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KINDERGARTEN LEARNERS' PERFORMANCE IN THE EARLY CHILDHOOD CARE AND DEVELOPMENT IN BARE AND DESIGNED CLASSROOMS SET-UP INCALAUAG EAST DISTRICT, DIVISION OF QUEZON

Lyca M. Arenque, Annalyn J. Decena

Department of Education, SDO Quezon Province, Catangtang Elementary School, Calauag, Quezon, Philippines, Marinduque State University

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ABSTRACT

This study examined the performance level of kindergarten learners in Early Childhood Care and Development (ECCD) under bare and designed classroom set-ups in Calauag East District, Division of Quezon, during School Year 2025–2026. It assessed learners' development in gross motor, fine motor, self-help, receptive language, expressive language, cognitive, and socio-emotional domains during the pretest and posttest. It also determined the significant difference between the two classroom conditions, identified challenges and strategies in ECCD implementation, and proposed an intervention program. The study used a true-experimental research design with a descriptive approach. Thirty-eight kindergarten learners were randomly assigned to bare and designed classroom groups and were assessed using the ECCD Checklist. Thirty-eight kindergarten teachers also answered a researcher-made questionnaire on challenges and strategies. Data were analyzed using mean, frequency, percentage, weighted mean, and independent t-test. Results showed that learners in both classroom set-ups generally attained Average Development in the pretest and posttest. However, the designed classroom group obtained higher posttest mean scores across most ECCD domains and had fewer cases of developmental delay. The independent t-test revealed a significant difference in general performance in favor of the designed classroom set-up. Major challenges included insufficient government support, reduced reinforcement due to limited visual displays, limited parental involvement, and difficulty maintaining learner engagement. Teachers addressed these through resource documentation, take-home guides, parental support, and movement-based instruction. The study proposed the

Learner-Adaptive Early Childhood Advancement Program (LAECA) to strengthen ECCD implementation.

Keywords: *Early Childhood Care and Development, classroom design, bare classroom, designed classroom, kindergarten performance*

INTRODUCTION

Classroom design has been widely recognized as an important factor in learner engagement, participation, and academic performance. Well-structured learning environments support attention, comprehension, inclusivity, and active participation through proper spatial arrangement, child-friendly materials, and adaptable classroom features (Hunt et al., 2025; Janoušková & Bílek, 2024; Reith & Tapia, 2025). In early childhood education, enriched classroom spaces help strengthen literacy, cognitive development, motivation, and learner interaction (Hasanah, 2025; Mayangsari & Nawangsari, 2025; Thomas et al., 2025). Similar findings in Southeast Asia show that culturally responsive, structured, and technology-supported classrooms improve engagement, language acquisition, and holistic development among young learners (Nguyen, 2024; Payadnya et al., 2024; Ruslan et al., 2024).

Similarly, several studies have examined how classroom environments influence kindergarten learners' development across ECCD domains. Research on motor development shows that children in minimally resourced or bare classrooms demonstrate weaker gross and fine motor skills due to limited access to movement areas and manipulative materials (Gowramma & Behera, 2023; Zakaria & Mahyuddin, 2023). In terms of self-help skills, learners in such environments experience difficulty in performing daily routines such as hygiene, dressing, and feeding because of the absence of visual cues and structured guides (Kitsao-Wekulo et al., 2024; Singh & Mehta, 2024). Language development is also affected, as children in visually deprived classrooms show lower receptive and expressive language skills due to reduced exposure to print-rich materials and interactive communication opportunities (Norwood et al., 2021; Fernandez et al., 2024). Cognitive development studies further reveal that learners in minimalist environments demonstrate weaker problem-solving, memory, and numeracy skills due to the lack of hands-on learning resources (Khosa, 2024; Martinez & Guzman, 2023). Socio-emotional outcomes are likewise influenced, with children in bare classrooms showing higher anxiety, lower engagement, and weaker peer interaction (Wilinski et al., 2021).

Conversely, studies on designed classroom environments consistently report improved developmental outcomes. Structured and enriched classrooms support better motor coordination through movement-based and interactive activities (Siraj et al., 2023). Learners in these environments also demonstrate stronger independence in self-help skills due to the presence of visual guides and organized routines (Denkar, 2019). Language development improves in print-rich and interactive settings that promote storytelling and communication (Fernald et al., 2023). Cognitive skills such as problem-solving and memory retention are enhanced through the use of manipulatives and visual

tools (Mungai, 2016). In addition, socio-emotional development is strengthened in engaging classroom environments that support emotional regulation, peer interaction, and classroom participation (Sellars & Imig, 2024). These studies collectively show that classroom design plays a key role in shaping holistic development among learners.

