Enhancing Early Childhood Learning Quality through Adaptive Management

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Abstract

The purpose of this study is to analyse the early childhood education management strategies aimed at improving the quality of student learning. The basic problem stems from the challenges in managing early childhood education, particularly in terms of limited human resources, curriculum adaptation, and the need for strengthening learning quality that focuses on children's character and interests. This study employs a qualitative descriptive approach, utilizing data collection techniques such as observation, documentation, and interviews with the principal, educators, and educational staff. The data analysis is conducted through triangulation, reduction, presentation, and conclusion drawing, along with data validation tests. The findings reveal that the educational management strategy is carried out through planning, organizing, implementation, and supervision functions. The learning planning is detailed based on the Merdeka curriculum, taking into account the students' needs and characteristics. Organizing is done flexibly by distributing educator tasks in accordance with the needs and adapting to the limitations of human resources. The learning implementation focuses on character development, interest and talent enhancement, and child-centre play principles as the main focus of educational activities. This management strategy has a positive impact on the improvement of learning quality, educator professionalism, and active student involvement. The study recommends strengthening human resource management through continuous training and further research on developing an adaptive and inclusive early childhood education management model.

How to Cite :

Introduction

Early Childhood Education (ECE) is one of the most critical phases in laying the foundation for a child's overall development. During this stage, children not only acquire basic knowledge but also develop moral principles, creativity, and social skills(Burbules et al., 2020). The quality of learning in early childhood education has been shown to depend not only on the competence of teachers but also on the effectiveness of the educational institution's management(Singh & Hiran, 2022). Research highlights that ECE institutions in Indonesia, especially those managed by private foundations, face significant challenges such as limited human resources, inadequate infrastructure, and instability in educator staffing. Teachers often take on administrative roles, and the use of educational technology remains suboptimal(Alenezi, 2023). These conditions negatively impact the quality of educational services and the achievement of early childhood development standards. Data from the Ministry of Education further confirm that the implementation of the Merdeka curriculum in ECE has not been fully effective due to limited teacher training and inadequate facility support. This underscores the importance of management strategies as a critical factor in maintaining the quality of learning in early childhood education.

Generally, learning in ECE is activity-based, designed to stimulate various aspects of a child's development. The learning process takes place through play, exploration, and social interaction, which support the development of language skills, cognitive abilities, and motor skills(Altinay et al., 2024; Bojović et al., 2020). According to (Riaz et al., 2023), educational management involves the processes of planning, organizing, implementing, and evaluating learning, all aimed at maintaining and improving the quality of educational services. In this context, the adoption of adaptive management strategies plays a pivotal role in enhancing the learning quality in ECE. Through these strategies, educational institutions can address challenges such as resource limitations, curriculum adjustments, and the professional development of educators. By implementing effective management functions, schools can improve educational outcomes and better support children's development in a more holistic manner.

Research has consistently highlighted the critical role of management in ensuring the quality of Early Childhood Education (ECE). (El-Sabagh, 2021) identifies six key components of ECE management: curriculum, students, personnel, funding, infrastructure, and community relationships. Dewi and (Sajja et al., 2024) emphasize that well-planned programs and effective educator management significantly contribute to the quality of ECE. However, (Gomes et al., 2020) focus more on administrative aspects and student motivation, without fully exploring the direct impact of management strategies on classroom learning quality. Studies indicate that quality ECE is closely linked to the effectiveness of institutional management. A comprehensive program plan, effective educator management, organized learning processes, and continuous evaluation are key factors (Raikes et al., 2020). Institutions that are well-managed can optimize teachers' potential, resources, and community support, providing meaningful

learning experiences tailored to the developmental characteristics of young children (Kawuryan et al., 2021). These findings underscore the necessity of adaptive and inclusive management practices for enhancing learning outcomes in early childhood settings.

Despite the extensive research on the various components of Early Childhood Education (ECE) management, there remains a significant gap in understanding how adaptive management strategies directly influence the quality of classroom learning. While previous studies, such as those by (Gomes et al., 2020), have explored aspects like program planning and educator management, they often overlook the nuanced ways in which adaptive management practices can address challenges such as limited resources, curriculum flexibility, and educator development in real-time classroom settings. Moreover, while (Sajja et al., 2024) examine administrative and motivational factors, they do not delve into how these factors are interlinked with a systematic management approach that enhances the overall learning experience. This research is significant as it aims to fill this gap by focusing on how adaptive management strategies can specifically enhance learning outcomes, improve the role of educators, and foster better engagement with students in ECE institutions. By exploring these strategies, this study provides practical insights for optimizing management in ECE institutions, especially in resource-constrained environments, and contributes to the development of more effective, inclusive management models.

