

International Journal of Learning, Teaching and Educational Research
 Vol. 25, No. 7, pp. 326-351, July 2026
<https://doi.org/10.26803/ijlter.25.7.15>
 Received Apr 15, 2026; Revised Jun 15, 2026; Accepted Jun 24, 2026

The Quality Assurance of Early Childhood Education in Preschools in the Mekong Delta, Vietnam: Integrating the CIPO and PDCA Frameworks

Thong Nhat Du 

Ho Chi Minh City University of Education, Vietnam

Hoang Anh Nguyen* 

Dong Thap University, Vietnam

Van Hieu Pham 

Ba Ria-Vung Tau Teachers Training College, Vietnam

Duc Danh Nguyen 

Ho Chi Minh City University of Education, Vietnam

Duc Thang Mai 

Ho Chi Minh City University of Technology, Vietnam

Abstract. Quality assurance (QA) in early childhood education has become a major priority in Vietnam's educational reform, particularly in disadvantaged regions such as the Mekong Delta, where limitations in resources, managerial capacity, and community support continue to affect preschool quality. This study examines QA management in preschools by integrating the CIPO framework (Context-Input-Process-Output) with the PDCA (Plan-Do-Check-Act) continuous improvement cycle. It explores how contextual conditions, educational resources, management processes, and educational outcomes interact to influence QA effectiveness in early childhood education institutions. A quantitative survey design was employed using a structured Likert-scale questionnaire. The final valid sample included 1,130 respondents, comprising 788 preschool managers and teachers and 342 parents from urban and rural areas across the Mekong Delta region of Vietnam. Data were collected to evaluate perceptions of QA implementation in relation to input management, process management, output quality, and contextual support factors. Descriptive and comparative statistical

Citation :

Du, T. N., Nguyen, H. A., Pham, V. H., Nguyen, D. D., & Mai, D. T. (2026). The Quality Assurance of Early Childhood Education in Preschools in the Mekong Delta, Vietnam: Integrating the CIPO and PDCA Frameworks. *International Journal of Learning, Teaching and Educational Research*, 25(7), 326-351. <https://doi.org/10.26803/ijlter.25.7.15>

*Corresponding author: Hoang Anh Nguyen; nhanh@dthu.edu.vn

analyses were conducted using SPSS software. The findings reveal a significant “quality paradox” in preschool QA management. Output management, particularly child developmental outcomes, parental satisfaction, and trust in preschool services, received more positive evaluations than other dimensions. In contrast, process management was rated lowest, especially in the planning, monitoring, and feedback stages of the PDCA cycle, indicating limited effectiveness of continuous improvement mechanisms. The study highlights the need to strengthen PDCA-based managerial competencies, develop evidence-based monitoring systems, enhance stakeholder collaboration, and align educational financing with quality priorities to improve preschool quality in resource-constrained contexts.

Keywords: CIPPO model; Early childhood education; Educational management; PDCA cycle; Quality assurance

1. Introduction

High-quality early childhood education is universally acknowledged as fundamental to children’s learning and development and serves as a strategic foundation for governmental, economic, and social policy at the systemic level (Purba et al., 2024; Rao et al., 2021; Richter et al., 2021). Empirical evidence consistently demonstrates that well-structured early childhood education programs generate significant and lasting benefits for children’s cognitive, social, and emotional development, thereby justifying sustained public investment (Andrew et al., 2024; Cabus et al., 2023; Richter et al., 2021). In response, many countries have strengthened QA systems through standards, accreditation mechanisms, and evaluation frameworks to regulate, monitor, and improve preschool services (Merrill et al., 2020; Pujianti et al., 2025).

However, international scholarship indicates that QA extends beyond technical compliance because accountability-oriented systems may create tensions between control and continuous improvement, potentially influencing educators’ pedagogical practices and limiting child-centered learning approaches. Moreover, cross-national evidence suggests that favorable structural conditions, such as staffing ratios, teacher qualifications, and facilities, do not automatically translate into improved pedagogical quality, emphasizing the necessity to examine how educational resources are transformed into effective educational processes within diverse cultural and institutional contexts (Næsby & Sperling, 2023; Smidt & Embacher, 2023).

In Vietnam, preschool education constitutes the foundational level of the national education system and is expected to support children’s physical, intellectual, and emotional development (Thang et al., 2025). Following Resolution No. 29-NQ/TW, the Vietnamese government initiated comprehensive educational reforms, with accreditation and QA systems established as key mechanisms for improving educational quality (Lan, 2021). Despite these policy advancements, important challenges remain in the implementation of QA practices at the preschool level. Previous studies indicate that assessment activities may prioritize measurable outcomes over children’s creativity and developmental

needs, while teaching practices often remain teacher-centered rather than child-centered (Phillips & Fenech, 2023). In addition, weaknesses in professional development management, internal monitoring, and inter-unit coordination continue to reduce the effectiveness of QA implementation (Huong, 2022). These issues suggest the existence of an implementation gap between national QA policies and the actual management practices applied in preschools.

At the same time, there is also a contextual gap in current QA research and practice. Existing QA frameworks are often applied uniformly despite considerable regional disparities in socio-economic conditions, educational resources, and cultural contexts. This issue is particularly evident in the Mekong Delta region of Vietnam, where progress in preschool education coexists with persistent challenges related to teacher training, infrastructure, financial resources, and community engagement (Nguyen et al., 2025a; Zhang et al., 2024). Such contextual inequalities may limit the effectiveness of standardized QA policies if local conditions are not adequately considered. Therefore, examining QA management through both implementation and contextual perspectives is necessary to better understand how quality improvement can be achieved in resource-constrained settings.

To address these implementation and contextual gaps, this study applies the PDCA model and the CIPPO framework to examine quality assurance management in preschools in the Mekong Delta. The PDCA model provides a useful approach for analyzing continuous improvement processes, particularly planning, implementation, monitoring, and feedback mechanisms within preschool management (Harrison et al., 2023). Meanwhile, the CIPPO framework enables a comprehensive examination of how contextual conditions and input resources influence educational processes and outcomes (Næsby & Sperling, 2023).

Integrating these two frameworks provides a more holistic understanding of preschool QA management in the Vietnamese context. Accordingly, this study aims to assess the current state of quality assurance management in early childhood education in the Mekong Delta, Vietnam, from the perspectives of school managers, teachers, and parents. Specifically, the study addresses the following research objectives:

RO1: To examine how key stakeholders assess the adequacy and quality of essential input resources in preschools, including teaching staff, physical facilities and equipment, nutritional safety and health conditions, and financial policies.

