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Educational Quality Management in the First Cohort of The School Transformation Program in Batam

Nur Maladewi[1], Lantip Diat Prasojo[2]
[1]Yogyakarta State University, Yogyakarta, Indonesia, nurmaladewi.2023@student.uny.ac.id
[2]Yogyakarta State University, Yogyakarta, Indonesia, lantip@uny.ac.id

Corresponding Author: nurmaladewi.2023@student.uny.ac.id[1]

Abstract: This study aims to analyze the quality management of education in the first cohort of the Sekolah Penggerak program in Batam City, focusing on planning, implementation, evaluation, follow-up actions, as well as supporting factors, inhibiting factors, and resulting impacts. Key issues include teacher unpreparedness, limited competencies, technological barriers, and low parental involvement. The research employs the PDCA (Plan-Do-Check-Act) model using a qualitative multi-case study approach across 22 schools, with principals as primary subjects. Data were collected through interviews, observations, and document analysis, and analyzed inductively.The findings reveal that quality management was implemented in a structured manner: planning was participatory and data-driven using the SMART approach; implementation was adapted to school contexts through the Merdeka Curriculum, differentiated instruction, and technology integration; evaluation was conducted through assessments, reflections, and observations; and follow-up actions focused on enhancing teacher capacity, instructional methods, and school infrastructure. The success of the program was supported by school leadership, stakeholder collaboration, and government policies, although it faced challenges such as limited resources, resistance to change, and rigid bureaucracy.

Keyword: First Cohort Batam City, Merdeka Curriculum, Educational Quality Management, School Transformation Program, SMART Framework.

INTRODUCTION

Education is a fundamental component in developing high-quality human resources capable of global competitiveness. In an era of rapid and complex change, the national education system is required to undergo a comprehensive transformation. To address this, the Ministry of Education, Culture, Research, and Technology launched the School Transformation Program (Program Sekolah Penggerak) as part of the Merdeka Belajar (Freedom to Learn) policy. This program focuses on improving the quality of learning, strengthening the capacity of educators, and promoting school digitalization through five core interventions aimed at accelerating school progress.

Educational management plays a central role in ensuring the effectiveness of this program. Rohiat (2010) argues that management serves as a vital instrument for organizing educational resources to function efficiently and effectively. Arikunto and Yuliana (2019) emphasize that educational management is a collaborative process within an educational organization designed to achieve predetermined educational goals. This highlights the importance of school leadership and the involvement of all school members in achieving national education objectives.

In the context of quality improvement, quality management in education becomes a key element. Barnawi and Arifin (2018) state that educational quality management involves the integrated management of all resources to deliver educational services that not only meet but exceed stakeholder expectations. Similarly, Mustari (2014) describes educational management as a structured and goal-oriented collaboration aimed at achieving educational objectives. Winoto (2020) adds that educational management is a strategy to optimally empower human and material resources to achieve higher educational quality.

Juran (1998) defines quality as the degree to which a product or service meets user needs (fitness for use). In the educational context, quality reflects how well the learning process fulfills the expectations of students, parents, and society. Sallis (2008) argues that quality can also be seen as inherent in customer satisfaction—in this case, the learners. Thus, educational quality management must be capable of designing and implementing systems that ensure continuous quality improvement, both in administrative and substantive terms.

W. Edwards Deming (1986) introduced the PDCA (Plan–Do–Check–Act) model as a framework for quality management focused on continuous improvement. This model comprises planning, implementation, evaluation, and corrective action based on evaluation results. The PDCA cycle is highly relevant to educational settings as it ensures the systematic and measurable quality of teaching and learning processes. Suarez et al. (2022) further emphasize that quality management in education must center on innovation, method redesign, and responsiveness to diverse student needs to promote equitable and inclusive learning environments.