The primary objective of this research is to analyse and evaluate the implementation of adaptive management strategies in Early Childhood Education (ECE) institutions, specifically in how these strategies enhance the quality of classroom learning. This study seeks to explore the relationship between effective management practices—such as curriculum planning, educator development, and resource optimization—and the improvement of educational outcomes in young children. By examining the key management components, including program design, educator roles, infrastructure, and community involvement, the research aims to identify the mechanisms through which adaptive management can address existing challenges in ECE settings, particularly those related to limited resources and fluctuating educator stability. Furthermore, the study intends to provide evidence-based recommendations for ECE institutions, particularly those in resource-limited contexts, on how adaptive management can be systematically integrated to optimize the learning experience, promote educator professionalism, and support the holistic development of children. This research not only fills a critical gap in the literature but also aims to contribute to the practical enhancement of ECE management frameworks.

Methods

This research applies a qualitative case study design to explore the management strategies in Early Childhood Education (ECE), the factors that support or hinder their implementation, and their implications on the quality of

learning. The selection of this design is based on the need to deeply investigate the complexities and context-specific dynamics of educational management in early childhood settings(Cohen et al., 2007). A case study approach is deemed appropriate as it allows for a comprehensive understanding of the strategies used by one institution while considering the specific challenges and opportunities within that setting(Ary et al., 2009). This location was chosen due to its relevance in providing a practical context to examine the adaptive management strategies implemented in a real-world early childhood education setting. The school's context presents an opportunity to observe first-hand how management practices are applied and their direct effects on educational outcomes.

Data collection techniques include in-depth interviews, non-participant observations, and document studies(Creswell, 2007). The interviews were conducted with key informants, including the school principal, kindergarten and preschool teachers, and educational staff, who play crucial roles in the planning, implementation, and evaluation of early childhood education management. The observation method allowed the researcher to gather insights into the learning environment and daily activities, while document studies provided supporting evidence, including the curriculum, school work plans, lesson plans (RPPH), class schedules, and child development evaluation reports.

Data analysis in this study follows an interactive model, encompassing data condensation, data display, and conclusion drawing. The process is inductive, meaning that patterns, themes, and insights emerge directly from the collected data(Leavy & Patricia, 2017). In the data condensation phase, irrelevant or redundant information is removed to focus on the key points. The data display phase organizes the findings into understandable formats, such as charts or narratives, to facilitate interpretation. The final stage involves verifying the findings by drawing conclusions from the analysis, ensuring that they address the research questions adequately. To ensure the validity of the data, triangulation of sources is employed. This method involves comparing and cross-checking findings from interviews, observations, and document studies to validate the consistency and reliability of the results. The novelty of this research lies in integrating the analysis of ECE management strategies with the identification of supporting and hindering factors, alongside an in-depth examination of their impact on learning quality within a specific early childhood education institution.

Finding and Discussion

Finding

In this research, the operational definition of adaptive management in Early Childhood Education (ECE) refers to a dynamic, responsive approach to managing resources, curriculum, and educator roles in a way that is flexible and aligned with the evolving needs of both children and the educational institution. Adaptive management is characterized by continuous planning, monitoring, evaluation, and adjustment of practices to address challenges, improve teaching outcomes,

and enhance the overall learning environment. The sub-findings observed in this study focus on how these management strategies are implemented in the context of Kindergarten Babussalam Surabaya, particularly the impact on the quality of learning and the involvement of key stakeholders, such as teachers and parents.

One of the informants, the principal, explained that the implementation of adaptive management strategies had significantly improved the institution's ability to address challenges related to limited resources and educator turnover. According to the principal, "We focus on identifying gaps in resources and adjusting our strategies to make the most out of what we have. For instance, we engage teachers more in decision-making, which has helped improve morale and their commitment to student development." This statement highlights the principal's view on how involving educators in management processes creates a sense of ownership and empowerment, which, in turn, enhances their effectiveness and job satisfaction. The adaptive approach allows the school to remain resilient despite challenges such as resource constraints and high turnover.