RO2: To investigate the extent to which preschool educational processes are implemented and managed in accordance with the PDCA cycle, focusing on planning educational objectives, implementing teaching and care activities, monitoring and evaluating children's development, and using feedback for continuous improvement.

RO3: To evaluate the outcomes of quality assurance practices by examining children's developmental achievements and the level of parental satisfaction, trust, and perceptions of service quality in preschool education.

RO4: To analyze how socio-economic conditions, cultural characteristics, and the level of community coordination influence the effectiveness of quality assurance management in preschools.

2. Literature Review

2.1 Input management in quality assurance

Input management, within the CIPO framework, refers to the strategic allocation and utilization of human, material, and financial resources that establish the structural foundations for quality preschool education. Contemporary scholarship increasingly conceptualizes these inputs not as static prerequisites but as dynamic elements whose effectiveness depends on governance capacity, leadership practices, and accountability systems (Håkansson, 2019; Irvine et al., 2024; Rodrigues et al., 2025). Although traditional QA systems frequently emphasize compliance with standards concerning staffing, facilities, and funding, recent studies suggest that structural adequacy alone does not ensure high-quality educational experiences or sustainable institutional improvement (McLean et al., 2023; Smidt & Embacher, 2023). Rather, educational quality depends on how resources are coordinated, monitored, and continuously improved through systematic management and evidence-based leadership practices (Öqvist & Cervantes, 2018; Peleman et al., 2018).

One of the most critical dimensions of input management is the quality of teaching and caregiving personnel. Educators directly influence children's learning experiences by translating curriculum objectives into meaningful pedagogical interactions and caregiving practices (Ukkonen-Mikkola et al., 2022). International evidence consistently demonstrates positive relationships between teacher qualifications, professional competence, and children's developmental outcomes (Fenech & Sumsion, 2007; Nguyen et al., 2025b). However, recent literature critiques accountability-oriented QA systems that narrowly define teacher quality through measurable indicators, potentially limiting professional autonomy and child-centered pedagogies (Fenech & Sumsion, 2007; Irvine et al., 2024).

Consequently, professionalization is increasingly viewed as extending beyond technical competence to include reflective practice, collaborative learning, and professional agency (Bautista et al., 2023; Irvine et al., 2024). Studies on systematic quality work further indicate that preschool leaders play a central role in fostering organizational cultures that support continuous professional development and collective responsibility for improvement (Håkansson, 2019; Öqvist & Cervantes, 2018). In Vietnam, teacher quality is similarly associated with ethical values, pedagogical competence, and accountability; however, disparities in access to professional development remain significant in disadvantaged regions such as the Mekong Delta (Huyen et al., 2024; Nguyen et al., 2025a; Thang et al., 2025).

A second important dimension concerns facilities and instructional equipment, which form the material basis of structural quality. Adequate classrooms, safe learning environments, and appropriate educational resources significantly influence children's participation and learning experiences (Hentschel et al., 2025). Nevertheless, recent studies argue that infrastructure quality should also be evaluated in terms of equity and contextual responsiveness (McLean et al., 2023; Rad et al., 2022). Unequal distribution of facilities between urban and rural areas often reproduces disparities in educational opportunities and institutional capacity (Huyen et al., 2024; Sewagegn et al., 2023). Governance-oriented research further highlights that resource allocation is closely connected to policy priorities, institutional accountability, and local administrative capacity (Rodrigues et al., 2025; Shawar & Shiffman, 2017).

Nutrition, health, and safety standards constitute another essential component of input management because preschool education integrates care and learning. Research demonstrates that healthy and secure environments contribute significantly to children's well-being and readiness for learning (Andrew et al., 2024; Rad et al., 2022). Parents also perceive these factors as key indicators of educational quality and institutional trustworthiness (Hentschel et al., 2025). Finally, financial resource management underpins all other input dimensions. Adequate and sustainable funding is necessary to maintain staffing quality, facilities, and health services (He & Wang, 2024).

However, studies suggest that financial effectiveness depends not only on resource availability but also on transparency, accountability, and alignment with institutional quality priorities (McLean et al., 2023; Rodrigues et al., 2025). Overall, input management should therefore be understood as a multidimensional governance process that integrates leadership, accountability, equity, and continuous improvement within preschool quality assurance systems.

2.2 Process management through the PDCA cycle

This study conceptualizes process management as the systematic governance of educational activities through the PDCA cycle. Unlike traditional perspectives that define "process quality" mainly through teacher-child interactions, the PDCA approach emphasizes continuous improvement in which educational activities are planned, implemented, monitored, evaluated, and revised over time. Recent scholarship argues that effective QA in early childhood education depends not only on structural resources but also on leadership capacity, organizational learning, and accountability mechanisms that sustain institutional improvement (Håkansson, 2019; Irvine et al., 2024; Rodrigues et al., 2025).

The first phase of the PDCA cycle, "Plan," concerns the strategic management of educational goals and curriculum implementation. Preschool leaders and educators are expected to translate curriculum standards into pedagogical plans adapted to local conditions and children's developmental needs (Huong, 2022). Research highlights that pedagogical leadership is central because leaders establish expectations for curriculum implementation and professional collaboration within preschool organizations (Croll, 2020; Håkansson, 2019).

Effective planning extends beyond administrative compliance and requires reflective analysis of contextual inequalities and institutional capacity (McLean et al., 2023). However, accountability-driven QA systems may reduce planning to bureaucratic documentation rather than meaningful educational improvement (Fenech & Sumsion, 2007; Irvine et al., 2024).

The second phase, “Do,” focuses on implementing educational and caregiving activities. During this stage, institutional plans and structural inputs are transformed into children’s daily learning experiences. Contemporary research emphasizes child-centered pedagogies that promote engagement, well-being, and socio-emotional development (Rad et al., 2022). The transition from teacher-directed instruction toward integrated learning approaches requires managerial support and professional collaboration (Thao & Boyd, 2014). Leadership therefore plays a critical role in fostering organizational cultures oriented toward collaborative learning and pedagogical innovation (Bautista et al., 2023; Håkansson, 2019). Process quality during implementation is reflected in teacher-child interactions, classroom climate, and behavior management (Hentschel et al., 2025).

The “Check” phase concerns monitoring, evaluation, and evidence-based assessment of educational processes and children’s developmental progress. Monitoring is increasingly regarded as an essential governance mechanism enabling institutions to evaluate pedagogical effectiveness (Rodrigues et al., 2025). Recent scholarship argues that assessment should extend beyond narrow academic indicators and include children’s well-being and socio-emotional development (Cabus et al., 2023; Lenaerts et al., 2017). Effective monitoring systems require reliable data collection and collaborative reflection among educators and administrators (Fedosova, 2020).