In the Philippines, classroom design became a major concern after the implementation of DepEd Order No. 21, which promoted bare classroom walls to create a more orderly and distraction-free learning environment (Marcelo, 2023). However, educators and child development advocates raised concerns that visual aids and learning displays remain important for young learners because these materials reinforce lessons, support comprehension, and strengthen classroom belonging (Cruz, 2023). This concern is relevant to early childhood education because national policies such as the Kindergarten Education Act, the Omnibus Policy on Kindergarten Education, and the Early Childhood Development Law emphasize safe, child-friendly, stimulating, and developmentally appropriate learning spaces (Alvarado, 2020; Navarro, 2022; Santos, 2023). Recent Philippine studies also support the use of contextualized, interactive, and equitable learning environments to improve learner outcomes (Diris & Fairle, 2024; Peralta, 2023).

Within Calauag East District, the implementation of the bare classroom policy raised concerns about kindergarten learners' performance in Early Childhood Care and Development (ECCD). Preliminary district data showed that only 202 out of 520 kindergarten pupils demonstrated positive development, while many learners showed difficulty in psychomotor tasks, basic self-help activities, literacy and numeracy readiness, and socio-emotional adjustment. These observations suggest a possible mismatch between minimalist classroom conditions and the developmental needs of young learners. Although prior studies show that well-designed classrooms support learner engagement and development, limited local evidence explains how bare classroom conditions affect kindergarten learners across the seven ECCD domains in the Philippine public school context.

Thus, this study addressed this gap by examining the performance level of kindergarten learners in ECCD under bare and designed classroom set-ups in Calauag East District, Division of Quezon. It focused on seven developmental domains: gross motor, fine motor, self-help, receptive language, expressive language, cognitive, and socio-emotional development. The study also determined the significant difference between the two classroom conditions, identified challenges and strategies in ECCD implementation, and proposed an intervention program. Its findings may provide evidence-based support for improving classroom design practices, strengthening early childhood education, and aligning classroom policies with the developmental needs of kindergarten learners.

Research Questions

This study determined the performance of the kindergarten in the Early Childhood Care and Development (ECCD) in both bare- and designed-classroom setups in Calauag

East District, Division of Quezon Province. This specifically answered the following questions:

1. What is the performance level of the kindergarten learners in Early Childhood Care and Development in Bare Classroom Setup and Classroom Designed Setup in pretest and posttest in terms of:
    1.1. Gross Motor;
    1.2. Fine Motor;
    1.3. Self-Help;
    1.4. Receptive Language;
    1.5. Expressive Language;
    1.6. Cognitive; and
    1.7. Socio-Emotional Domain?
2. Is there a significant difference in the performance of kindergarten learners in Early Childhood Care and Development between Bare Classroom Setup and Designed Classroom Setup?
3. What are the challenges encountered and strategies used by teachers in implementing Early Childhood Care and Development in terms of classroom design in Calauag East District, Division of Quezon?
4. What intervention can be proposed to improve the implementation of Early Childhood Care and Development in the classroom design in Calauag East District, Division of Quezon?

Null Hypothesis (Ho1): There is no significant difference between the performance of the kindergarten learners in Early Childhood Care and Development in Bare Classroom Setup and Designed Classroom Setup.

METHODOLOGY

This study used a true-experimental research design with a descriptive quantitative component. It was conducted in Calauag East District, Division of Quezon, during School Year 2025–2026. The respondents included 38 kindergarten learners who were randomly assigned to two classroom conditions. Eighteen learners were placed in the bare classroom set-up as the control group, while 20 learners were placed in the designed classroom set-up as the experimental group. Both groups received instruction for two academic quarters using the Early Childhood Care and Development (ECCD) framework, which covered gross motor, fine motor, self-help, receptive language, expressive language, cognitive, and socio-emotional development. The study also included 38 kindergarten teachers who identified the challenges and strategies in implementing ECCD in terms of classroom design. The study was limited to kindergarten learners and teachers in the said district and focused on ECCD performance, classroom design conditions, challenges, strategies, and the proposed intervention program.

Additionally, two instruments were used in the study. The ECCD Checklist measured learners' performance in the seven developmental domains during the pretest

and posttest, with scores interpreted as Highly Advanced Development, Slightly Advanced Development, Average Development, Slight Delay Development, and Significant Delay Development. A researcher-made questionnaire with 15 structured items measured the challenges and strategies in ECCD classroom design implementation through a five-point scale. The questionnaire underwent expert validation, content validation, and pilot testing, while Cronbach's alpha was used to determine reliability. The researcher secured permission from concerned school authorities and obtained informed consent from parents before data collection. Both learner groups took the pretest, received classroom-based instruction for two quarters, and completed the posttest. Teacher questionnaires were distributed through printed and digital forms. Data were analyzed using frequency, percentage, mean, weighted mean, and independent t-test. The results served as the basis for the Learner-Adaptive Early Childhood Advancement Program (LAECA).