The second interview was conducted with a senior teacher, who mentioned that, "By focusing on the developmental needs of the children and integrating the flexible components of the Merdeka curriculum, we can better cater to each child's unique abilities. Our adaptive management approach ensures that we adjust the curriculum and teaching methods according to the children's learning progress and interests." This insight indicates that adaptive management allows educators to tailor their teaching practices to suit individual students, providing a more personalized learning experience. This approach not only addresses the varying developmental stages of children but also ensures that teaching methods are more responsive to the learners' needs, which is essential for fostering a supportive learning environment.

The observation conducted in the classroom revealed that the teachers actively engaged children in hands-on activities, which were clearly linked to the principles of the Merdeka curriculum. During the observation, children were seen working on projects that encouraged teamwork and creativity, with minimal teacher interference. The teachers employed strategies that allowed children to explore, play, and learn in a way that was both structured and flexible. The classroom environment was organized to be adaptable, with learning materials and resources being readily accessible, allowing for greater student autonomy. This reflects an adaptive management strategy that fosters an environment of creativity, critical thinking, and social interaction. The data supports the claim that an adaptive approach in the classroom enhances the quality of learning by encouraging independent learning while still offering guidance and support.

The findings from this study indicate that adaptive management strategies have a positive influence on both the teachers' effectiveness and the quality of learning outcomes. The implementation of flexible and responsive management practices, including curriculum adjustments, resource optimization, and active involvement of educators in decision-making, results in an educational environment that is better equipped to cater to the diverse needs of students. The

involvement of teachers in the management process enhances their job satisfaction and teaching quality, while the adaptability of the learning environment promotes creativity, critical thinking, and effective social learning among children. This confirms the significance of adaptive management in improving educational practices and outcomes in Early Childhood Education.

The data reveals a clear pattern that adaptive management strategies contribute to improving educational quality in several ways. First, it enables institutions to adjust their operations according to both internal and external challenges. Second, it strengthens educator involvement in decision-making, leading to higher morale and greater teaching effectiveness. Third, it fosters a more personalized approach to learning, where teaching strategies and curricula are tailored to meet the individual needs of students. These strategies, when combined, create a dynamic and supportive learning environment that benefits both the educators and the students, enhancing overall educational quality. The patterns found in the data suggest that adaptive management is not just a theoretical framework but a practical tool for enhancing the learning process in early childhood education settings.

Table 1. Data of Adaptive Management in Enhancing Childhood Learning Quality

Informant Position	Data	Indicators
Principal	We focus on identifying gaps in resources and adjusting our strategies to make the most out of what we have.	Resource optimization, Teacher involvement in decision-making, Educator morale and job satisfaction
Senior Teacher	By focusing on the developmental needs of the children and integrating the flexible components of the Merdeka curriculum, we can better cater to each child's unique abilities.	Personalized learning, Curriculum adaptability, Developmental focus on individual students' needs
Classroom Observation (Teachers)	Teachers engage children in hands-on activities linked to the Merdeka curriculum, promoting creativity and teamwork.	Active learning, Creativity in classroom, Child-centre play and exploration, Teacher-student interaction

Educational Strategies trough Adaptive Management

The Kindergarten Babussalam Surabaya, founded in 2010 under the formal Foundation, is a distinguished as Early Childhood Education (ECE) institution located in Surabaya, Indonesia. The institution currently serves 90 children, guided by seven dedicated educators and staff members. The school is committed to providing high-quality education that meets the diverse needs of its students, focusing on both academic and developmental milestones(Saracho, 2023). The school's approach to education management is built on a foundation of integrated planning, ensuring that the educational process is dynamic, inclusive,

and responsive to the evolving needs of its students(Waite, 2020). As such, one of the key strategies employed is adaptive management, which emphasizes flexibility and continuous improvement to enhance learning outcomes.

An essential feature of the institution's educational management strategy is its inclusive enrolment policy. Unlike many schools that apply selection criteria, the kindergarten operates with an open enrolment system, which includes children with disabilities(Pulimeno et al., 2020). This inclusivity ensures that all children, regardless of their background or abilities, have the opportunity to benefit from the same educational resources(Berkowitz & Grych, 2000). The institution groups students primarily by age and learning groups, providing a structure that promotes social interaction and peer learning. For Kindergarten B students, academic readiness is considered as part of the process, ensuring that children are adequately prepared for the transition to primary school. This approach reflects a commitment to supporting each child's unique development while also laying a strong academic foundation for future learning.