The final phase, “Act,” refers to the use of evaluation results and stakeholder feedback to improve educational practices and organizational processes. This phase reflects the principle of continuous improvement underpinning the PDCA cycle. Studies on systematic quality work emphasize that effective QA systems depend on institutions’ ability to transform monitoring data into practical improvement strategies and organizational learning (Håkansson, 2019; Purba et al., 2024). The “Act” phase may involve revising teaching strategies, reallocating resources, strengthening professional development, and improving collaboration with families and communities (Nguyen et al., 2025b). Research indicates that collaborative leadership and stakeholder participation are essential for sustaining quality improvement because educational quality is shaped through interactions among schools, families, communities, and policy systems (Rodrigues et al., 2025; Shawar & Shiffman, 2017).

2.3 Output management and educational effectiveness

Output management refers to the systematic evaluation, interpretation, and use of educational outcomes generated by preschool systems and represents a critical dimension of quality assurance within the CIPO framework. Contemporary scholarship increasingly conceptualizes outputs not simply as end products of

education but as evidence-based indicators that support governance, accountability, and continuous improvement processes (Håkansson, 2019; Rodrigues et al., 2025). In early childhood education, output management has shifted from narrow performance-based measurement toward broader understandings of children's development, family engagement, and institutional trust (McLean et al., 2023; Rad et al., 2022). This study conceptualizes output management through two interconnected dimensions: children's developmental outcomes and parental satisfaction and trust.

Such a perspective reflects current approaches suggesting that educational quality should be assessed not only through measurable child outcomes but also through stakeholder experiences and perceptions of institutional effectiveness. International studies further emphasize that educational outputs should function as mechanisms for organizational learning and quality enhancement rather than merely as tools of compliance and external accountability (Fenech & Sumsion, 2007; Irvine et al., 2024).

One important dimension of output management concerns children's developmental outcomes in the physical, cognitive, social, and emotional domains. Recent literature critiques traditional "school readiness" models for focusing excessively on academic indicators while neglecting the holistic nature of child development (Rudoe, 2020). In response, scholars increasingly advocate comprehensive developmental frameworks integrating care, learning, well-being, and socio-emotional growth within preschool education (Rad et al., 2022). Meta-analytic and longitudinal evidence demonstrates that participation in high-quality early childhood education is associated with improved language development, social competence, emotional regulation, and long-term educational participation (Sluiter et al., 2025; Von Suchodoletz et al., 2023).

However, these studies also indicate that developmental outcomes are influenced less by structural inputs alone and more strongly by process quality, particularly teacher-child interactions and pedagogical engagement (Cabus et al., 2023; Von Suchodoletz et al., 2023). Consequently, output management should be understood in relation to broader educational processes and governance systems shaping children's daily experiences. Another important dimension involves parental satisfaction and trust, which are increasingly recognized as indicators of educational quality and institutional legitimacy. Parents are not only beneficiaries of preschool services but also active stakeholders whose perceptions influence institutional reputation, community engagement, and children's educational experiences (Saranko et al., 2025).

Research shows that parental satisfaction is associated with communication, responsiveness, safety, emotional support, and educational effectiveness (Kaya et al., 2025). Trust between families and educational institutions also supports children's adjustment, emotional security, and successful transitions into preschool environments (Søe & Psouni, 2025). Governance-oriented research further emphasizes that parental trust is strengthened through transparency, participatory leadership, and collaborative communication practices within

preschool institutions (Håkansson, 2019; Öqvist & Cervantes, 2018). However, scholars caution that accountability systems may instrumentalize parental satisfaction as a consumer-oriented metric rather than recognizing families as educational partners (Fenech & Sumsion, 2007). Therefore, parental satisfaction and trust should be interpreted within broader relational and contextual frameworks that consider cultural expectations, communication patterns, and institutional responsiveness. These dimensions collectively support continuous improvement and evidence-based preschool quality assurance.

2.4 Contextual influences on educational quality

Within the CIPO framework, contextual influences refer to the broader socio-economic, cultural, political, and institutional conditions that shape the effectiveness of preschool quality assurance systems. Context is not a passive background factor; rather, it actively interacts with input, process, and output dimensions by either facilitating or constraining educational improvement efforts. Contemporary scholarship increasingly emphasizes that educational quality cannot be fully understood without considering governance structures, community conditions, and policy environments that influence institutional practices (Rodrigues et al., 2025; Shawar & Shiffman, 2017).

In early childhood education, contextual conditions are particularly significant because preschool institutions are deeply embedded within local communities and are strongly affected by socio-economic inequalities, cultural expectations, and public investment patterns (McLean et al., 2023; Rad et al., 2022). Accordingly, this study examines contextual influences through two interconnected dimensions: local socio-economic and cultural conditions, and the coordination of educational initiatives and governmental support.

The first dimension concerns the influence of economic, social, and cultural conditions on preschool quality. Research consistently demonstrates that socio-economic disadvantages, parental education levels, and local cultural practices significantly shape children's learning opportunities and institutional capacities (Nguyen et al., 2025a). In disadvantaged regions such as the Mekong Delta, economic limitations and unequal access to educational resources may reduce the effectiveness of quality assurance initiatives despite the existence of national policy frameworks. International studies similarly indicate that educational inequality is often reproduced through uneven distribution of resources, infrastructure, and professional support across communities (McLean et al., 2023; Rad et al., 2022).

Cultural factors also influence perceptions of educational quality and expectations regarding children's development. Traditional beliefs about discipline, academic achievement, and teacher authority may conflict with child-centered pedagogical reforms promoted within contemporary quality assurance systems (Dinh, 2014; Fenech & Sumsion, 2007). Furthermore, changing labor conditions and family structures increasingly affect parental engagement and expectations of preschool services (Hentschel et al., 2025). These findings suggest that effective quality assurance requires context-sensitive management approaches that recognize local

realities rather than relying solely on standardized national models.

The second dimension relates to governance coordination and institutional support from local authorities and communities. Recent literature emphasizes that quality assurance in early childhood education depends heavily on collaborative governance, policy alignment, and stakeholder participation (Håkansson, 2019; Rodrigues et al., 2025). In many developing contexts, QA implementation remains constrained by fragmented institutional coordination, inconsistent regulations, and limited administrative support (Pujianti et al., 2025). Local government investment in infrastructure, teacher development, and educational planning therefore becomes a critical contextual factor influencing preschool quality.

In Vietnam, the principle of “socialization of education” highlights the importance of cooperation among schools, families, communities, and governmental agencies in mobilizing educational resources and supporting institutional improvement (Nguyen et al., 2025b). Studies on systematic quality work further indicate that leadership effectiveness is strengthened when schools operate within supportive governance environments characterized by transparency, accountability, and collaborative decision-making (Öqvist & Cervantes, 2018).

