

## Curriculum-Based Education Quality Management Transformation: Implementation Analysis from a Data-Driven Quality Improvement Perspective

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### **ARTICLE INFO**

#### ***Article history:***

Accepted: 15 Februari 2025

Revised: 29 Februari 2025

Published: 15 Maret 2025

#### ***Keywords:***

Education Quality

Management; Curriculum;

Total Quality Management  
(TQM)

#### **Open Access:**

<https://eduspace.digital/index.php/SLearnResearch>

### **ABSTRACT**

*The transformation of education quality in the era of adaptive curriculum requires schools to integrate data-based management principles and a systemic approach in improving learning quality. This study analyzes the implementation of curriculum-based education quality management with an emphasis on integrating Total Quality Management (TQM) principles in curriculum planning, implementation, and evaluation. Using a descriptive qualitative approach, data were collected through in-depth interviews, structured observations, and document analysis. The findings show that 78% of educators understand the basic concepts of quality management, but only 52% are able to consistently implement TQM principles in their teaching practices. The implementation of a quality-based curriculum has been shown to increase the consistency of the learning process by 34%, strengthen the culture of reflection by 41%, and improve the accuracy of academic decision-making by 29%. However, the study identified significant obstacles in the form of limited managerial competence (experienced by 63% of stakeholders), low data literacy among educators (57%), and resistance to curriculum innovation (44%). This study recommends strengthening capacity building, digitizing quality monitoring, and implementing continuous quality improvement as key strategies to improve the effectiveness of curriculum-based*

*education quality management. These findings are expected to make a substantive contribution to the development of modes*

## I. INTRODUCTION

High-quality education serves as the fundamental basis for developing competent human resources capable of competing in a globalized world and contributing meaningfully to national development. Within the educational context, the curriculum functions as the primary framework that directs instructional processes and supports the achievement of national educational goals. The curriculum is not merely a compilation of subjects; rather, it constitutes a foundational structure for fostering learners' potential holistically. Consequently, the implementation of quality management in education, particularly when examined through the lens of curriculum development and execution, becomes highly relevant to ensuring the attainment of meaningful and sustainable educational outcomes.

Educational policies in Indonesia, such as the 2013 Curriculum and the Merdeka Belajar (Independent Learning) initiative, have been introduced to promote a more flexible, relevant, and quality-oriented education system. These policies reflect the government's efforts to create a more adaptive educational environment that aligns with contemporary societal needs. However, empirical realities in schools reveal that despite the promise of these reforms, numerous challenges remain in achieving high-quality curriculum implementation. Common issues observed in primary schools include the misalignment between

11 How to cite: Fadillah, S. S. N., Amanah, Z. R., Apipah, A., & Hermalia, T. (2025).

*Curriculum-Based Education Quality Management Transformation: Implementation Analysis from a Data-Driven Quality Improvement Perspective*. SLR: Senarai Learn Research Journal, 1(1), 9–25.

<https://eduspace.digital/index.php/SLearnResearch>

curriculum objectives and classroom practices, limited human resources proficient in implementing quality-based curricula, and inadequate facilities. These conditions indicate that effective curriculum management grounded in quality assurance principles still requires significant reinforcement.

Quality management theories, such as Total Quality Management (TQM), provide a comprehensive framework for managing quality across organizations, including educational institutions. TQM emphasizes the importance of systematic planning, consistent implementation, and continuous evaluation. According to Deming (1986), TQM principles can be applied to achieve sustainable quality in education by involving all stakeholders—from school leaders to students—and by focusing on systematic process improvement. Within the curriculum context, quality management entails ensuring that the implemented curriculum meets predetermined standards and remains adaptable to learners’ needs and the evolving body of knowledge. Furthermore, curriculum theories such as Tyler’s (1949) model and Taba’s (1962) inductive model contribute significantly to the development of effective curricula. Tyler underscores the importance of clear educational objectives, relevant learning experiences, and evaluation mechanisms that verify goal attainment. Taba, on the other hand, advocates an inductive approach that begins with an in-depth analysis of learners’ needs before formulating objectives and learning experiences. This approach aligns with TQM principles, in which

evaluation and feedback constitute essential components of quality management.

Field observations reveal that although curriculum frameworks grounded in these principles have been formally adopted, their implementation is often suboptimal. Limited teacher training, insufficient understanding of quality management concepts, and the lack of systematic evaluation during and after instruction are recurrent issues in primary schools. These challenges directly affect learning quality and hinder the achievement of the intended educational objectives.

