted not only at the end of each academic year but also through regular semester-based monitoring(Liberman et al., 2019). Structured evaluation forums are held involving the school principal, vice principal for curriculum affairs, subject teachers, the school committee, and representatives from the business and industrial sectors (DUDI). The active involvement of DUDI in this process is a distinctive feature of SMKN 1 Tulungagung as a vocational institution that places industrial needs at the core of curriculum development and implementation.

The curriculum evaluation at this school focuses on several key indicators, including the achievement of basic competencies, the relevance of learning materials to labour market demands, the effectiveness of teaching methods, and the success rate of students in mastering practical skills. The evaluation instruments used include the results of the Vocational Skills Competency Examination (UKK), student achievements in the Student Skills Competition (LKS), daily and semester assessment reports, as well as tracer study data that track the employability of graduates in the industrial sector(Rahayu & Lestari, 2025a). This information is compiled and analysed as a primary basis for making managerial decisions related to curriculum improvements and adjustments. Through this approach, the school ensures that the implemented curriculum has a tangible impact on enhancing the quality and relevance of its graduates(Tam, 2014).

Beyond data collection, evaluation at SMKN 1 Tulungagung is reflective in nature and serves as the foundation for revising the curriculum and refining learning strategies. Teachers and school management are encouraged to review teaching and learning processes, identify weaknesses, and design necessary innovations for future improvements. This practice reflects the implementation of the controlling function in educational management theory as defined by George R. Terry(Addinar et al., 2025). Evaluation is not viewed as a judgement tool, but rather

as a means to identify areas for improvement, enhance processes, and align learning objectives with external dynamics, especially technological advancements and industrial demands(Spector et al., 2001).

The evaluation process also demonstrates a collaborative and inclusive approach. Teachers are given the space to provide input regarding challenges in the learning process, while students are involved in sharing their learning experiences through satisfaction surveys and dialogue forums(Lecturer, Dept. of Computer Science, Tai Solarin University of Education, Nigeria. et al., 2019). The school committee, representing parents, contributes feedback on students' development at home and expectations for the educational process. Industry partners, on the other hand, offer input regarding graduates' readiness for employment, curriculum relevance, and emerging technologies or work methods that need to be anticipated in the classroom. The synergy from these diverse perspectives contributes to a more objective and comprehensive evaluation(Zhou et al., 2016).

One of the strengths of the participatory evaluation model at SMKN 1 Tulungagung is its ability to foster a sense of ownership and shared responsibility for education quality. When all members of the school community are engaged in the evaluation process, each stakeholder feels accountable for continuous quality improvement(Arzu et al., 2023). This fosters an organizational culture that is open to constructive feedback, innovative in problem-solving, and resilient in facing the challenges of vocational education. Over time, such participation builds a sustainable internal quality management system based on real data(Siva et al., 2016).

As a follow-up to evaluation results, the school regularly holds curriculum development workshops aimed at incorporating feedback from the evaluation process(Steinert et al., 2005). These workshops serve as platforms for reflection and innovation, where teachers and industry partners jointly revise syllabi, redesign lesson plans (RPP), and develop more authentic and industry-oriented assessment models. The evaluation outcomes also inform the planning of teacher training programmes, improvement of practical facilities, and the strengthening of collaboration with industry partners. As such, the evaluation process does not stop at

administrative reporting but leads to concrete policy changes and actions geared toward educational improvement(O'Day, 2002).

Overall, the implementation of periodic and participatory curriculum evaluation at SMKN 1 Tulungagung reflects the school's commitment to viewing educational management as a dynamic, evolving process(Aqodiah et al., 2024). Evaluation is conducted not merely as an institutional obligation, but as a strategic effort to ensure education quality and address global labour market challenges. This practice not only embodies the principles of modern educational management but also stands as a real example of the “Merdeka Belajar” (Freedom to Learn) philosophy, which promotes autonomy and inclusive participation in building meaningful and relevant education(Abidah et al., 2020).

4.The Impact of Curriculum Management on Student Achievement

The curriculum management strategy implemented at SMKN 1 Tulungagung has had a tangible and significant impact on improving student achievement, both academically and non-academically(Neliwati et al., 2023). One key indicator of this success is the increased number of students receiving awards in Student Skill Competitions (LKS) at the district, provincial, and national levels(Iskandar, 2024). Over the past three years, the number of students winning awards in various areas of expertise has consistently increased, indicating that their technical skills and competitive readiness have surpassed the average. This achievement is closely linked to the implementation of practice-oriented learning through a systematic integration of the Teaching Factory and Project-Based Learning approaches within the curriculum structure.