However, the implementation of the School Transformation Program faces various challenges. Research by Zaini (2022) reveals that teachers continue to encounter difficulties in applying project-based learning and educational technology. Similarly, research by Nur Mawaddah Islamiyah (2022) reports that time constraints and limited resources are major obstacles in executing P5 (Project to Strengthen Pancasila Student Profiles). Additionally, inadequate parental support, disparities in teacher competencies, and limited access to digital tools further complicate the program's execution.

Given these conditions, educational quality management must be thoroughly analyzed to identify factors that support or hinder successful program implementation. Susanto (2016) asserts that successful quality management can be seen through changes in student behavior across cognitive, affective, and psychomotor domains, as well as the ability of alumni to apply their knowledge in real-life contexts. Consequently, quality management strategies must be grounded in real-world conditions and involve all stakeholders collaboratively.

This study is guided by research questions that focus on the application of the PDCA model in educational quality management within the first cohort of the School Transformation Program in Batam City. The investigation explores how planning, implementation, evaluation, and follow-up actions are carried out in schools; what supporting and inhibiting factors are involved; and how these influence the quality of processes and learning outcomes. Additionally, the study examines how stakeholder involvement contributes to the program's success.

The research employs a qualitative multi-case study approach across 22 schools implementing the School Transformation Program in Batam. Data collection techniques include semi-structured interviews with school principals, field observations, and document

analysis. The data were analyzed inductively to uncover implementation patterns and to describe both best practices and challenges encountered in achieving educational goals.

The purpose of this study is to analyze the implementation of educational quality management in the School Transformation Program based on the PDCA model, and to identify the supporting factors, inhibiting factors, and impacts involved. Through this approach, the findings are expected to serve as a reference for policymakers and practitioners in formulating sustainable and contextually appropriate strategies for improving the quality of education.

METHOD

This study employed a qualitative approach using a multi-case study method. This approach was chosen to enable an in-depth exploration of educational quality management practices in the first cohort of the School Transformation Program in Batam City, encompassing schools from various educational levels. Yin (2018) posits that multi-case studies allow for logical replication and offer stronger analytic generalization for understanding complex and contextual phenomena. The study aimed to examine the planning, implementation, evaluation, and follow-up stages of quality management, along with the supporting and inhibiting factors, and their impacts in each school.

The data sources in this study consisted of both primary and secondary data. Primary data were obtained directly through structured interviews with school principals, observations of school activities, and field notes. As noted by Sugiyono (2023), in qualitative research, primary data are derived from respondents' words and actions as the main source of information. Secondary data were collected through document analysis, including school documents, reports, records, and other written sources relevant to the study's focus.

Data collection was conducted through four main techniques: observation, interviews, document analysis, and triangulation. Observations were carried out to directly record the implementation of quality management at the school level. Structured interviews were used to explore the perceptions and experiences of principals. Document analysis was conducted to support and enrich the primary data. To ensure data validity, source and technique triangulation were applied, as described by Sugiyono (2023), by comparing data obtained from different sources and using multiple methods.

The primary instrument in this study was the researcher, in accordance with Sugiyono's (2023) assertion that in qualitative research, the researcher functions as the key instrument. To support data collection, the researcher also utilized observation guides, interview protocols, and document checklists, all designed to ensure that the data gathering process remained focused and aligned with the indicators of educational quality management.

To ensure the trustworthiness of the data, the study adhered to the four criteria outlined by Sugiyono (2023): credibility, transferability, dependability, and confirmability. Strategies such as prolonged engagement, persistent observation, member checking, and data triangulation were implemented to enhance the scientific rigor and trustworthiness of the research findings.

Data were analyzed inductively, beginning with field observations and progressing toward conceptual abstraction. The analysis process involved open coding and axial coding, wherein meaningful data segments were identified, labeled, and grouped into interrelated categories. The data collected from observations, interviews, and documents were categorized into themes such as quality planning, program implementation, evaluation activities, follow-up actions, supporting factors, inhibiting factors, and the impacts of implementing quality management in the School Transformation Program.