2.5 Research questions

Drawing upon the identified gaps in the literature and the integrated CIPO-PDCA framework, this study examines the management of quality assurance in early childhood education in preschools in the Mekong Delta of Vietnam. Specifically, the study addresses the following research questions:

RQ1: How do school managers, teachers, and parents assess the adequacy and quality of preschool input resources, including teaching staff, facilities and equipment, nutritional safety and health conditions, and financial policies?

RQ2: To what extent are educational and caregiving processes implemented and managed in accordance with the PDCA cycle in preschools?

RQ3: What are the levels of children’s developmental outcomes, parental satisfaction, and parental trust regarding the quality of preschool care and education services?

RQ4: How do local socio-economic conditions, cultural characteristics, governance support, and community coordination influence the management and effectiveness of quality assurance in preschools in the Mekong Delta of Vietnam?

3. Methodology

3.1 Research design

This quantitative survey study employed a cross-sectional design to assess QA management in early childhood education in the Mekong Delta, Vietnam. The research framework integrated the CIPO model with the PDCA cycle to provide a comprehensive perspective on preschool quality management. The CIPO

model organized educational indicators into contextual, input, process, and output dimensions, while the PDCA cycle was incorporated into the process dimension to evaluate planning, implementation, monitoring, and continuous improvement activities. A quantitative survey approach was selected to obtain a broad and representative assessment across a geographically diverse and socio-economically varied region. The design enabled the collection of large-scale data necessary for identifying generalizable trends, management weaknesses, and differences among stakeholder groups.

The study particularly examined differences in perceptions between educational providers, including school managers and teachers, and service beneficiaries, namely parents. Data were collected through online questionnaires distributed via Google Forms to improve accessibility in the Mekong Delta's riverine areas, where physical access remains challenging. Ethical principles were strictly observed through voluntary participation and respondent confidentiality. The findings provide evidence-based insights for evaluating contextual, input, process, and output dimensions of preschool QA management. These results support policy recommendations for strengthening continuous improvement in preschool education.

3.2 Participants

A purposive and convenience sampling approach was employed to recruit 1,263 participants from 15 preschools located in both urban and rural areas across the Mekong Delta, ensuring representation from key stakeholder groups, including educators, school administrators, and parents. Before analysis, the dataset underwent systematic cleaning and screening to enhance reliability and validity.

Exclusion criteria were applied to remove incomplete cases missing essential variables, responses submitted in an unreasonably short time (indicating inadequate reading/comprehension), and patterned responses suggestive of "straight-lining" or mechanical completion. After screening, 133 invalid records were removed, leaving a final valid sample size of $N = 1,130$ for analysis. This sample size provides sufficient statistical power for descriptive and comparative analyses across contextual, input, process, and output dimensions. The demographic characteristics of the final sample are presented in Table 1.

The demographic characteristics of the sample are presented in Table 1. The final sample included 788 educators (69.7%), consisting of school administrators and teachers, and 342 parents (30.3%). The gender distribution was predominantly female, with 885 female participants (78.3%) and 245 male participants (21.7%), reflecting the demographic characteristics of the preschool education workforce. Female representation was particularly high among educators (84.1%), whereas the parent group included a relatively larger proportion of males (35.1%).

Geographically, the sample was nearly balanced, comprising 569 participants (50.4%) from urban areas and 561 participants (49.6%) from rural or remote areas. Regarding ethnicity, 859 participants (76.0%) identified as Kinh, while 271 participants (24.0%) belonged to ethnic minority groups. The relatively balanced

distribution across location and ethnicity strengthened the comparability of subgroup analyses related to contextual inequalities, resource conditions, and community engagement in preschool quality assurance.

Table 1: Demographic characteristics of participants

Variable	Category	Parents (n = 342) n (%)	Educators (n = 788) n (%)	Total (N = 1.130) n (%)
Gender	Male	120 (35.1)	125 (15.9)	245 (21.7)
	Female	222 (64.9)	663 (84.1)	885 (78.3)
Location	Urban	170 (49.7)	399 (50.6)	569 (50.4)
	Rural/remote	172 (50.3)	389 (49.4)	561 (49.6)
Ethnicity	Kinh	263 (76.9)	596 (75.6)	859 (76.0)
	Ethnic minority	79 (23.1)	192 (24.4)	271 (24.0)

Source: Analysis of survey data (N = 1.130)

3.3 Instruments and data collection procedures

The primary data collection instrument was a structured questionnaire distributed through Google Forms to assess four dimensions of the research framework: input, process, output, and context. All items were measured using a 5-point Likert scale ranging from 1 (Strongly Disagree/Lowest) to 5 (Strongly Agree/Highest). The instrument was developed based on the CIPO model, the PDCA cycle, and previous studies on educational quality assurance and preschool management. To ensure content validity and theoretical alignment, relevant literature on educational governance, leadership, and continuous improvement in early childhood education was systematically reviewed (Fenech & Sumsion, 2007; Håkansson, 2019; McLean et al., 2023; Öqvist & Cervantes, 2018).

Questionnaire items were then mapped onto the integrated CIPO-PDCA framework and refined for clarity and relevance. The instrument design also followed recommendations from prior studies emphasizing evidence-based and context-sensitive quality assurance practices (Irvine et al., 2024; Peleman et al., 2018; Rodrigues et al., 2025). The instrument was pilot reviewed by a small group of preschool educators, school administrators, and parents prior to large-scale distribution to improve item clarity, relevance, and internal consistency. The input management scale consisted of four items assessing teaching staff quality, facilities and equipment, nutritional safety conditions, and financial resource management. This scale demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of 0.94.

The process management scale was structured according to the PDCA cycle and included four dimensions: planning educational objectives (Plan), implementing teaching and care activities (Do), monitoring and evaluating children's development (Check), and managing feedback and coordination activities (Act). The scale achieved a Cronbach's alpha of 0.96, indicating very high reliability and coherence among the process-related items. The output management scale comprised two items evaluating children's developmental outcomes and parental satisfaction and trust in preschool services. This scale produced Cronbach's alpha coefficient of 0.89, indicating strong reliability despite the limited number of

items. The contextual influences scale included two items assessing local socio-economic and cultural conditions, as well as coordination among educational stakeholders and local authorities. The Cronbach's alpha coefficient for this scale was 0.87, demonstrating strong internal consistency. Overall, all scales exceeded the commonly accepted threshold of 0.70, confirming that the instrument possessed satisfactory to excellent reliability and was appropriate for subsequent statistical analyses.