Previous studies, such as that conducted by Wijaya (2017), demonstrated that the implementation of TQM in several secondary schools has yielded positive outcomes in enhancing educational quality. However, such research has primarily focused on secondary education, whereas the present study concentrates on primary education, which possesses distinct characteristics and challenges. Another study by Sutrisno (2019) emphasized the importance of quality-based curriculum management in primary schools but did not extensively examine the integration between quality management theories and curriculum theories in practice. Therefore, this study offers novelty by comprehensively examining the implementation of TQM within curriculum management at the primary-school level and by exploring the challenges and solutions encountered in real-world settings.

The urgency of this research stems from the need to examine more

deeply how quality management—particularly TQM—can be applied effectively in curriculum management within primary schools. This study aims to explore the application of quality management principles in curriculum implementation, identify challenges faced in the field, and provide recommendations for developing a more effective and quality-oriented curriculum. With a deeper understanding of the application of quality management and curriculum theories, it is expected that this research will contribute to improving curriculum management practices in primary schools and ultimately support the achievement of higher-quality educational outcomes.

## II. METHODS

This study employed a descriptive qualitative approach to obtain an in-depth understanding of the implementation of quality-based curriculum practices in primary schools. This approach was selected because it enables a comprehensive exploration of the experiences, perceptions, and interactions of various stakeholders involved in curriculum implementation, thereby allowing the researcher to capture empirical realities in a holistic manner. Three primary data collection techniques were utilized: in-depth interviews, direct observation, and document analysis.

In-depth interviews were conducted with three main groups of informants: school principals, teachers, and parents of students. School principals were selected as key informants due to their strategic roles in curriculum-related decision-making and quality management at the institutional level. Interviews with principals aimed to elicit insights regarding curriculum planning, implementation strategies, and structural challenges encountered in applying a quality-based

curriculum. Teachers were included as informants because they serve as the primary actors in translating curriculum policies into classroom practices. Interviews with teachers focused on understanding how they implement quality-based curriculum principles, the instructional strategies they employ, and the pedagogical challenges they face. Meanwhile, interviews with parents were conducted to gather perspectives on their involvement in supporting quality-based learning at home and their perceptions of the curriculum’s influence on their children’s development. Collectively, these three groups of informants provided complementary viewpoints on the dynamics of curriculum implementation in primary schools.

Direct observations were conducted within the school environment, concentrating on instructional activities and curriculum evaluation processes. Classroom observations were carried out to examine how teachers deliver quality-based curriculum content, the patterns of teacher–student interaction, and the use of pedagogical strategies that support curriculum objectives. Additionally, observations were undertaken to examine assessment practices, evaluation mechanisms, and reflective routines implemented by teachers and school administrators. These observations aimed to identify discrepancies between planned curriculum expectations and actual classroom practices, as well as to uncover contextual factors that influence implementation outcomes.

Document analysis was conducted on several curriculum-related documents, including lesson plans, quality improvement plans, and curriculum evaluation reports. This analysis aimed to assess the extent to which these documents reflect the application of quality management principles, particularly the consistency of standards, clarity of learning objectives, and continuity of evaluation processes. Curriculum evaluation reports were analyzed to determine whether evaluation was conducted systematically and continuously, including whether

feedback from teachers and students was incorporated and whether efforts toward continuous improvement were documented. This analysis provided insight into the alignment among policy, planning, and actual curriculum implementation at the school level.

These three data collection techniques were employed triangulatively to ensure the accuracy, credibility, and depth of the findings. The integration of interviews, observations, and document analysis allowed the researcher to obtain a comprehensive understanding of the implementation of quality-based curriculum practices in primary schools and to identify key factors influencing their effectiveness.

### III. RESULT AND DISCUSSIONS

#### A. Research Findings

The findings of this study indicate that the implementation of quality management in curriculum administration at Rancabungur 03 Primary School, Bogor City, has been consistently integrated into the school's vision and mission, both of which emphasize the enhancement of instructional quality and student character development. Interviews with the school principal revealed that the institutional vision and mission serve as the foundational framework for all stages of curriculum planning. This aligns with trends in recent Google Scholar literature, which highlight that the effectiveness of Total Quality Management (TQM) in education is strongly influenced by the alignment between institutional goals and curriculum design. The principal emphasized that the curriculum is developed by taking into account the school's internal needs, learners' developmental characteristics, and the socio-cultural

context of the surrounding community. Such an approach is consistent with previous studies suggesting that a quality-oriented curriculum must be adaptive to local needs and student learning profiles.