This institution has developed a range of supplementary programs aimed at fostering holistic development. These programs include pre-alert activities, religious education, 'Calistung' (reading, writing, and arithmetic), and extracurricular activities designed to nurture students' interests and talents. These programs are tailored to enhance the overall educational experience, ensuring that students not only meet graduation standards but also receive the necessary support to excel in various aspects of their development(Marcos et al., 2020). The integration of these supportive programs aligns with the institution's adaptive management strategy by continually adjusting to meet the developmental needs and interests of the children. This flexibility enables the institution to offer a well-rounded educational experience that supports both academic achievement and personal growth.

Central to the institution's strategy for improving educational quality is the collaborative planning of the Merdeka Curriculum, which is developed in consultation with all teachers. This curriculum emphasizes learning outcomes that are relevant to the students' developmental stages and the broader goals of early childhood education. By creating a curriculum that prioritizes student outcomes and allows for ongoing adaptation, the institution ensures that its teaching practices remain aligned with the children's evolving needs(Uzunboylu & Elçi, 2020; Waite, 2020). Teachers actively participate in the creation and modification of the curriculum, fostering a sense of ownership and empowerment, which, in turn, enhances the effectiveness of the teaching process(Ferreira et al., 2020). This collaborative planning also facilitates the development of diagnostic assessments, enabling teachers to continually monitor student progress and make adjustments to their teaching methods as necessary.

In addition to its general curriculum, the kindergarten takes specific measures to ensure that students with disabilities receive the support they need to succeed. The school has implemented the Individual Learning Program (PPI), which is designed to cater to the unique needs of each child with a disability. This program begins with a comprehensive assessment of each student's abilities,

followed by the development of a tailored learning plan. Through this adaptive management strategy, the curriculum is modified to ensure that it remains accessible to all students, regardless of their individual challenges. The PPI allows for a flexible, personalized learning experience that ensures that children with disabilities are not left behind but are instead supported in a way that maximizes their potential. This approach not only enhances inclusivity but also strengthens the overall learning environment by ensuring that all children are valued and supported.

The adaptive management strategy extends beyond curriculum development and is also reflected in the school's overall approach to resource management, teacher development, and institutional planning. Teachers receive ongoing professional development and training to ensure they are equipped with the necessary skills and knowledge to adapt to the changing needs of their students(Halkiopoulos & Gkintoni, 2024). While the institution faces challenges such as limited technological proficiency and the need for educators to take on multiple roles, the adaptive management approach allows the school to make the best use of available resources. This includes leveraging teacher strengths, adjusting teaching methods, and providing the necessary support to ensure the continuity of effective learning(Alam, 2022). The ability to adapt and adjust teaching strategies in real time has proven to be an invaluable tool in maintaining a high standard of education, even when faced with external challenges.

Figure 1. Adaptive Management in Education
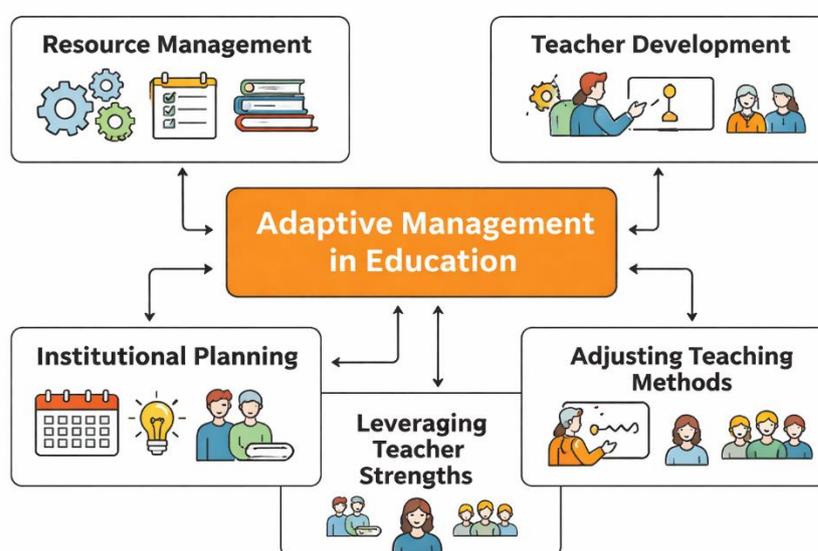
The key elements of adaptive management is the process of continuous monitoring and evaluation. The school employs a system of informal, yet effective, supervision conducted by the principal through collaborative discussions with teachers(Castro-Arce & Vanclay, 2020). This approach ensures that teachers receive the necessary feedback and support without feeling micromanaged, fostering a more comfortable and open atmosphere for professional growth. This informal supervisory style allows for real-time adjustments to be made, ensuring

that the educational process remains responsive to the needs of the students and staff. The principal's role in overseeing the implementation of the curriculum and its associated programs through adaptive management techniques is vital in ensuring the consistency and quality of learning outcomes across the institution.