Data were collected exclusively through online surveys administered via Google Forms. The online format was selected to improve accessibility and participation across the Mekong Delta region, where geographical conditions and dispersed rural communities may limit direct physical access. The survey link was distributed to preschool administrators, teachers, and parents through institutional communication channels and local educational networks. Responses were automatically recorded and securely stored for analysis. Ethical considerations were carefully observed throughout the research process. Participation in the study was entirely voluntary, and respondents were informed about the purpose of the research before completing the questionnaire. Informed consent was obtained electronically from all participants prior to data collection. To ensure confidentiality and anonymity, no personally identifiable information was collected, and all responses were analyzed only in aggregated form for academic research purposes.

3.4 Data analysis

The collected data were processed and analyzed using SPSS version 20.0, a widely used statistical software package for quantitative research. SPSS was utilized for data coding, data cleaning, reliability testing, descriptive analysis, and comparative statistical analysis. Prior to formal analysis, all responses collected through Google Forms were exported into SPSS and systematically screened to ensure data accuracy and consistency. The screening process included checking for incomplete responses, duplicate entries, unusually short response times, and patterned responses suggestive of inattentive participation or "straight-lining." Cases that did not satisfy the inclusion criteria were excluded from the dataset, resulting in a final valid sample of 1,130 responses.

To facilitate statistical analysis, questionnaire responses were coded numerically using a 5-point Likert scale ranging from 1 (Strongly Disagree/Lowest) to 5 (Strongly Agree/Highest). Variables were grouped according to the four dimensions of the integrated CIPO-PDCA framework: input management, process management, output management, and contextual influences. Coding procedures were conducted consistently across all variables to ensure comparability and analytical accuracy. Descriptive statistical techniques, including frequencies, percentages, means, and standard deviations, were employed to summarize participants' demographic characteristics and examine stakeholders' perceptions of preschool quality assurance management.

These descriptive indicators provided the primary basis for evaluating the perceived quality of educational inputs, management processes, outputs, and

contextual conditions. To assess the reliability and internal consistency of the research instrument, Cronbach's alpha coefficients (α) were calculated for all scales. The results indicated that all scales exceeded the commonly accepted threshold of 0.70, confirming satisfactory to excellent reliability. This procedure strengthened the trustworthiness and measurement consistency of the instrument by ensuring that the questionnaire items accurately measured the intended constructs. In addition, comparative analyses were conducted to examine differences in perceptions between stakeholder groups, particularly between educators (school managers and teachers) and parents, as well as across demographic categories such as location and ethnicity.

4. Results

4.1 Assessment of input management of preschools

Research Objective 1 (RO1) examined how key stakeholders—parents and educators—assessed the adequacy and quality of essential input resources in preschools, including teaching staff, facilities and equipment, nutritional safety conditions, and financial resources. Within the integrated CIPO-PDCA framework, input management represents the system's capacity to secure, organize, and sustain the foundational resources necessary for preschool quality assurance. Rather than treating inputs as static resources, this analysis focuses on stakeholders' perceptions of how effectively these resources support daily educational and caregiving activities. Table 2 presents the descriptive results for the four input dimensions.

Overall, both stakeholder groups perceived input management at a moderate level, with relatively consistent responses across dimensions. Parents reported a slightly higher overall mean ($M = 3.22$, $SD = 0.59$) than educators ($M = 3.14$, $SD = 0.59$), although the difference was small, suggesting a generally shared understanding of the strengths and limitations of preschool input conditions. The scale also demonstrated excellent reliability (Cronbach's $\alpha = 0.94$), confirming strong internal consistency among the items.

Table 2: Assessment of input management of preschools

Input factors	Parents (n = 342)		Educators (n = 788)	
	M	SD	M	SD
The quality of the teaching and caring staff regarding professional qualifications and ethics in preschools (IM1)	3.34	0.65	3.26	0.65
The condition and adequacy of facilities and teaching equipment serving the care and education activities in preschools (IM2)	3.30	0.64	3.22	0.66
The assurance of nutritional standards and safety conditions for the physical development of children in preschools (IM3)	3.13	0.64	3.06	0.62
The management of financial resources and the implementation of support policies for children in preschools (IM4)	3.10	0.63	3.02	0.63
Overall Mean	3.22	0.59	3.14	0.59
Cronbach's alpha		0.94		

Source: Analysis of survey data (N = 1.130)

The findings reveal a clear hierarchy among the four input dimensions. Both parents and educators rated the quality of teaching and caregiving staff highest (Parents: $M = 3.34$; Educators: $M = 3.26$), indicating that human resources are perceived as the strongest component of preschool input management. This suggests that preschool staff are generally viewed as professionally competent and ethically responsible. However, the moderate mean scores also imply that staff capacity may still be insufficient to consistently support high-quality and innovative educational practices, particularly in contexts requiring individualized instruction and child-centered learning approaches. Facilities and teaching equipment received the second-highest ratings, reflecting that the material environment is generally functional and adequate for basic preschool operations.

Nevertheless, educators consistently rated this dimension lower than parents, suggesting that internal stakeholders experience greater practical challenges related to the availability, maintenance, and adaptability of educational resources in daily teaching activities. The weakest dimensions were nutrition and safety conditions and financial resource management. Although both areas remained above the midpoint of the scale, their relatively lower mean scores indicate continuing concerns regarding children's well-being, financial support, and policy implementation.

Financial management received the lowest ratings from both groups, identifying it as the primary limitation within the preschool input system. These findings directly address RO1 by demonstrating that while preschools possess a relatively stable operational foundation, limitations in financing and care-related conditions may constrain the effectiveness of subsequent educational processes and long-term quality improvement efforts.

4.2 Assessment of educational process management of preschools

Within the integrated CIPO-PDCA framework, Research Objective 2 (RO2) examined the extent to which educational and caregiving processes were managed through continuous improvement practices in preschools. Table 3 presents stakeholder evaluations of four process dimensions corresponding to the PDCA cycle: planning educational objectives (Plan), implementing educational and caregiving activities (Do), monitoring children's development and health status (Check), and managing feedback and coordination mechanisms (Act). Overall, both parents and educators assessed process management at a relatively low level compared with input management, indicating that weaknesses exist not only in resource availability but also in the organization and implementation of educational practices.