Following the categorization of data, intra-case analysis was conducted for each school as an individual unit of analysis to explore the contextual depth of each case. This was followed by cross-case analysis to identify common patterns, differences, and similarities

across educational units. The analysis process was not linear but rather iterative and interactive, continuing until data saturation was reached—when no new information emerged. The researcher repeatedly reviewed the data, examined relationships among categories, and reflected on the meanings derived from participants' narratives.

A detailed illustration of the data analysis process is presented in Figure 1, which outlines the Inductive Analysis Steps Model. The process begins with field observation, followed by thematic categorization, theoretical interpretation of each category, and finally the development of a theory derived from empirical findings. These steps not only reflect the researcher's systematic reasoning process but also demonstrate the interconnectedness between data, categories, and emerging theory. The model embodies the inductive approach used to capture the complexity of quality management practices across various school levels within the School Transformation Program. By employing intra-case and cross-case analysis techniques, this study offers a comprehensive view of both similarities and contextual differences among schools, thereby contributing to the development of a context-sensitive educational quality management model.

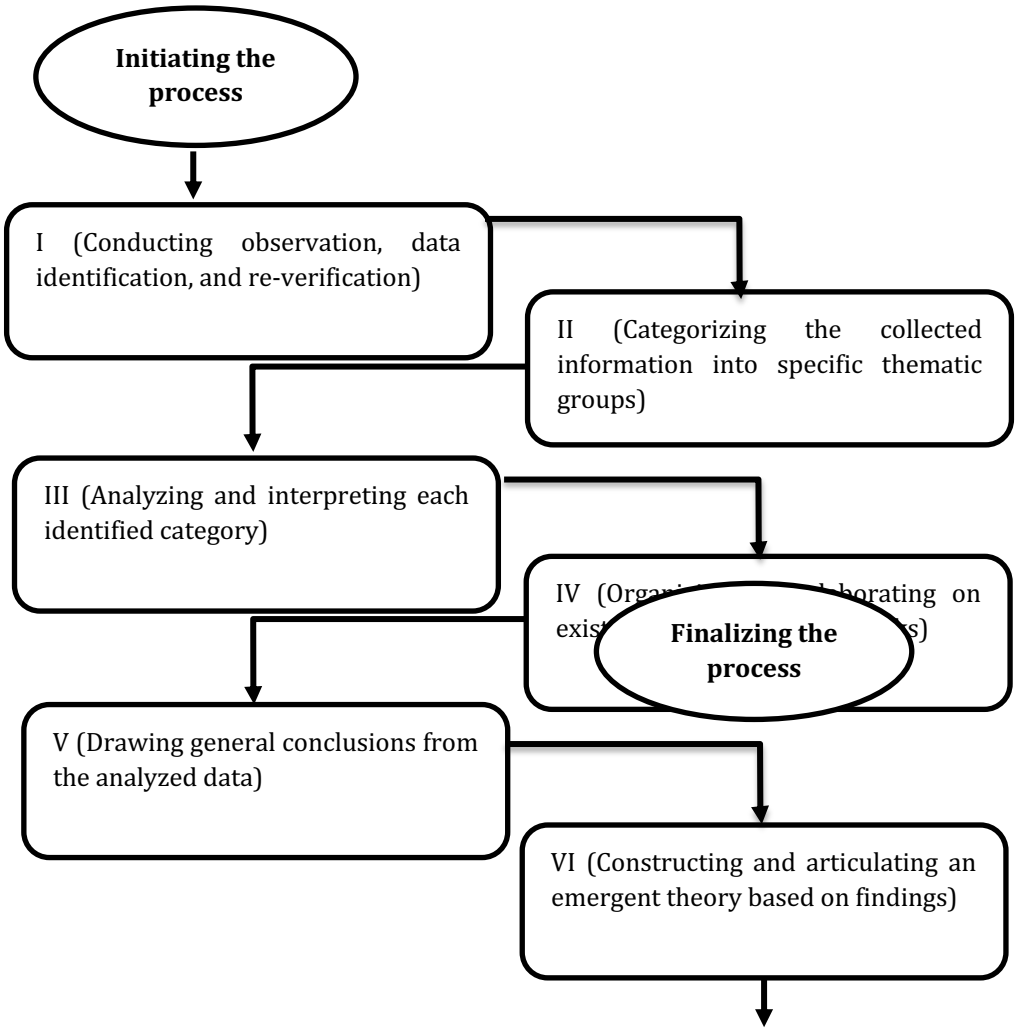


Figure 1. Inductive Analysis Steps Model

This inductive approach is intended not only to describe the phenomenon of quality management in transformation schools descriptively, but also to develop a theoretical understanding grounded in empirical realities observed in the field. This process enables the researcher to capture the contextual nuances of quality management practices that vary across schools. Furthermore, by analyzing data from key informants namely, school principals the study reveals actual practices, challenges, and strategies employed in the pursuit of sustainable educational quality. Thus, this research does not merely present factual accounts but also provides a comprehensive explanation of the dynamics of quality management implementation and proposes a relevant conceptual model. This model is expected to serve as a reference for the development of quality-based educational policies that are adaptive to the demands of a changing era and responsive to local contextual needs in the future.