In addition, student achievement is reflected in the results of the Vocational Competency Exam (UKK), which serves as a crucial indicator in assessing graduates' competency standards(Rahayu & Lestari, 2025b). According to the school's internal data, more than 85% of students scored within the “satisfactory” and “very satisfactory” categories. This success is the result of curriculum implementation management that not only emphasizes content delivery but also strengthens learning processes, provides intensive mentoring, and ensures continuous

evaluation through collaboration among teachers, school management, and industry partners. Regular evaluation of learning processes is also a key tool in ensuring that teaching methods and content remain relevant to current industry developments(Putri & Abdullah, 2024).

The impact of curriculum management is also evident in the increased employment rate of graduates(Owan et al., 2022). Tracer studies conducted by the school reveal that more than 70% of SMKN 1 Tulungagung graduates entered the industrial workforce within six months of graduation—an employment rate that exceeds the national average for vocational schools. Most of these graduates were directly recruited by partner companies with which the school has established collaboration through industrial practice, internships, and teaching factory programs(Ubaidah et al., 2021). This demonstrates that the graduates meet the qualifications required by the job market, both in terms of technical expertise and mental readiness(Herbert et al., 2020). The school management actively facilitates partnerships with the business and industrial sectors (DUDI) to ensure alignment between the education process and labor market demands.

Beyond academic and technical skill achievements, effective curriculum management also positively influences the development of students' soft skills(Shakil et al., 2024). Interviews with teachers and heads of vocational programs indicate that students have made substantial progress in communication, discipline, teamwork, and accountability. This is largely attributable to the learning approach, which places students in real work-like situations that require interpersonal and managerial skills. For example, in group project implementations, students must manage time, resolve conflicts, and communicate ideas effectively—all of which are essential for future professional success(Lee et al., 2015). Therefore, the success of curriculum management is measured not only by final grades but also by observable changes in student behavior and character development.

These findings are consistent with previous studies that affirm how responsive and structured educational management can drive improvements in learning outcomes. One such study, by Kusumastuti (2021), concluded that implementing an industry-based curriculum

effectively enhances student competencies and strengthens the competitiveness of vocational school graduates(Pranita et al., 2025). In this context, SMKN 1 Tulungagung has demonstrated that collaboration between school management and external partners—supported by data-driven management practices—can produce an adaptive and future-oriented learning system(Hidayat et al., 2025). This success did not occur overnight but was achieved through a consistent and comprehensive cycle of planning, implementation, and evaluation.

Furthermore, the curriculum management model at SMKN 1 Tulungagung can serve as a best-practice reference for other vocational schools at both local and national levels. Many vocational institutions face similar challenges, such as the gap between curriculum and labor market needs, limited practical training facilities, and insufficient integration with industry partners(Itohan Oviawe, 2017). The experience of SMKN 1 Tulungagung illustrates that these challenges can be addressed strategically through visionary school leadership, strong collaboration, and a culture of continuous evaluation. This model aligns with the “Merdeka Belajar” (Freedom to Learn) philosophy promoted by the Indonesian government, which emphasizes autonomy and innovation at the school level and reinforces the role of school management in designing contextual and sustainable learning systems(Muhammad Aizri Fadillah, 2024).

In conclusion, curriculum implementation management at SMKN 1 Tulungagung makes a significant contribution to the holistic improvement of student achievement(Zulkifli et al., 2023b). Its impact extends beyond academic results and examination performance to include enhanced job readiness, character development, and the ability to compete in a demanding workforce. This success serves as concrete evidence that education management grounded in real-world needs, collaboration, and innovation can be a powerful driver of improved vocational education quality in Indonesia(Yulianti & Fitriansyah, 2024).

CONCLUSION

Based on the findings of the research on curriculum implementation management to improve student achievement at SMKN 1 Tulungagung, it can be concluded that the managerial strategies applied in a systematic and collaborative manner have made a tangible contribution to enhancing the quality of teaching and student outcomes. This study aimed to examine how the planning, implementation, and evaluation of the curriculum are managed within a vocational education environment to meet the demands of the labor market and to holistically improve student performance. The findings address the research problem by demonstrating that the success of curriculum implementation management lies in the synergy between the school, teachers, students, and industry partners, grounded in adaptive strategies that respond directly to the needs of the business and industrial sectors.

The key findings of the study show that: (1) curriculum planning at SMKN 1 Tulungagung is conducted in a participatory manner and is based on industry needs, involving various stakeholders in the development of curriculum documents; (2) the implementation of teaching applies the Teaching Factory and Project-Based Learning approaches, which are closely aligned with real-world professional practices; (3) curriculum evaluation is carried out periodically and participatively through joint forums between the school and industry partners to ensure the relevance and effectiveness of instruction; and (4) the management strategies in place have proven effective in improving student achievement, both academically and non-academically, as evidenced by improved UKK scores, student participation and success in Skills Competitions (LKS), and the high rate of graduate employment within six months of graduation. The school demonstrates a well-integrated and consistent application of the core management functions of planning, implementation, and supervision.