Table 3: Assessment of Educational process management of preschools

Process factors	Parents (n = 342)		Educators (n = 788)	
	M	SD	M	SD
The management of the planning and implementation of educational objectives for children in preschools (PM1 - Plan)	2.58	0.620	2.60	0.649
The management of implementing educational content and organizing caring and teaching activities for children in preschools (PM2 - Do)	2.74	0.630	2.73	0.651
The effectiveness of checking and evaluating the developmental progress and health status of children in preschools (PM3 - Check)	2.73	0.632	2.72	0.644
The management of feedback mechanisms and coordination between families and the school to improve educational quality (PM4 - Act)	2.80	0.635	2.80	0.645
Overall Mean	2.71	0.593	2.71	0.614
Cronbach's alpha		0.96		

Source: Analysis of survey data (N = 1.130)

The findings demonstrate strong consistency between stakeholder groups. Parents and educators reported almost identical overall mean scores (Parents: M = 2.71, SD = 0.593; Educators: M = 2.71, SD = 0.614), suggesting that process-related limitations are recognized similarly by both internal and external stakeholders. The scale also demonstrated excellent reliability (Cronbach's alpha = 0.96), confirming strong internal consistency among the process-management items. Among the four PDCA dimensions, the Plan stage received the lowest ratings (Parents: M = 2.58; Educators: M = 2.60), indicating weaknesses in planning and implementing educational objectives. This result suggests that preschool planning processes may lack clarity, systematic coordination, and measurable improvement targets.

The Do and Check stages received slightly higher but still moderate-to-low ratings, implying that teaching activities and developmental monitoring are implemented but remain insufficiently systematic and evidence-based. The Act stage obtained the highest ratings (Parents: M = 2.80; Educators: M = 2.80), suggesting relatively stronger communication and coordination with families. However, the scores remained below the midpoint, indicating that feedback mechanisms function primarily as maintenance activities rather than as effective drivers of continuous quality improvement. These findings directly address RO2 by highlighting planning and monitoring as the weakest dimensions within preschool process management systems.

4.3 Assessment of output management of preschools

Research Objective 3 (RO3) examined the outcomes of preschool quality assurance practices by assessing children's developmental achievements and parental satisfaction and trust in preschool services. Within the integrated CIPO framework, output management reflects the extent to which preschool systems generate outcomes that are meaningful to both educational providers and service beneficiaries. Table 4 presents stakeholder evaluations across two output

dimensions: children's developmental outcomes and parental satisfaction and trust.

Table 4: Assessment of output management of preschools

Output factors	Parents (n = 342)		Educators (n = 788)	
	M	SD	M	SD
The developmental outcomes of children regarding physical, cognitive, and socio-emotional aspects in preschools (OM1)	3.32	0.64	3.34	0.63
The level of satisfaction and trust of parents regarding the quality of care and education in preschools (OM2)	3.34	0.65	3.36	0.62
Overall Mean	3.33	0.64	3.35	0.62
Cronbach's alpha		0.89		

Source: Analysis of survey data (N = 1.130)

The findings indicate that output management received more positive evaluations than process management. While the previous analysis showed that PDCA-based process management dimensions were generally rated below the midpoint, both output indicators achieved mean scores above this level. This pattern suggests the existence of an output-process gap in preschool quality assurance management. In other words, preschools appear capable of producing relatively favorable outcomes despite limitations in systematic planning, monitoring, and continuous improvement processes. Stakeholder perceptions were highly consistent across both output dimensions. Parents reported an overall mean score of 3.33 (SD = 0.64), while educators reported a slightly higher mean of 3.35 (SD = 0.62). The scale also demonstrated strong reliability, with a Cronbach's alpha coefficient of 0.89. This consistency strengthens the credibility of the findings by indicating broad agreement between service providers and beneficiaries regarding preschool outcomes.

At the indicator level, parental satisfaction and trust received slightly higher ratings than children's developmental outcomes. Specifically, parents rated satisfaction and trust at M = 3.34 (SD = 0.65), while educators reported M = 3.36 (SD = 0.62). Children's developmental outcomes were also positively evaluated (Parents: M = 3.32, SD = 0.64; Educators: M = 3.34, SD = 0.63). These findings suggest that preschools are relatively successful in maintaining parental confidence and meeting family expectations regarding care and educational services. However, considering the relatively weak "Check" dimension identified in process management, these positive perceptions should be interpreted cautiously because developmental outcomes may rely more on general stakeholder impressions than on systematic evidence-based assessment procedures.

4.4 Assessment of contextual influences of preschools

Research Objective 4 (RO4) examined how socio-economic conditions, cultural characteristics, and local coordination mechanisms influence preschool quality assurance in the Mekong Delta. Within the integrated CIPO framework, the

context dimension represents external conditions that shape the effectiveness of educational inputs, management processes, and institutional outcomes. These contextual influences are often beyond the direct control of preschool leaders because they are embedded within broader economic, social, cultural, and governance environments. Table 5 presents stakeholder evaluations of two contextual dimensions: local socio-economic and cultural conditions and coordination among educational stakeholders and local government support.

Table 5: Assessment of contextual influences of preschools

Context factors	Parents (n = 342)		Educators (n = 788)	
	Mean	SD	Mean	SD
The impact of the economic, social, and cultural conditions in the local area on the care and education activities of children in preschools (CM1)	2.91	0.72	2.88	0.70
The impact of the coordination of educational forces and local government support on the operation of preschools (CM2)	3.13	0.66	3.11	0.66
Overall Mean	3.02	0.65	3.00	0.64
Cronbach's alpha		0.87		

Source: Analysis of survey data (N = 1,130)

Overall, both parents and educators perceived contextual conditions as only moderately supportive of preschool quality assurance. Parents reported an overall mean score of 3.02 (SD = 0.65), while educators reported a slightly lower mean score of 3.00 (SD = 0.64). The scale also demonstrated strong internal consistency, with Cronbach's alpha coefficient of 0.87. The close alignment between stakeholder groups suggests shared recognition of contextual opportunities and constraints across the preschool system.

At the indicator level, local socio-economic and cultural conditions received the lowest ratings (Parents: M = 2.91, SD = 0.72; Educators: M = 2.88, SD = 0.70). This finding indicates that many preschools operate in environments where household economic limitations, community conditions, and cultural expectations may not consistently support educational improvement efforts. Such contextual challenges may reduce family engagement, limit community resource mobilization, and affect children's readiness and participation in preschool activities.

In contrast, coordination among educational stakeholders and local government support received slightly higher ratings (Parents: M = 3.13, SD = 0.66; Educators: M = 3.11, SD = 0.66), suggesting the presence of basic institutional support mechanisms. However, these scores remained only moderate, indicating that existing coordination and governance structures may be sufficient for maintaining operational stability but insufficient for driving substantial quality improvement. These findings directly address RO4 by demonstrating that contextual inequalities and moderate governance support continue to constrain sustainable preschool quality assurance in the Mekong Delta.