RESULTS AND DISCUSSION

The findings of this study indicate that educational quality management in the first cohort of the School Transformation Program in Batam City has been systematically implemented through four main stages: planning, implementation, evaluation, and follow-up. Quality planning was based on data from the Education Report (Rapor Pendidikan), diagnostic assessments, learning environment surveys, and teacher reflections.. These data were analyzed and used to establish quality objectives that are specific, measurable, attainable, relevant, and time-bound in accordance with the SMART principles. The planning involved various stakeholders, including principals, teachers, education personnel, parents, and school committees, in the formulation of the annual work plans.

The implementation of quality initiatives was marked by the adoption of the Merdeka Curriculum, which provides schools with the autonomy to develop contextualized learning. Teachers employed differentiated and project-based learning strategies to adapt instruction to the needs of their students. Formative assessments and digital platforms, such as the Education Report and the Merdeka Belajar platform, supported the execution of quality-oriented practices. Principals functioned as instructional leaders by guiding curriculum implementation and supervising teaching practices.

Quality evaluation was conducted comprehensively through a reflective and participatory approach. Schools used a combination of formative and summative assessments, classroom observations, stakeholder satisfaction surveys, and reflective interviews to assess teaching effectiveness, teacher performance, and student learning outcomes. The evaluation served not only to measure results but also to inform evidence-based improvement efforts.

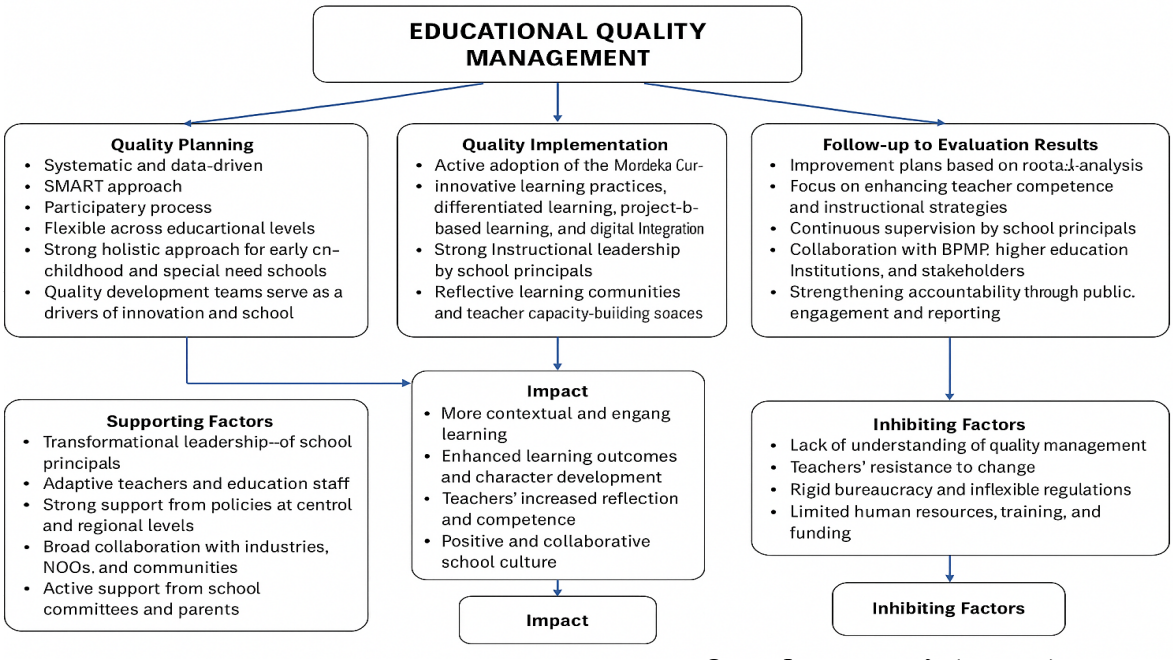
The follow-up phase based on evaluation results constituted a critical component of the quality management cycle. Actions taken included enhancing teacher competencies through training and mentoring, improving instructional tools, revising teaching strategies, and upgrading school infrastructure. These improvements were implemented through ongoing supervision, peer collaboration among teachers, and regular monitoring by school principals.