The educational management strategies are a model of adaptive management in Early Childhood Education. Through integrated planning, inclusive practices, and continuous adaptation of the curriculum, the institution has created a responsive and inclusive learning environment that meets the diverse needs of its students. The commitment to personalized learning, teacher empowerment, and flexible resource management ensures that each child receives the necessary support to thrive. The use of adaptive management strategies not only enhances the quality of education but also provides a sustainable framework for continuous improvement, allowing this kindergarten to maintain high standards of learning despite challenges. This approach serves as an example of how adaptive management can be successfully implemented in early childhood education to achieve long-term educational success.

Figure 2. Adaptive Management Schema in Educational Process
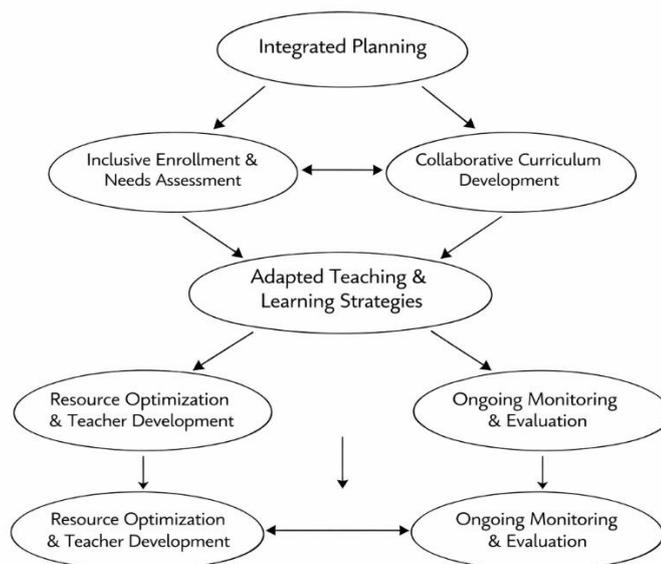
Quality Improvement Strategy through Curriculum and Inclusive Education Practices

The quality improvement strategy at Kindergarten which centre around the Merdeka Curriculum and inclusive education practices, aligns closely with contemporary research on early childhood education management. The curriculum is designed to address the cognitive, academic, emotional, and social development of children, which reflects the well-established principle that early childhood education should encompass a holistic approach to development(Liu, Lomovtseva, et al., 2020). This holistic focus is particularly relevant in light of the findings from the research, which show that an inclusive, child-centre curriculum

that evolves based on student needs provides a solid foundation for early childhood education. The flexibility of the curriculum, which is collaboratively developed by the teaching staff, allows it to adapt to the varying developmental stages and abilities of children, thus promoting an environment where all children can thrive(Mohamed Hashim et al., 2022). This adaptability is consistent with the broader trend in educational literature that calls for curriculum models to be responsive to the needs of both teachers and students.

When compared to the literature, the Merdeka Curriculum aligns with the work of researchers like (Alenezi, 2023), who emphasize the importance of collaborative curriculum development in improving the quality of early childhood education. The curriculum's focus on diagnostic assessments also corresponds with global best practices that stress the importance of using assessments not merely for grading purposes but as tools for understanding individual learning progress (Mystakidis et al., 2021). This is crucial for making informed decisions about how to adjust teaching practices to meet each child's needs, as suggested by the findings of the research. The use of ongoing assessments to guide curriculum adjustments highlights the adaptive nature of the teaching and learning process, which is a critical feature of effective early childhood education management (Du Plooy et al., 2024).

However, one distinct aspect of the research findings is the emphasis on the inclusive nature of the curriculum, particularly the integration of children with disabilities through the Individual Learning Program (PPI). This approach differs slightly from the broader literature, where inclusive education often focuses primarily on physical inclusion without always addressing the tailored educational needs of students with disabilities in a personalized manner. The kindergarten's approach to modifying the curriculum for students with disabilities—through individualized assessments and the PPI—highlights a more comprehensive method of inclusion that ensures all children, regardless of ability, receive a learning experience suited to their needs(Ibrahim et al., 2021). This is a strength of the institution's management strategy, as it directly addresses the gaps identified in other studies where the inclusion of children with disabilities often lacks personalization and is limited to mere physical integration in mainstream classrooms (Gligorea et al., 2023).