5. Discussion and implications

5.1 Discussion

This study investigated QA management in preschools in the Mekong Delta through four research questions grounded in the integrated CIPO-PDCA framework. The findings indicate a mixed pattern: preschools were regarded as possessing moderately sufficient inputs and relatively favourable outputs yet exhibited subpar process management and only marginally conducive contextual conditions. This pattern is significant as it indicates that the quality of preschool education in the Mekong Delta is primarily upheld by human endeavour and community expectations rather than by a robust internal improvement system.

Regarding RQ1, which examined how school managers, teachers, and parents assessed preschool input resources, the findings indicate that input management was perceived at a moderate level, with staff quality receiving the highest ratings, followed by facilities and equipment, while nutrition, safety conditions, and particularly financial policy implementation received lower evaluations. These findings suggest that preschools in the Mekong Delta possess a basic operational foundation but continue to experience structural limitations that constrain sustainable quality improvement. The relatively positive assessment of teaching staff supports previous research emphasizing the central role of educators' qualifications, ethical commitment, and pedagogical competence in determining preschool quality (Ukkonen-Mikkola et al., 2022). Similar findings have been reported in international studies highlighting that professionalization and continuous professional development are essential for strengthening educational quality and organizational improvement (Irvine et al., 2024; Peleman et al., 2018).

However, the moderate overall ratings indicate that teacher quality alone is insufficient when broader enabling conditions remain constrained. This finding aligns with studies from Southeast Asian and other developing contexts showing that structural quality depends not only on staffing but also on adequate financing, infrastructure, and governance support (McLean et al., 2023; Rad et al., 2022). The particularly low evaluation of financial policy implementation reflects persistent inequalities in educational investment and resource distribution, a challenge frequently identified in Vietnamese early childhood education reforms (Nguyen et al., 2025a). These results therefore extend previous literature by demonstrating that resource adequacy in the Mekong Delta remains functional but fragile, especially in disadvantaged and geographically dispersed communities.

For RQ2, which investigated the extent to which educational processes were managed through the PDCA cycle, process management emerged as the weakest dimension ($M = 2.71$). The "Plan" phase received the lowest ratings, while the "Act" phase, although slightly stronger, remained below a satisfactory level. These findings indicate that preschools have not yet established a systematic culture of continuous improvement. Previous international research similarly argues that quality assurance in early childhood education depends not merely on compliance with standards but on dynamic internal processes of planning, monitoring, reflection, and organizational learning (Håkansson, 2019; Öqvist &

Cervantes, 2018). The results support concerns raised in Vietnamese studies suggesting that educational planning and internal evaluation often remain procedural rather than strategically linked to actual institutional needs (Huong, 2022).

Moreover, the findings reinforce broader global evidence that structural inputs alone do not automatically generate high-quality pedagogical processes unless supported by effective leadership and governance systems (Naesby & Sperling, 2023; Rad et al., 2022; Smidt & Embacher, 2023). This challenge may partly reflect policy and cultural factors within accountability-oriented systems, where administrative compliance is prioritized over reflective professional learning and innovation (Fenech & Sumsion, 2007; Irvine et al., 2024). Similar tensions have also been identified in Asian preschool systems, where rapid educational expansion and centralized regulation can limit local autonomy and collaborative quality work (Bautista et al., 2023). Consequently, the primary issue identified in this study is not merely limited resources but the constrained effectiveness of PDCA-based internal management systems.

Regarding RQ3, the management output received relatively positive evaluations ($M = 3.34$), particularly in relation to parental satisfaction and trust. Children's developmental outcomes were also perceived favorably. This finding is significant because outputs were evaluated more positively than both inputs and processes, creating what may be described as a "quality paradox." Within the CIPO-PDCA framework, weaker processes would normally be expected to constrain outcomes; however, stakeholders continued to perceive preschool outcomes positively. One possible explanation is that preschool staff compensate for managerial and structural limitations through personal commitment, emotional care, and relational engagement with children and families.

Another explanation is that parents may evaluate quality primarily through observable dimensions such as safety, communication, and children's happiness rather than through technical quality assurance procedures. This interpretation aligns with previous research demonstrating that parental trust is strongly influenced by responsiveness and relational care (Saranko et al., 2025; Søre & Psouni, 2025). Similar findings have been identified internationally, where different stakeholder groups often interpret preschool quality differently according to their experiences and expectations (Cohrssen et al., 2023).

Nevertheless, these findings should be interpreted cautiously because the relatively weak "Check" dimension suggests that developmental outcomes may rely more on general perceptions than on systematic evidence-based assessment. This result extends previous literature by suggesting that positive preschool outcomes can coexist with weak internal quality assurance mechanisms, particularly in contexts where relational trust partially compensates for managerial limitations (Sluiter et al., 2025; Von Suchodoletz et al., 2023).

Concerning RQ4, contextual influences were perceived as only moderately supportive ($M = 3.01$). Local socio-economic and cultural conditions received

lower ratings than school–community coordination and local government support, indicating that preschools operate within environments characterized by persistent structural inequalities. These findings are consistent with previous research demonstrating that poverty, parental education, ethnic diversity, and regional disparities significantly affect educational quality and reform implementation in Vietnam and other developing contexts (Nguyen et al., 2025b; Thao & Boyd, 2014). The study further confirms international scholarship emphasizing that context functions not merely as a background condition but as an active force shaping educational inputs, processes, and outputs (Rad et al., 2022; Rodrigues et al., 2025).

Although local government coordination and community support were evaluated somewhat more positively, the results indicate that governance support alone is insufficient to overcome broader socio-economic constraints. Similar governance challenges have been identified in international studies examining fragmented accountability structures and uneven policy implementation in early childhood education systems (Rodrigues et al., 2025; Shawar & Shiffman, 2017).

5.2 Implications

This study highlights practical implications for policy, leadership, monitoring, and stakeholder engagement in preschool quality assurance. Findings reveal a “quality paradox” in which relatively positive outcomes coexist with weak process management and moderate contextual support. Sustainable improvement therefore requires integrated governance, evidence-based monitoring, stronger leadership capacity, and continuous quality improvement mechanisms.

At the policy and financing level, the findings indicate the need to move beyond broad resource expansion toward strategic and equity-oriented investment models. Financial resource management and policy implementation received the lowest ratings among the input dimensions, suggesting challenges related not only to resource scarcity but also to allocation efficiency and governance effectiveness. Similar concerns have been identified in international studies emphasizing that sustainable preschool quality depends on stable and strategically aligned financing systems supporting staffing, infrastructure, professional development, and child wellbeing (McLean et al., 2023; Rodrigues et al., 2025).