Key supporting factors in the successful implementation of quality management included visionary and transformational leadership by principals, teachers' openness to innovation, and support from stakeholders such as the Department of Education, the Education Quality Assurance Agency (BPMP), industry partners (DUDI), and the broader community. The use of digital technology and mentoring by facilitators of the School Transformation Program also strengthened the implementation process.

Nevertheless, several inhibiting factors were identified, including disparities in teacher competencies, resistance to change, limited human and financial resources, and uneven understanding of quality management concepts. These challenges hindered optimal program implementation in some schools and highlighted the need for more intensive support.

Overall, the impact of quality management implementation has been significant. Improvements in learning quality were reflected in better assessment outcomes, increased

student engagement, and a more collaborative and reflective school culture. Schools also experienced enhanced public trust and a stronger identity as institutions committed to continuous improvement. The following section presents a hypothetical model of educational quality management in the first cohort of the School Transformation Program in Batam City.



last, with the concept of the **American Psychological Association (APA)** or by using the **Mendeley** application.

Figure 2. Hypothetical Model of Educational Quality Management in the First Cohort of the School Transformation Program in Batam City

The explanation of the above figure illustrates the quality management cycle within the Pioneer School Program (Sekolah Penggerak) Cohort 1 in Batam City. This cycle begins with systematic, data-driven, and participatory quality planning. The use of the SMART approach and the flexibility to adjust based on educational levels are essential, particularly for Early Childhood Education (PAUD) and Special Needs Education (SLB), which emphasize a more holistic orientation. In several schools, the quality development teams have become key sources of innovation.

This planning phase transitions into the implementation stage, characterized by the active adoption of the Merdeka Curriculum, the integration of project-based and digital learning, and the strong role of school principals as instructional leaders who facilitate teacher learning communities. Subsequently, quality is evaluated using both quantitative indicators and reflective methods through data triangulation from students, teachers, and parents. This evaluation process emphasizes digitalization to enhance efficiency, incorporating practices such as digital portfolios and student self-assessments as emerging strategies.

Evaluation outcomes serve as the basis for continuous improvement, undertaken through root cause analysis, principal-led supervision, collaboration with the Educational Quality Assurance Agency (BPMP) and higher education institutions, as well as community engagement to strengthen accountability.

This quality management process is supported by several enabling factors, including the transformational leadership of school principals, adaptive teaching staff, technological and policy support, and cross-sector collaboration. Positive impacts include more engaging and

contextualized learning experiences, improved student outcomes and character development, the emergence of a collaborative school culture, and increased public trust.