As a recommendation, the curriculum management practices implemented at SMKN 1 Tulungagung can serve as a model or best practice for other vocational schools seeking to develop contextual, adaptive, and labor-market-oriented education systems. Education policymakers, both at the regional and national levels, are encouraged to provide greater room for innovation and collaboration between schools and industries through regulations that support competency-based curriculum development. For future research, it is recommended to conduct

comparative studies among vocational schools with different social and economic backgrounds to enrich understanding of the factors influencing the effectiveness of curriculum implementation management in broader and more diverse contexts.

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Curriculum Implementation Improvement Management to Enhance Student Achievement at SMKN 1 Tulungagung

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Abstract: *The quality improvement of education in Vocational High Schools (SMK) is significantly influenced by the effectiveness of curriculum implementation management. This study aims to describe management strategies for enhancing curriculum implementation at SMKN 1 Tulungagung and to analyze their impact on student achievement. A qualitative research approach was employed, using a case study method. Data were collected through observation, in-depth interviews with the school principal, teachers, and students, as well as documentation analysis. The findings indicate that curriculum implementation management at SMKN 1 Tulungagung includes industry-based planning, the application of project-based learning and the teaching factory model, and regular evaluations involving multiple stakeholders. In addition, the professional development of teachers through training and collaboration plays a crucial role in supporting the quality of instruction. The impact of effective management is reflected in improved student learning outcomes, greater participation in skills competitions, and enhanced graduate readiness for the workforce. This study concludes that structured, collaborative, and adaptive curriculum implementation management can significantly improve student achievement and may serve as a reference for other vocational schools.*

Keywords: *curriculum management, curriculum implementation, student achievement, vocational high school, teaching factory*

INTRODUCTION

Education serves as the fundamental pillar in the development of high-quality, independent, and competitive human resources(Tusriyanto et al., 2024). In the era of globalization and the Fourth Industrial Revolution, the education sector is challenged to swiftly adapt to ongoing technological, economic, and social transformations. In this context, vocational education plays a strategic role as a pathway that directly prepares students to enter the workforce with specific competencies. Vocational High Schools (Sekolah Menengah Kejuruan, or SMK) are designed to produce graduates who not only excel academically but are also proficient in technical skills and exhibit work ethics and professionalism aligned with industry demands(Yoto et al., 2024). The implementation of the curriculum in vocational schools is thus a critical factor in determining the direction and quality of education. The curriculum is not merely a planning document; it is a

primary instrument in shaping students' competencies, character, and academic achievement.

SMKN 1 Tulungagung, as one of the leading vocational education institutions in Tulungagung Regency, has demonstrated its commitment to delivering vocational education that is responsive to contemporary developments(Purwaningsih & Yoto, 2022). The school has developed a variety of skill-based education programs tailored to meet the needs of industry and the business sector(Darmawan et al., 2025). Nevertheless, the improvement of educational quality at this institution cannot be separated from the crucial role of school management, particularly in the governance and implementation of the curriculum. A well-designed curriculum will not have a significant impact unless it is supported by a strong, structured, and efficient management system. Therefore, the management of curriculum implementation improvement is an essential component of the systematic efforts required to organize the teaching and learning process optimally and sustainably, with the ultimate aim of enhancing student achievement.

Numerous challenges often arise during curriculum implementation in vocational school environments, including at SMKN 1 Tulungagung(Rohaeni et al., 2021). These challenges include the lack of alignment between curriculum content and the actual demands of the labor market, inadequate practical facilities that support contextual learning, limited pedagogical and industrial-based teaching competencies among teachers, and insufficient innovation in instructional strategies. If not addressed through proper managerial approaches, these challenges can directly impact students' motivation to learn, hinder the achievement of competency standards, and weaken the competitiveness of graduates in the job market(Okolie et al., 2020). Hence, there is a pressing need for curriculum implementation management strategies that are innovative, collaborative, and adaptive to the dynamics of the education sector and the world of work. Such strategies should not only involve school leaders and teachers but also engage students, parents, and external partners, including the business and industrial sectors(Mertkan, 2011).

Based on this background, this study is designed to answer three central questions: (1) What are the management strategies employed to enhance curriculum implementation at SMKN 1 Tulungagung?(Maslamah et al., 2025) (2) What challenges are encountered in the curriculum implementation process at the school? and (3) How does effective curriculum management impact the improvement of student achievement? The objective of this study is to describe and analyze the managerial strategies adopted by the school to improve the quality of curriculum implementation and to assess the extent to which these strategies contribute to student learning outcomes and achievements(Díez et al., 2020). By examining the role of curriculum implementation management comprehensively, this study aims to identify good practices that can be replicated by other vocational schools both regionally and nationally.

From an academic perspective, this topic warrants further investigation, considering that the literature on curriculum implementation management in vocational schools remains relatively limited(Alvunger, 2024). Many studies have focused more on curriculum design or development, while implementation aspects are often overlooked. Yet, proper implementation is the key to realizing a curriculum's intended outcomes and producing high-quality graduates(Chan et al., 2017). From a practical standpoint, the findings of this research can serve as a reference for education policymakers, school principals, and teachers in designing more effective curriculum management systems that are aligned with both learners' needs and industry requirements. Furthermore, the study's results could foster stronger collaboration between educational institutions and industry partners, ensuring a more coherent link between education and the workforce.