The practical implications of this approach are far-reaching. By integrating a personalized curriculum modification strategy such as PPI, the kindergarten ensures that students with disabilities are not left behind but are given equal opportunities to succeed in an environment that is both supportive and inclusive(Madi Odeh et al., 2023). This method is an excellent example of adaptive management in action, where the curriculum is not fixed but instead adapts to the needs of each child, creating a more equitable educational setting. The PPI also underscores the importance of teacher involvement in the creation of individualized learning plans, as teachers are deeply engaged in the process of identifying needs and modifying the curriculum. This kind of teacher agency is essential for fostering an environment where both students and educators are active participants in the learning process (Strielkowski et al., 2025).

From a theoretical perspective, the inclusive approach can be linked to the theories of differentiated instruction, which argue that education should be tailored to meet the diverse learning needs of all students. By using diagnostic assessments and creating individualized learning pathways for students with disabilities, the institution provides a concrete example of how differentiated instruction can be applied in practice(Janssen & Van der Voort, 2020). Moreover, this approach aligns with the social constructivist view of education, which emphasizes the importance of adapting teaching methods to the learners' needs and promoting a collaborative environment(Saputri & Lee, 2020). This model thus demonstrates how these theoretical concepts can be applied in real-world educational settings to foster an inclusive and adaptive learning environment that is responsive to the unique needs of each student.

Practically, the application of adaptive management through the Merdeka Curriculum and the PPI is a critical strategy for enhancing learning outcomes. It empowers educators to continuously assess and adjust their teaching strategies, ensuring that the learning environment remains relevant and effective(Akanmu et al., 2020). This dynamic approach is essential for addressing the ever-changing needs of children, particularly in early childhood settings where developmental milestones vary significantly from one child to another(Raza et al., 2021). Furthermore, the integration of an inclusive curriculum is not just about accommodating children with disabilities but also about enriching the overall educational experience for all students by fostering an environment of empathy, cooperation, and mutual respect.

Moreover, the inclusive education practices also have broader implications for educational policy and practice. The successful implementation of personalized learning through the PPI could serve as a model for other institutions seeking to improve the quality of education for children with disabilities(Živković et al., 2026). By emphasizing the importance of individualized learning plans and teacher collaboration, it contributes to the growing body of evidence that supports the benefits of personalized, inclusive education. This approach challenges the traditional one-size-fits-all model of education, encouraging policymakers and educators to consider more flexible, adaptive strategies that prioritize the needs of the individual child.

This research support the effectiveness of adaptive management and inclusive education practices in early childhood education. By adopting the Merdeka Curriculum, the kindergarten provides an educational model that not only addresses the academic needs of children but also supports their emotional and social development. The incorporation of personalized learning through the PPI further strengthens the institution's approach to inclusion, ensuring that all students, regardless of their abilities, are given the tools they need to succeed. This research also highlights the theoretical and practical significance of adaptive management, showing that when educational strategies are flexible, responsive, and inclusive, they can significantly improve the quality of learning outcomes for all students. As such, it's approach provides valuable insights into how early

childhood education can be managed to meet the diverse needs of children, laying the foundation for a more inclusive and effective educational system.

Supporting and Hindering Factors in Early Childhood Education Management

The successful implementation of early childhood education management is strongly supported by several key factors. One of the most significant of these is the availability of well-maintained and engaging facilities, both inside and outside the classroom(Fabricius & Cundill, 2014). The school has created a conducive learning environment that is safe, comfortable, and aligned with the developmental stages of the students. The classrooms are equipped with various learning materials and resources that encourage both structured and unstructured play, allowing children to engage actively with their surroundings. The outdoor spaces are equally important, as they offer opportunities for physical activity, exploration, and social interaction(Almusfar, 2025). This comprehensive setup contributes significantly to enhancing the overall learning experience, ensuring that the environment meets the evolving needs of the children at every stage of their development.

Another critical supporting factor is the harmonious and collaborative relationships among the educators, as well as between the educators and the school principal. These strong working relationships form the bedrock of the institution's success in delivering high-quality education(Martin et al., 2020). Effective communication and coordination among teachers allow for the seamless implementation of educational programs and the adaptation of teaching strategies to meet individual student needs. Moreover, the principal's leadership plays a crucial role in fostering a positive working environment where teachers feel supported and empowered. Regular meetings, discussions, and joint planning of school activities ensure that all staff members are aligned in their objectives and committed to delivering the best learning experience for the students. This collaborative approach enhances the effectiveness of the school's educational management, fostering a team-oriented atmosphere that is essential for achieving educational goals.