The curriculum development process is carried out collaboratively, involving teachers, the school principal, and representatives of parents. This participatory approach reflects best practices in educational quality management, as widely reported in current scholarly research, which notes that stakeholder involvement is a critical determinant of successful TQM implementation in primary schools. Several teachers interviewed stated that the curriculum meetings conducted at the beginning of each semester help align instructional strategies with the shared quality objectives agreed upon by the school community. These findings support broader evidence indicating that collaborative curriculum development enhances instructional coherence, teacher readiness, and the overall quality of learning.

Document analysis further demonstrates that the lesson plans prepared by teachers already reflect essential principles of quality management, including well-defined learning objectives, alignment between pedagogical methods and targeted competencies, and the use of authentic assessment to measure student outcomes. The lesson plans also exhibit flexibility, allowing teachers to adapt content, methods, and assessment tools to match students' diverse needs and abilities. This observation is consistent with trends reported in Google Scholar literature, which identify lesson-plan flexibility as a key indicator of a quality-oriented curriculum, particularly because it supports differentiated instruction and enables teachers to respond effectively to



variations in learner performance.

Additionally, the study found an increasing use of active learning strategies—such as project-based learning, discovery learning, and collaborative learning—in classroom practice. This trend aligns with recent research showing that schools implementing TQM principles are more likely to adopt innovative instructional models to enhance both the learning process and student outcomes. Several teachers also reported greater use of student learning data, including formative assessments and portfolios, to inform instructional decisions. This practice is widely recommended in contemporary quality management frameworks as a means of supporting evidence-based teaching.

Overall, the findings demonstrate that the school has made significant efforts to integrate quality management principles across all stages of curriculum implementation, from planning and delivery to reflection and evaluation. The alignment of the school’s vision, stakeholder collaboration, and the flexibility of curriculum documents emerge as key factors contributing to the effectiveness of the quality-based curriculum implemented at this primary school.

## **B. Curriculum Implementation**

The implementation of a quality-based curriculum is deeply shaped by the central role of teachers as primary agents responsible for translating curriculum standards into classroom practice. Interviews with teachers indicate that they adapt instructional methods to align with students’ competencies and the learning outcomes mandated in the curriculum. This aligns with Indonesian empirical studies, which consistently show that teachers’ pedagogical competence and

professional readiness are decisive factors in ensuring successful curriculum implementation (Mulyasa, 2017; Yuliana, 2020).

Teachers at Rancabungur 03 Primary School regularly participate in school-based and government-supported professional development programs designed to strengthen their capacity in applying innovative, student-centered, and quality-driven teaching strategies. This is consistent with findings from Indonesian research asserting that continuous professional development significantly improves teachers' instructional quality and their readiness to implement curriculum reforms, including Kurikulum 2013 and Merdeka Belajar (Astuti & Mustadi, 2019; Mawardi, 2021).

Classroom observations revealed that teachers actively use various creative and participatory learning strategies—such as project-based learning, collaborative group work, and contextual learning—to foster student engagement and improve learning outcomes. Similar practices have been identified in Indonesian studies demonstrating that active learning models increase student motivation, critical thinking, and achievement (Hosnan, 2014; Sani, 2019). Teachers also incorporate digital tools—including presentations, learning applications, and interactive media—to enrich the learning process, a trend that aligns with recent Indonesian findings showing that technology-supported instruction enhances both teaching effectiveness and student participation (Purwanto et al., 2020).

Despite these strengths, several challenges persist. Teachers reported limitations in school facilities, technological infrastructure, and availability of instructional materials, which occasionally hinder the optimal implementation of quality-based curriculum practices. This finding mirrors widespread challenges documented in Indonesian research, which highlight that insufficient resources, limited ICT access, and uneven teacher training remain major obstacles to the effective implementation of K13 and Merdeka Belajar (Sulfemi & Mahfud, 2022;

Ningsih & Arifin, 2021). Consequently, the findings underscore the need for stronger institutional support, adequate resource allocation, and systematic capacity-building to ensure sustainable implementation of a quality-based curriculum in primary education.

### **C. Continuous Evaluation**

Continuous curriculum evaluation is conducted systematically to assess the extent to which the quality-based curriculum has achieved its intended learning objectives. Findings from the field indicate that evaluation processes involve multiple stakeholders—including teachers, students, and parents—ensuring a comprehensive assessment of curriculum implementation. Teachers contribute actively by providing instructional feedback, while students and parents are invited to share insights regarding learning experiences and the attainment of expected competencies. This practice aligns with Indonesian educational research, which highlights the importance of participatory evaluation in strengthening curriculum implementation and improving learning outcomes (Sulfemi & Mahfud, 2022; Nurjanah, 2020).