Theoretically, this study draws upon George R. Terry's educational management theory, which defines management as a process consisting of planning, organizing, actuating, and controlling(Ibrahim, 2024a). In the context of curriculum implementation, these functions must be applied systematically and consistently to ensure that learning objectives are achieved. Additionally, the curriculum implementation theory by Ornstein and Hunkins highlights the importance of school leadership, teacher competence, and the

active participation of all stakeholders in the educational process (Handler, 2010). The Teaching Factory (TeFa) approach also serves as an essential theoretical foundation in the context of vocational education, as it integrates learning with real production experiences within the school environment. Implementing the Teaching Factory model requires professional management and full support from industry partners. SMKN 1 Tulungagung has adopted several principles from this approach, although further efforts are needed to strengthen the aspects of evaluation and continuous quality improvement (Rohaeni et al., 2021). Therefore, this study is both relevant and strategic in addressing the evolving needs of vocational education.

METHOD

This study employed a descriptive qualitative approach, aiming to understand and describe the phenomenon in-depth based on the actual conditions observed in the field (Khan, 2014). This approach was deemed appropriate considering the nature of the issue under investigation—namely, the management processes involved in curriculum implementation within Vocational High Schools (SMKs)—which are complex, contextual, and dynamic. A qualitative study enables the researcher to explore various managerial aspects related to the strategies, implementation, and evaluation of the curriculum from the perspectives of key education stakeholders, including the principal, vice principal for curriculum affairs, vocational subject teachers, and students (Roohi et al., 2020). This approach allows the researcher not only to examine formal documents or policies but also to comprehend the real-world implementation of the curriculum in a holistic and in-depth manner.

The research subjects were selected through purposive sampling, a technique in which informants are chosen based on specific criteria aligned with the research objectives (Tongco, 2007). The primary subjects in this study included the school principal as the top managerial authority, the vice principal in charge of curriculum as the technical

manager of curriculum implementation, vocational teachers as the instructional agents, and several students as the direct beneficiaries of curriculum practices. SMKN 1 Tulungagung was selected as the research site for several reasons. First, the school has implemented various curriculum innovations, including the integration of project-based learning and the Teaching Factory (TeFa) model(Cahyaningati et al., 2024). Second, SMKN 1 Tulungagung is recognized as a leading vocational institution in Tulungagung Regency, with a strong record of achievement in both academic and skill-based competitions. Third, the school maintains well-established partnerships with the business and industrial sectors (DUDI), making it a relevant and representative case study for curriculum management aligned with industry needs.

Data collection was conducted using three main techniques: observation, in-depth interviews, and document analysis(Owen, 2014). Observations were carried out directly in the school environment, particularly during classroom instruction and Teaching Factory activities(Rentzos et al., 2014). The researcher observed the interactions between teachers and students, the teaching strategies applied, and the general atmosphere of the learning environment. In-depth interviews were conducted to obtain more detailed information related to the planning, execution, and evaluation of the curriculum. These interviews were held face-to-face and conducted in a flexible manner to allow informants to express their views openly(Irvine et al., 2013). Document analysis was used to obtain secondary data, such as curriculum planning documents, syllabi, lesson plans (RPPs), learning evaluation reports, Teaching Factory activity reports, and documentation of partnerships with industry stakeholders.

The data gathered through these techniques were analyzed using the interactive model of data analysis proposed by Miles and Huberman, which involves three core stages: data reduction, data display, and conclusion drawing/verification(Asipi et al., 2022). During the data reduction phase, the researcher selected, categorized, and simplified the raw data obtained from the field to focus on information relevant to the research questions(Watkins, 2017). The reduced data were then displayed in the form of descriptive narratives,

matrices, and conceptual maps to facilitate the identification of patterns and relationships among emerging categories. The final step involved drawing conclusions based on iterative interpretations, supported by continuous verification to ensure the validity and reliability of the findings(Kurasaki, 2000).

To maintain data validity and reliability, several techniques were applied, including triangulation of sources and methods, which involved cross-verifying data obtained from different informants and collection techniques. Additionally, member checking was conducted by returning the interpreted data to the informants to confirm that the researcher's understanding accurately reflected their perspectives(Iivari, 2018). Field notes and interview transcripts were documented thoroughly and systematically to facilitate auditing and ensure research transparency. These steps were critical in upholding the integrity of the research process and in ensuring that the findings accurately represented the realities observed in the field(Adeoye, 2024).