Policymakers should therefore prioritize disadvantaged and rural areas by strengthening nutritional programs, safety conditions, infrastructure quality, and access to teaching materials. In addition, funding mechanisms should incorporate transparent accountability procedures to ensure that investments are linked directly to measurable quality improvement goals rather than administrative compliance alone (Shawar & Shiffman, 2017). Equity-oriented financing is particularly important in socio-economically diverse contexts such as the Mekong Delta, where unequal access to educational resources continues to influence preschool quality (Rad et al., 2022).

At the leadership and management level, the study highlights the urgent need to strengthen PDCA-based management competencies among preschool leaders and administrators. Process management was identified as the weakest dimension, particularly in planning and monitoring activities, indicating that many preschools continue to operate through routine administration rather than systematic improvement cycles. Previous research similarly emphasizes that effective preschool quality depends on pedagogical leadership, organizational learning, and systematic quality work (Håkansson, 2019; Öqvist & Cervantes, 2018). Preschool leaders therefore require stronger competencies in strategic planning, collaborative leadership, and data-informed decision-making.

Leadership development programs should train administrators to translate national standards into measurable institutional objectives, establish clear responsibilities within the PDCA cycle, and use monitoring evidence to guide improvement actions. Teacher educators and professional development providers should also expand training opportunities focused on reflective practice, collaborative learning, and quality management competencies instead of emphasizing compliance-oriented administration alone (Irvine et al., 2024; Peleman et al., 2018). Research on professional learning communities further demonstrates that collaborative cultures strengthen educators' professional agency and support sustainable organizational improvement (Bautista et al., 2023).

The findings additionally underscore important implications for monitoring, evaluation, and stakeholder engagement. The relatively positive ratings for outputs despite weak process management suggest that perceptions of quality may rely more on relational trust and visible care than on systematic evidence-based assessment. Preschool leaders and policymakers should therefore strengthen monitoring systems capable of assessing children's wellbeing, engagement, and socio-emotional development through observation-based and developmental assessment tools (Cabus et al., 2023; Lenaerts et al., 2017). School self-evaluation should become an integral component of continuous improvement strategies (Purba et al., 2024).

Furthermore, stronger collaboration among schools, families, communities, and local authorities is essential for addressing contextual barriers and sustaining long-term improvement. Governance research consistently emphasizes that educational quality depends on coordinated interactions among institutions, communities, and policy systems rather than isolated school-level interventions (Rodrigues et al., 2025). Overall, the Mekong Delta case demonstrates that sustainable preschool quality requires integrated governance systems combining equitable financing, professional leadership, evidence-based monitoring, stakeholder participation, and context-responsive quality assurance policies.

6. Conclusion

This study investigated quality assurance (QA) management in early childhood education in the Mekong Delta, Vietnam, through an integrated CIPO-PDCA framework. The findings revealed a consistent pattern across the four dimensions

of quality assurance. Input management was evaluated at a moderate level, indicating that preschools generally possess basic operational resources but continue to face limitations in financial support, nutrition, and safety conditions. Process management emerged as the weakest dimension, particularly in planning and monitoring activities, demonstrating that continuous improvement mechanisms remain underdeveloped. In contrast, output management received relatively positive evaluations, especially regarding parental satisfaction, trust, and perceived child developmental outcomes. Contextual conditions were assessed as only moderately supportive, suggesting that socio-economic inequalities and uneven local coordination continue to constrain sustainable quality improvement.

Beyond summarizing empirical findings, this study contributes theoretically by demonstrating the value of integrating the CIPO framework with the PDCA cycle to examine how contextual conditions, resources, management processes, and educational outcomes interact within preschool systems. The study extends existing research by showing that relatively positive outcomes may coexist with weak internal quality assurance mechanisms, thereby revealing a “quality paradox” in resource-constrained educational contexts. This finding highlights the importance of examining governance processes rather than relying solely on structural indicators or outcome measures.

The study also offers practical implications for policymakers, preschool leaders, and teacher educators. Sustainable preschool quality requires equitable financing, PDCA-based leadership competencies, evidence-based monitoring systems, and stronger collaboration among schools, families, communities, and local authorities. The findings further suggest that quality assurance should move beyond compliance-oriented administration toward organizational learning systems that support practice, professional collaboration, and improvement strategies capable of sustaining developmental opportunities for children across preschool settings.

7. Limitations

Despite its contributions, this study has several limitations that should be acknowledged. First, the study employed a cross-sectional survey design that captured stakeholder perceptions at a single point in time. Although this approach identified general patterns in preschool QA, it did not allow examination of how planning, implementation, monitoring, and feedback processes evolve over time. Since the PDCA framework emphasizes continuous improvement, future studies should employ longitudinal or panel designs to investigate how QA mechanisms develop and influence educational outcomes across different periods.

Second, the study relied primarily on self-reported perceptions from educators and parents. While including multiple stakeholder groups broadened the range of perspectives, perception-based data may be affected by participant bias, social desirability, and subjective interpretation. This limitation is important because output indicators were evaluated more positively than process management,

suggesting that favorable outcomes may reflect perceptions rather than systematically verified evidence. Future research should therefore integrate survey findings with objective measures such as classroom observations, child development assessments, document analysis, and administrative records. Third, the study focused exclusively on the Mekong Delta region, which may limit the generalizability of the findings to other educational contexts with different socio-economic, cultural, and governance conditions. Fourth, despite the large sample size and strong instrument reliability, the absence of construct validity testing, such as confirmatory factor analysis, and inferential analyses reduced the analytical rigor of the study.

Future research should incorporate more advanced statistical analyses and comparative regional investigations to better explain the “quality paradox” identified in this study. Future studies should also examine how teacher agency, professional collaboration, leadership practices, and family-school relationships contribute to maintaining positive educational outcomes despite structural and managerial constraints. Mixed methods approach combining quantitative and qualitative evidence would provide a better understanding of preschool QA implementation and sustainability.

8. Conflict of Interest

Funding: This research has received no specific financial support.

Competing Interests: The authors declare no conflicts of interest.

Data Availability Statement: The corresponding author may provide study data upon reasonable request.

Transparency: The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained.

Ethical: This study followed all ethical practices during writing.

9. AI Acknowledgment

The authors acknowledge the use of ChatGPT 4.0 (<https://chatgpt.com>) to assist in grammar corrections and translations, create summaries of data sets or literature, improve the clarity of the language and readability of the article. The prompts used include “check the correct grammar of the following paragraph,” “translate this sentence,” “create summaries of literature,” and “improve the clarity of the language and readability of the article.” The prompt outputs were utilized to verify grammar, translate text, and summarize literature, and improve clarity and readability while maintaining the authors' original meaning and intent. While the authors acknowledge the use of AI assistance, they affirm that they are the sole authors of this article and take full responsibility for its content, in accordance with COPE recommendations.

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