Additionally, the school also benefits from partnerships with external stakeholders, notably the local public health centre. This collaboration is particularly valuable in supporting the health and nutrition of the students, which is a fundamental aspect of early childhood development. By working with healthcare professionals, the school can ensure that students receive the necessary health checks, vaccinations, and nutritional support, which are critical for their overall well-being and readiness to learn. Furthermore, this partnership helps address the specific needs of children with disabilities by providing therapy and other supportive services, ensuring that these children are not excluded from the learning process. The involvement of external partners in supporting these essential services strengthens the overall quality of education, contributing to an integrated approach that addresses both academic and non-academic needs.

Despite these supportive factors, the research also identifies several challenges that hinder the optimal functioning of the educational management strategy at the kindergarten. One of the main obstacles is the limited competence of educators in utilizing educational technology. Many teachers at the school have expressed a lack of confidence in using technology for instructional purposes, which has resulted in suboptimal utilization of digital learning tools. The incorporation of technology into the learning process is crucial in today's education landscape, as it enhances student engagement, enables personalized learning experiences, and provides access to a wider range of learning resources. However, due to the limited proficiency in using technological tools, the school has not fully realized the potential benefits of technology in enhancing learning outcomes. This gap in technological competence underscores the need for ongoing professional development and training for educators, allowing them to integrate technology more effectively into their teaching practices.

Another significant challenge faced by the school is the shortage of human resources. Due to the small size of the institution, many teachers are required to take on multiple roles beyond their core teaching responsibilities. Some educators also serve as school operators, treasurers, secretaries, and heads of specific departments. While this multi-tasking may be necessary due to limited staffing, it can also lead to a dilution of focus and energy, which may ultimately affect the quality of teaching and the overall efficiency of school management(Liu, Shaikh, et al., 2020). The increased workload on teachers can lead to burnout, reduced job satisfaction, and less time for lesson preparation and individualized student support. Therefore, addressing the issue of human resource limitations is essential for ensuring that the educators can focus on their primary role of facilitating effective learning while maintaining their well-being and job satisfaction.

In line with the findings of (Mystakidis et al., 2021), the research confirms that one of the major barriers to improving the quality of education is the limitation of resources, both in terms of available educational facilities and the number of qualified teachers. The scarcity of human resources can negatively impact the delivery of quality education, as teachers are stretched thin by the need to take on multiple roles. Furthermore, the lack of professional training opportunities for teachers in early childhood education methods also contributes to the challenges faced by the school. As noted in the literature, limited training opportunities can prevent teachers from adopting the latest pedagogical practices, which ultimately hampers their ability to provide the best possible education for their students(Castro & Tumibay, 2021). Therefore, the school needs to invest in comprehensive professional development programs to equip teachers with the necessary skills and knowledge to meet the growing demands of the education sector.

To address these challenges, the research suggests that kindergarten must prioritize the development of its teachers through continuous training and support. Professional development initiatives should focus on improving educators' technological competencies, ensuring they are well-equipped to integrate digital tools into their teaching practices(Yawisah et al., 2022).

Additionally, the school must explore ways to expand its human resources by recruiting additional staff or adjusting the distribution of responsibilities among existing educators. This would allow teachers to focus more on their core educational tasks and reduce the burden of administrative duties. Strengthening human resource management is a strategic move that would not only improve the quality of teaching but also contribute to the sustainability of high-quality education in the long term.

Table 2. supporting and Hindering Factors

Element	Supporting Factors	Hindering Factors
Facilities and Infrastructure	Well-maintained and engaging learning spaces, both indoor and outdoor, aligned with children's development stages.	Lack of advanced technological tools and limited digital learning resources for optimal learning enhancement.
Collaboration and Relationships	Strong, collaborative relationships among educators, and between educators and the principal. Intense coordination and joint planning of school activities.	Limited human resources, leading to teachers taking on multiple roles, which can affect their focus and effectiveness.
External Partnerships	Collaboration with the local health centre to support children's health, nutrition, and therapy for children with disabilities.	Lack of sufficient external training or partnerships to enhance educators' skills in specific areas of development.
Teacher Competency	Teachers' active involvement in the development of the curriculum and teaching strategies.	Limited competency in using technology, affecting the use of digital tools in learning.
Human Resources	High teacher engagement and willingness to multitask, fostering a strong sense of commitment.	Overworked educators due to multiple responsibilities (administrative roles), leading to burnout and inefficiency.
Professional Development	Continuous training for educators to improve their skills and teaching strategies.	Limited opportunities for specialized early childhood education training, restricting educators' potential growth.