Through this methodology, the study aimed to provide a comprehensive and in-depth account of how curriculum management is implemented at SMKN 1 Tulungagung, and how such managerial strategies contribute to the improvement of student achievement(Zulkifli et al., 2023a). The qualitative approach employed in this study enabled the researcher to capture not only the procedural aspects of curriculum implementation but also the cultural, structural, and relational dimensions that influence its success. Accordingly, the findings of this study are expected to inform the formulation of more adaptive, context-sensitive, and quality-oriented curriculum management strategies at the vocational education level(O'Grady et al., 2007).

RESULT AND DISCUSSION

1. Curriculum Planning Based on the Needs of the Industrial Sector

The research findings indicate that curriculum planning at SMKN 1 Tulungagung is conducted systematically and oriented towards the actual demands of the business and industrial sectors (DUDI). This planning process is not merely administrative but is the result of in-depth analysis of the competency requirements in the labor market. To support this, the school has established a curriculum development team composed of strategic stakeholders, including school leadership, vocational teachers, and representatives from industry partners already engaged in collaboration with the school (Friska & Nora Saiva Jannana, 2023a). The direct involvement of industry partners ensures that the resulting curriculum documents are contextual and relevant to current industrial developments (Friska & Nora Saiva Jannana, 2023b).

The curriculum documents prepared are not limited to technical content or hard skills but also integrate soft skills such as communication, teamwork, discipline, and work ethics (Ritter et al., 2018). This integration reflects the school's awareness that industries require not only technically skilled workers but also individuals with strong character and work integrity. Accordingly, instructional materials in vocational classes are designed to maintain a balance between cognitive, affective, and psychomotor domains (Subedi, 2022). This is essential to support the formation of holistically competent graduates who are ready to enter the workforce without the need for extensive additional training.

At SMKN 1 Tulungagung, the curriculum planning process is conducted annually through joint deliberation and evaluation forums. In this process, the school analyzes various data sources, including tracer studies of alumni, reports on graduate employment rates, and trends in technology and industry. Therefore, the planning process is not static but adaptive and responsive to changes occurring beyond the school environment (Fidan & Balci, 2017). Tracer study data serve as a critical component in assessing the relevance of subjects and competencies taught, as they provide concrete insights into the conditions faced by graduates in the labor market (Cuadra et al., 2019).

In addition to internal data, input from industry partners is also a primary basis for determining the direction of curriculum development. Industry actors provide specific information on the competencies expected from graduates, as well as updates on evolving technologies and work methods. For example, in the field of Computer and Network Engineering (TKJ), developments in cloud computing, cybersecurity, and the Internet of Things (IoT) have prompted the school to revise its learning content to ensure it remains aligned with industry needs(Matthew et al., 2020). This collaboration is not mere formality but a substantive part of guaranteeing the sustainability and quality of graduates(Mihaly, 2009).

This planning strategy has proven effective in narrowing the gap between what students learn in school and what is required in the labor market(Marshall, 2009). One key indicator of its success is the increased absorption rate of graduates into industry and the reduced need for retraining by partner companies when hiring graduates from SMKN 1 Tulungagung. This demonstrates that the planning process within curriculum management is executed with careful attention to effectiveness and efficiency principles, rather than as a routine annual activity(Oliver et al., 2008).

From the perspective of educational management, the strategy applied by SMKN 1 Tulungagung reflects a strong planning function, as defined by George R. Terry(Mujab et al., 2025). He asserts that planning is the process of defining goals and determining the best way to achieve them. The school does not merely focus on meeting the minimum national curriculum standards but goes further by proactively aligning the curriculum with labor market requirements. This planning function forms the foundation for other management functions, including organizing, implementing, and supervising(Nurhikmah, 2024).

Moreover, the success of curriculum planning at SMKN 1 Tulungagung cannot be separated from the school's visionary and collaborative leadership(UIN Sayyid Ali Rahmatullah (SATU) Tulungagung, East Java, Indonesia et al., 2023). The school principal and management team do not merely carry out administrative roles; they act as drivers of

innovation through data-driven educational leadership. They facilitate dialogue between teachers and industry partners, encourage teachers to pursue training and industry certifications, and adopt project-based learning approaches. In this way, the curriculum planning process is not isolated from implementation but is part of a continuous cycle that supports the objectives of vocational education(Hiim, 2017).

This overall approach demonstrates that SMKN 1 Tulungagung has successfully applied the principles of School-Based Curriculum Development (SBCD). The school no longer relies solely on centrally issued guidelines but is capable of independently designing a curriculum that aligns with local characteristics and global needs(Pellegrino, 2006). SBCD provides space for schools to innovate in developing learning materials, methods, and assessments. This aligns with the spirit of the Merdeka Belajar (Freedom to Learn) policy promoted by the Indonesian government, which grants schools greater autonomy to create meaningful learning experiences for students(Hunaepi et al., 2024).

In conclusion, curriculum planning at SMKN 1 Tulungagung is not merely procedural but constitutes a strategic process involving multiple stakeholders to ensure that graduates possess high competitiveness in the job market(Nurdiansyah, 2025). Through an industry-oriented approach, the integration of soft and hard skills, and adaptive school leadership, curriculum planning serves as a fundamental pillar for improving the quality of vocational education and strengthening its relevance to the real world(Rhaffiqul Azhari Karim et al., 2025).