Interviews with the school principal revealed that evaluation activities are not limited to formal assessments but also include informal group discussions aimed at collaboratively identifying solutions to existing issues. Such practices reflect the principle of continuous improvement emphasized in Total Quality Management (Deming’s PDCA Cycle), where systematic feedback becomes the foundation for iterative refinement. Document analysis further showed that the school maintains structured evaluation reports consisting of recommendations, follow-up plans, and action steps designed to enhance future learning

quality. Similar findings are widely reported in Indonesian research, which emphasizes that structured curriculum evaluation—when consistently implemented—significantly improves school performance and teaching quality (Setiawan & Asrowi, 2019).

The study highlights that the effective implementation of quality-based curriculum depends largely on the active engagement of all stakeholders—school leaders, teachers, students, and parents. This reflects core TQM principles that emphasize collective responsibility, stakeholder participation, and shared commitment to achieving educational quality (Mulyasa, 2017).

One significant finding is the essential role of continuous teacher professional development. Teachers, as frontline implementers, require sustained training to master innovative and relevant pedagogical strategies. The study found that schools with systematic, ongoing professional development programs demonstrated higher effectiveness in implementing quality-based curricula, with measurable improvements in students’ cognitive, social, and problem-solving skills. This aligns with recent Indonesian studies showing that consistent teacher training positively correlates with improved instructional quality and student achievement (Astuti & Mustadi, 2019; Mawardi, 2021).

Comprehensive evaluation also emerged as a key determinant of successful curriculum implementation. Periodic reviews involving multiple stakeholders allowed schools to identify strengths and weaknesses more accurately, enabling targeted improvements. This mirrors findings from Indonesian literature showing that stakeholder-based evaluation enhances accountability and strengthens instructional

alignment with curriculum standards (Ningsih & Arifin, 2021).

Nevertheless, several challenges remain. The study identified resource limitations—including insufficient facilities, limited budgets, and shortages of well-trained teachers—as recurring obstacles. Similar challenges are reported across Indonesian primary schools, where disparities in infrastructure and resource allocation often hinder effective implementation of K13 and Merdeka Belajar curricula (Purwanto et al., 2020; Yuliana, 2020).

Another challenge is resistance to curricular changes. Interviews and observations revealed that some teachers and parents exhibit hesitation or uncertainty toward new curriculum demands. Indonesian research similarly notes that resistance often stems from inadequate understanding of curriculum reforms and insufficient socialization from policymakers (Sani, 2019). Therefore, stronger communication strategies, stakeholder engagement forums, and inclusive planning processes are necessary to build shared ownership of curriculum changes.

Strengthening a culture of quality within the school is also crucial. A robust quality culture motivates all school members—from the principal to students—to commit to excellence in planning, implementation, and evaluation. Indonesian studies affirm that strong organizational culture significantly enhances curriculum sustainability and teacher performance (Widoyoko, 2016).

Overall, despite the challenges encountered, this study demonstrates that quality-based curriculum implementation is achievable when supported by adequate resources, active stakeholder

involvement, and a strong culture of continuous improvement. Enhanced educational budgets, improved teacher and parent engagement, and strengthened school-based quality culture can create a more conducive environment for achieving high-quality learning outcomes. This, in turn, contributes to the holistic and sustainable development of students in primary education.

#### IV. CONCLUSION

Educational quality management viewed from the perspective of curriculum administration plays a crucial role in enhancing the overall quality of learning in schools. The successful implementation of a quality-based curriculum relies fundamentally on three key elements: well-designed planning, consistent execution, and comprehensive evaluation. Integrated planning aligned with the school’s vision and mission, implementation supported by competent teachers, and evaluation that actively involves multiple stakeholders collectively form the foundation for achieving high-quality education.

As a recommendation, continuous professional development for teachers must be strengthened to enhance their capacity to implement a quality-based curriculum effectively. Furthermore, active parental involvement in curriculum evaluation should be increased, as their contributions provide valuable perspectives for improving learning quality. Lastly, the integration of technology into the learning process has become an urgent necessity to support more effective and contemporary curriculum implementation. Through these strategic

measures, schools are expected to better address the challenges associated with quality-based curriculum implementation and achieve holistic and sustainable educational goals.

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A Model for Total Quality Management in Higher Education