Impact of Early Childhood Education Management Strategies

The implementation of management strategies has significantly contributed to the enhancement of the quality of learning. One of the key outcomes is the integrated planning process, which includes student enrolling, curriculum development, human resource management, and the optimization of facilities(García-Morales et al., 2021). This comprehensive approach has led to the design of structured and inclusive learning programs that are tailored to the developmental needs of the children. The curriculum and teaching practices are aligned with the children's growth stages, ensuring that each child receives the

necessary support for their academic, social, and emotional development(Gheibi et al., 2021). This holistic planning has allowed the school to maintain a high standard of education while adapting to the diverse needs of its students. Furthermore, the integration of these planning components ensures that the learning environment is both supportive and effective in addressing the challenges of early childhood education.

Another key aspect of the management strategy is the adaptive organization of roles and responsibilities. Given the limitations in human resources, the school has adopted a flexible approach to task allocation among educators, ensuring that all aspects of the educational program are effectively implemented(Du Plooy et al., 2024). Teachers are assigned roles based on their strengths and expertise, allowing the institution to make the best use of its available resources. This adaptive approach not only ensures the smooth running of daily educational activities but also fosters a sense of teamwork and shared responsibility among the staff. The collaboration among educators, the principal, and other educational staff members is a cornerstone of the school's success, creating a work culture that is centre around mutual support and continuous improvement(Du Plooy et al., 2024). This collaborative effort contributes to an effective learning environment where every member of the staff plays an active role in achieving the institution's educational goals.

The impact of the management strategy is also evident in the implementation of the Merdeka Curriculum and the child-centre play principles that guide the learning process. By focusing on creating a learning environment where children are encouraged to learn through play and exploration, the kindergarten has fostered an active and engaging educational experience for its students. The curriculum's emphasis on character development, talent and interest development, and Calistung (Basic Literacy and Numeracy) has motivated students to engage in their learning in a way that is both enjoyable and meaningful. The inclusion of these programs, designed to meet the developmental needs and interests of the children, has had a positive effect on their overall motivation and participation in classroom activities(El-Sabagh, 2021). The shift from traditional, rigid teaching methods to a more flexible, child-focused approach has significantly increased the students' involvement in the learning process, fostering a sense of autonomy and intrinsic motivation to learn.

Furthermore, the professional development of educators has been enhanced through internal supervision and reflective discussions led by the principal. This collaborative and informal approach to supervision has proven to be effective in improving teaching practices and fostering continuous professional growth among the educators. The principal's role in facilitating regular feedback sessions has created an open environment for teachers to reflect on their performance and engage in constructive dialogue about how to improve their teaching methods. This reflective practice has led to tangible improvements in the quality of instruction and has supported the ongoing professionalization of the teaching staff. The consistent focus on teacher development has strengthened the overall quality of the learning environment and contributed to the creation of a

school culture that values growth, collaboration, and excellence. As a result, the adaptive and contextual management strategies have not only improved the quality of learning but have also fostered a school environment where continuous improvement is a central theme. This comprehensive approach to early childhood education management highlights the importance of flexibility, collaboration, and a focus on the developmental needs of children as key factors in driving educational success.

Conclusion

The implementation of adaptive management strategies has significantly enhanced the quality of early childhood education by fostering a dynamic, inclusive, and child-centre learning environment. Through integrated planning that encompasses curriculum design, student enrolment, human resource management, and facility optimization, the school has created a comprehensive approach that aligns with the developmental needs of its students. The adaptive organization of roles ensures effective implementation of educational programs despite limited human resources, while the collaborative culture among educators and the principal strengthens the overall learning experience. The Merdeka Curriculum, combined with a focus on character development, talent exploration, and Calistung, has actively engaged students, promoting autonomy and intrinsic motivation. Furthermore, the continuous professional development of educators through reflective supervision and collaborative feedback has contributed to improved teaching practices and overall educational quality. This adaptive and contextual management approach has proven to be a successful model for enhancing learning outcomes, fostering a culture of continuous improvement, and addressing the diverse needs of children in early childhood education.

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