2.Implementation of Learning through the Teaching Factory and Project-Based Models

The curriculum implementation at SMKN 1 Tulungagung has been strategically directed to integrate the Teaching Factory (TeFa) approach and Project-Based Learning (PjBL) as the main instructional models(Tanjung et al., 2025). Teaching Factory is a learning method based on real production processes that simulate an industrial work environment. This approach goes beyond ordinary practice, serving instead as a

professional simulation involving industrial operational standards and quality control requirements(Boulet et al., 2010). On the other hand, Project-Based Learning is implemented to foster students' critical and creative thinking through meaningful and challenging project completion. Both models have been synergistically applied within the curriculum framework to align students' learning experiences with the actual needs and demands of the labor market(Khodyreva et al., 2017).

In practice, teachers play a central role as facilitators in designing production- and project-based instruction while ensuring that every learning activity adheres to industry standards. Teachers are not only knowledge transmitters but also mentors who guide students through all stages of work processes—from planning and production to product evaluation(Hudson, 2013). In technical workshops, computer laboratories, and creative studios, students collaborate to complete real and applicable tasks such as manufacturing machine components, developing applications, designing graphics, and producing food and beverages(Edmonds et al., 2005). Consequently, learning transcends classroom theory and is grounded in practical experience that holistically engages the cognitive, affective, and psychomotor domains.

This learning model has significantly enhanced students' motivation to learn(Tran, 2019). Students feel more challenged and enthusiastic because the lessons are relevant to real-world contexts and open up future career opportunities. The learning atmosphere becomes more vibrant, dynamic, and interactive. Students engage actively, solve problems, make decisions, and work collaboratively. Independence, discipline, and communication skills also develop naturally through the production or project-based activities. This demonstrates that the TeFa and PjBL approaches foster not only technical competencies but also character development and self-confidence(Irfan et al., 2024).

From an educational management perspective, the implementation of these models reflects the actuating function as outlined by George R. Terry—namely, the process of motivating and executing activities in accordance with pre-established plans(Ibrahim,

2024b). The school principal and curriculum management team at SMKN 1 Tulungagung play a vital role in ensuring that learning implementation runs effectively by organizing practical schedules, managing production facilities, strengthening teacher capacity, and establishing networks with industry partners(Hastuti et al., 2025). Effective management ensures that production-based learning is not merely a slogan, but a living practice embedded in the daily teaching and learning process.

Furthermore, the involvement of industrial partners is a key success factor of the Teaching Factory model(Wijanarka et al., 2023). Industry players not only act as end-users of graduates but also serve as active partners in developing instructional materials, conducting teacher training, providing equipment, and evaluating student competencies. These partnerships are mutual and sustainable, as industries also benefit from shaping prospective workers who match their specific needs. This collaboration ensures that the learning process at SMKN 1 Tulungagung remains highly relevant to labor market dynamics(Baitullah & Wagiran, 2019). As a result, students are not only academically prepared but also mentally and technically equipped to enter the workforce professionally.

The implementation of TeFa and project-based learning has also had a direct impact on improving student achievement(Isa & Azid, 2021). According to internal school data and interviews with department heads, students actively engaged in project-based and production learning tend to demonstrate higher technical skill scores, more frequent success in competitions such as the Student Skills Competition (LKS), and faster absorption into the labor market upon graduation. They also present stronger portfolios, which serve as added value during job recruitment processes. In other words, this learning model plays a tangible role in shaping students who excel not only within the school environment but also in external competitive settings(Hanna, 2019).

In conclusion, the Teaching Factory and Project-Based Learning approaches adopted by SMKN 1 Tulungagung reflect a genuine effort to operationalize a competence-based curriculum. This practice-oriented learning implementation can serve as a reference model

for other vocational schools seeking to enhance the quality of their graduates(Smirnova et al., 2019). The success of this model stems from the synergy among school management, teachers, students, and external partners, along with a shared commitment to delivering vocational education that is relevant, contextual, and future-oriented(Carney et al., 2019).

3.Periodic and Participatory Curriculum Evaluation

Curriculum evaluation is a vital element in the educational management cycle that cannot be overlooked(Maryati et al., 2024). At SMKN 1 Tulungagung, curriculum evaluation is carried out periodically and in a participatory manner, involving a wide range of stakeholders, both internal and external. Evaluation is conducted not only at the end of each academic year but also through regular semester-based monitoring(Liberman et al., 2019). Structured evaluation forums are held involving the school principal, vice principal for curriculum affairs, subject teachers, the school committee, and representatives from the business and industrial sectors (DUDI). The active involvement of DUDI in this process is a distinctive feature of SMKN 1 Tulungagung as a vocational institution that places industrial needs at the core of curriculum development and implementation.