However, several inhibiting factors remain, such as limited understanding of quality management principles, resistance to change, and constraints related to human resources and training. These challenges must be addressed to ensure the sustainability and effectiveness of the program.

Based on the research findings, the implementation of educational quality management in the Sekolah Penggerak (Pioneer Schools) demonstrates that data-driven and collaborative approaches are key success factors in its execution. This aligns with Earl and Katz (2006) perspective on data-informed decision making, whereby schools are able to identify specific needs and formulate appropriate strategies grounded in empirical evidence. Such an approach also resonates with Deming's PDCA (Plan, Do, Check, Act) cycle, which serves as a foundational framework for continuous quality improvement in education.

In the planning phase, the integration of data and the application of SMART principles have enabled schools to design realistic and contextually relevant work programs. These findings are reinforced by Doran's (1981) theory, which emphasizes the importance of specific and measurable goals in achieving educational quality. The involvement of stakeholders in the planning process further illustrates how schools are fostering a sense of ownership over the quality improvement programs being implemented.

Quality implementation, which incorporates the Merdeka Curriculum, differentiated instruction, and the Pancasila Student Profile Projects (Proyek Penguatan Profil Pelajar Pancasila – P5), indicates a shift from traditional to more innovative, inclusive, and relevant teaching models. Principals play a pivotal role as transformational leaders. Theories of transformational leadership proposed by Burns (1978) and Bass (1985) are pertinent in describing the principal's role as a change agent, motivator, and facilitator for both teachers and students.

School-based quality evaluation does not solely emphasize quantitative metrics, but also highlights reflection and feedback from all stakeholders. This approach reflects a cultural shift within schools towards accountability and continuous improvement. It supports the principles of Stufflebeam's CIPP evaluation model, which underscores the importance of assessing context, input, process, and product when evaluating the effectiveness of educational programs.

In terms of follow-up, schools exhibit maturity in developing post-evaluation improvement plans. Activities such as training, mentoring, and curriculum revision are routinely conducted based on actual needs. The success of these strategies illustrates that quality management is not merely an administrative task, but has become embedded within a reflective and innovative organizational culture.

Furthermore, this discussion reveals that variation among schools in quality management practices represents a form of flexibility that strengthens adaptability to local challenges. This aligns with the principle of context-sensitive management, which asserts that quality approaches must be tailored to the specific characteristics and conditions of each educational institution.

In conclusion, the implementation of quality management in Sekolah Penggerak in Batam City has successfully fostered a school culture that is transformative, reflective, and sustainable. These findings make a significant contribution to quality management practices in Indonesia, particularly in reinforcing data-based models and multi-stakeholder collaboration.

CONCLUSION

Educational quality management in the Sekolah Penggerak (Pioneer Schools) Cohort 1 in Batam City was implemented systematically and sustainably through the PDCA (Plan–Do–

Check–Act) approach. Quality planning was conducted in a participatory and data-driven manner, applying the SMART principles to formulate measurable and context-specific objectives. Quality implementation was realized through the adoption of the Merdeka Curriculum, differentiated instruction, and the integration of technology, all tailored to the specific needs of each educational unit.

Quality evaluation was carried out comprehensively and reflectively using various assessment instruments, classroom observations, and stakeholder feedback. Follow-up actions were conducted through teacher capacity-building initiatives, improvements in instructional methods, and the strengthening of school infrastructure. The program also demonstrates that transformational leadership by school principals and strong stakeholder support play a significant role in the success of quality management practices.

Nevertheless, several challenges remain that require attention, such as limited human and physical resources, varying levels of teacher competence, and the lack of readiness among some schools to adopt change. Therefore, it is recommended that local governments continue to strengthen regulatory and budgetary support for the Sekolah Penggerak initiative. Principals should further develop data-driven and collaborative leadership practices. Teachers need to be provided with ongoing professional development tailored to field-specific needs. Furthermore, active involvement of parents and the community is essential as strategic partners in fostering a culture of educational quality that is holistic, sustainable, and adaptive to future challenges.

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