The curriculum evaluation at this school focuses on several key indicators, including the achievement of basic competencies, the relevance of learning materials to labour market demands, the effectiveness of teaching methods, and the success rate of students in mastering practical skills. The evaluation instruments used include the results of the Vocational Skills Competency Examination (UKK), student achievements in the Student Skills Competition (LKS), daily and semester assessment reports, as well as tracer study data that track the employability of graduates in the industrial sector(Rahayu & Lestari, 2025a). This information is compiled and analysed as a primary basis for making managerial decisions related to curriculum improvements and adjustments. Through this approach, the school ensures that the implemented curriculum has a tangible impact on enhancing the quality and relevance of its graduates(Tam, 2014).

Beyond data collection, evaluation at SMKN 1 Tulungagung is reflective in nature and serves as the foundation for revising the curriculum and refining learning strategies. Teachers and school management are encouraged to review teaching and learning processes, identify weaknesses, and design necessary innovations for future improvements. This practice reflects the implementation of the controlling function in educational management theory as defined by George R. Terry(Addinar et al., 2025). Evaluation is not viewed as a judgement tool, but rather as a means to identify areas for improvement, enhance processes, and align learning objectives with external dynamics, especially technological advancements and industrial demands(Spector et al., 2001).

The evaluation process also demonstrates a collaborative and inclusive approach. Teachers are given the space to provide input regarding challenges in the learning process, while students are involved in sharing their learning experiences through satisfaction surveys and dialogue forums(Lecturer, Dept. of Computer Science, Tai Solarin University of Education, Nigeria. et al., 2019). The school committee, representing parents, contributes feedback on students' development at home and expectations for the educational process. Industry partners, on the other hand, offer input regarding graduates' readiness for employment, curriculum relevance, and emerging technologies or work methods that need to be anticipated in the classroom. The synergy from these diverse perspectives contributes to a more objective and comprehensive evaluation(Zhou et al., 2016).

One of the strengths of the participatory evaluation model at SMKN 1 Tulungagung is its ability to foster a sense of ownership and shared responsibility for education quality. When all members of the school community are engaged in the evaluation process, each stakeholder feels accountable for continuous quality improvement(Arzu et al., 2023). This fosters an organizational culture that is open to constructive feedback, innovative in problem-solving, and resilient in facing the challenges of vocational education. Over time, such participation builds a sustainable internal quality management system based on real data(Siva et al., 2016).

As a follow-up to evaluation results, the school regularly holds curriculum development workshops aimed at incorporating feedback from the evaluation process(Steinert et al., 2005). These workshops serve as platforms for reflection and innovation, where teachers and industry partners jointly revise syllabi, redesign lesson plans (RPP), and develop more authentic and industry-oriented assessment models. The evaluation outcomes also inform the planning of teacher training programmes, improvement of practical facilities, and the strengthening of collaboration with industry partners. As such, the evaluation process does not stop at administrative reporting but leads to concrete policy changes and actions geared toward educational improvement(O'Day, 2002).

Overall, the implementation of periodic and participatory curriculum evaluation at SMKN 1 Tulungagung reflects the school's commitment to viewing educational management as a dynamic, evolving process(Aqodiah et al., 2024). Evaluation is conducted not merely as an institutional obligation, but as a strategic effort to ensure education quality and address global labour market challenges. This practice not only embodies the principles of modern educational management but also stands as a real example of the “Merdeka Belajar” (Freedom to Learn) philosophy, which promotes autonomy and inclusive participation in building meaningful and relevant education(Abidah et al., 2020).

4.The Impact of Curriculum Management on Student Achievement

The curriculum management strategy implemented at SMKN 1 Tulungagung has had a tangible and significant impact on improving student achievement, both academically and non-academically(Neliwati et al., 2023). One key indicator of this success is the increased number of students receiving awards in Student Skill Competitions (LKS) at the district, provincial, and national levels(Iskandar, 2024). Over the past three years, the number of students winning awards in various areas of expertise has consistently increased, indicating that their technical skills and competitive readiness have surpassed the average. This achievement is closely linked to the implementation of practice-oriented learning

through a systematic integration of the Teaching Factory and Project-Based Learning approaches within the curriculum structure.

In addition, student achievement is reflected in the results of the Vocational Competency Exam (UKK), which serves as a crucial indicator in assessing graduates' competency standards(Rahayu & Lestari, 2025b). According to the school's internal data, more than 85% of students scored within the “satisfactory” and “very satisfactory” categories. This success is the result of curriculum implementation management that not only emphasizes content delivery but also strengthens learning processes, provides intensive mentoring, and ensures continuous evaluation through collaboration among teachers, school management, and industry partners. Regular evaluation of learning processes is also a key tool in ensuring that teaching methods and content remain relevant to current industry developments(Putri & Abdullah, 2024).

The impact of curriculum management is also evident in the increased employment rate of graduates(Owan et al., 2022). Tracer studies conducted by the school reveal that more than 70% of SMKN 1 Tulungagung graduates entered the industrial workforce within six months of graduation—an employment rate that exceeds the national average for vocational schools. Most of these graduates were directly recruited by partner companies with which the school has established collaboration through industrial practice, internships, and teaching factory programs(Ubaidah et al., 2021). This demonstrates that the graduates meet the qualifications required by the job market, both in terms of technical expertise and mental readiness(Herbert et al., 2020). The school management actively facilitates partnerships with the business and industrial sectors (DUDI) to ensure alignment between the education process and labor market demands.

Beyond academic and technical skill achievements, effective curriculum management also positively influences the development of students' soft skills(Shakil et al., 2024). Interviews with teachers and heads of vocational programs indicate that students have made substantial progress in communication, discipline, teamwork, and accountability.

This is largely attributable to the learning approach, which places students in real work-like situations that require interpersonal and managerial skills. For example, in group project implementations, students must manage time, resolve conflicts, and communicate ideas effectively—all of which are essential for future professional success(Lee et al., 2015). Therefore, the success of curriculum management is measured not only by final grades but also by observable changes in student behavior and character development.

These findings are consistent with previous studies that affirm how responsive and structured educational management can drive improvements in learning outcomes. One such study, by Kusumastuti (2021), concluded that implementing an industry-based curriculum effectively enhances student competencies and strengthens the competitiveness of vocational school graduates(Pranita et al., 2025). In this context, SMKN 1 Tulungagung has demonstrated that collaboration between school management and external partners—supported by data-driven management practices—can produce an adaptive and future-oriented learning system(Hidayat et al., 2025). This success did not occur overnight but was achieved through a consistent and comprehensive cycle of planning, implementation, and evaluation.

Furthermore, the curriculum management model at SMKN 1 Tulungagung can serve as a best-practice reference for other vocational schools at both local and national levels. Many vocational institutions face similar challenges, such as the gap between curriculum and labor market needs, limited practical training facilities, and insufficient integration with industry partners(Itohan Oviawe, 2017). The experience of SMKN 1 Tulungagung illustrates that these challenges can be addressed strategically through visionary school leadership, strong collaboration, and a culture of continuous evaluation. This model aligns with the “Merdeka Belajar” (Freedom to Learn) philosophy promoted by the Indonesian government, which emphasizes autonomy and innovation at the school level and reinforces the role of school management in designing contextual and sustainable learning systems(Muhammad Aizri Fadillah, 2024).

In conclusion, curriculum implementation management at SMKN 1 Tulungagung makes a significant contribution to the holistic improvement of student achievement(Zulkifli et al., 2023b). Its impact extends beyond academic results and examination performance to include enhanced job readiness, character development, and the ability to compete in a demanding workforce. This success serves as concrete evidence that education management grounded in real-world needs, collaboration, and innovation can be a powerful driver of improved vocational education quality in Indonesia(Yulianti & Fitriansyah, 2024).

CONCLUSION

Based on the findings of the research on curriculum implementation management to improve student achievement at SMKN 1 Tulungagung, it can be concluded that the managerial strategies applied in a systematic and collaborative manner have made a tangible contribution to enhancing the quality of teaching and student outcomes. This study aimed to examine how the planning, implementation, and evaluation of the curriculum are managed within a vocational education environment to meet the demands of the labor market and to holistically improve student performance. The findings address the research problem by demonstrating that the success of curriculum implementation management lies in the synergy between the school, teachers, students, and industry partners, grounded in adaptive strategies that respond directly to the needs of the business and industrial sectors.

The key findings of the study show that: (1) curriculum planning at SMKN 1 Tulungagung is conducted in a participatory manner and is based on industry needs, involving various stakeholders in the development of curriculum documents; (2) the implementation of teaching applies the Teaching Factory and Project-Based Learning approaches, which are closely aligned with real-world professional practices; (3) curriculum evaluation is carried out periodically and participatively through joint forums

between the school and industry partners to ensure the relevance and effectiveness of instruction; and (4) the management strategies in place have proven effective in improving student achievement, both academically and non-academically, as evidenced by improved UKK scores, student participation and success in Skills Competitions (LKS), and the high rate of graduate employment within six months of graduation. The school demonstrates a well-integrated and consistent application of the core management functions of planning, implementation, and supervision.

As a recommendation, the curriculum management practices implemented at SMKN 1 Tulungagung can serve as a model or best practice for other vocational schools seeking to develop contextual, adaptive, and labor-market-oriented education systems. Education policymakers, both at the regional and national levels, are encouraged to provide greater room for innovation and collaboration between schools and industries through regulations that support competency-based curriculum development. For future research, it is recommended to conduct comparative studies among vocational schools with different social and economic backgrounds to enrich understanding of the factors influencing the effectiveness of curriculum implementation management in broader and more diverse contexts.

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