RESULTS

Table 1.
Performance Level of the Kindergarten Learners in ECCD in Bare and Designed Classroom Setups in Pretest and Posttest Assessments

Domain	Assessment	Bare Classroom Set-Up Mean	VI	Designed Classroom Set-Up Mean	VI	Mean Difference
Gross Motor	Pretest	10.33	Average	10.50	Average	0.17
	Posttest	10.61	Average	10.80	Average	0.19
Fine Motor	Pretest	9.72	Average	11.25	Average	1.53
	Posttest	10.28	Average	11.65	Average	1.37
Self-Help	Pretest	9.28	Average	7.05	Average	2.23
	Posttest	9.78	Average	10.80	Average	1.02
Receptive Language	Pretest	10.22	Average	11.00	Average	0.78
	Posttest	10.39	Average	11.00	Average	0.61
Expressive Language	Pretest	8.67	Average	10.70	Average	2.03
	Posttest	9.22	Average	10.70	Average	1.48
Cognitive Development	Pretest	8.39	Average	10.20	Average	1.81
	Posttest	9.72	Average	11.80	Average	2.08
Socio-Emotional Domain	Pretest	8.33	Average	9.75	Average	1.42
	Posttest	9.28	Average	10.60	Average	1.32
Grand Mean	**Pretest**	**9.28**	**Average**	**10.06**	**Average**	**0.78**

Posttest	**9.90**	**Average**	**11.05**	**Average**	**1.15**

Legend: *"Highly Advanced (17-19)", "Slightly Advanced (14-16)", "Average (7-13)", "Slight Delay (4-6)", "Significant Delay (1-3)".11*

Table 2.
Independent T-Test: Significant Difference between the Performance Level of the Kindergarten Learners in ECCD in Bare Classroom Setup and Designed Classroom Setup

Test Phase	Groups	Mean Score	Variance	t-value	p-value	Decision	Remarks
Gross Motor	Bare Classroom Setup	10.61	1.31	0.570	0.572	Accept Ho	Not Significant
	Designed Classroom Setup	10.80	0.80				
Fine Motor	Bare Classroom Setup	10.28	5.15	2.372	0.023	Reject Ho	Significant
	Designed Classroom Setup	11.65	1.40				
Self – Help	Bare Classroom Setup	9.78	5.83	1.161	0.253	Accept Ho	Not Significant
	Designed Classroom Setup	10.80	8.69				
Receptive Language	Bare Classroom Setup	10.39	1.19	2.506	0.017	Reject Ho	Significant
	Designed Classroom Setup	11.00	0.00				
Expressive Language	Bare Classroom Setup	9.22	5.59	2.400	0.022	Reject Ho	Significant
	Designed Classroom Setup	10.70	1.80				
Cognitive Domain	Bare Classroom Setup	9.72	1.15	6.503	0.000	Reject Ho	Significant
	Designed Classroom Setup	11.80	0.80				
Socio – Emotional	Bare Classroom Setup	9.28	7.86	1.818	0.039	Reject Ho	Significant
	Designed Classroom Setup	10.60	2.46				
General Performance	Bare Classroom Setup	9.90	0.30	4.205	0.001	Reject Ho	Significant
	Designed Classroom Setup	11.05	0.23				

Note: *"If the p-value is less than or equal to the significance level (0.05), reject Ho; otherwise, fail to reject Ho."*

Table 3.
The Challenges Encountered and Strategies Used by kindergarten Teachers of Calauag East District in Implementing Early Childhood Care and Development in terms of Classroom Design in Calauag East District, Division of Quezon

Challenges Encountered	Mean	Verbal Interpretation	Most Utilized Strategy	f	(%)
Limited classroom resources and learning materials	3.42	Moderately Challenging	Use recyclable and locally available materials for activities	23	60.53
Inadequate teacher training and professional development	2.71	Moderately Challenging	Attend free webinars and SLAC sessions	18	48.65
High student-to-teacher ratio in kindergarten classes	2.76	Moderately Challenging	Group students for cooperative tasks and peer learning	19	51.35
Lack of financial support for ECCD programs	3.36	Moderately Challenging	Utilize low-cost, high-impact instructional methods	17	45.95
Inconsistent policy implementation and monitoring	2.87	Moderately Challenging	Coordinate with school heads for an aligned action plan	21	61.76
Limited parental involvement in early childhood education	3.58	Very Challenging	Encourage parental volunteering in activities	22	57.89
Infrastructure and classroom space limitations	3.26	Moderately Challenging	Repurpose materials for multipurpose use	21	56.76
Insufficient government support and funding allocation	3.79	Very Challenging	Document support needs and present to the PTA	19	50.00
Challenges in integrating play-based learning approaches	3.08	Moderately Challenging	Embed play in literacy and numeracy activities	28	71.79
Difficulty in adapting to curriculum changes and updates	3.45	Moderately Challenging	Simplify and localize lessons for better delivery	21	53.85
Difficulty in maintaining student engagement in bare classroom settings	3.55	Very Challenging	Incorporate movement and songs into lessons	16	42.11
Lack of visual aids affecting learners with diverse needs	3.18	Moderately Challenging	Apply tactile tools for multisensory learning	18	47.37
Reduced reinforcement due to prohibition of visual displays	3.68	Very Challenging	Create take-home learning guides	20	52.63
Increased classroom management issues in non-stimulating environments	3.21	Moderately Challenging	Use role-play to manage behaviors constructively	18	47.37
Limited creativity and flexibility for teachers in classroom design	2.92	Moderately Challenging	Assemble design activity corners daily	21	55.26
Grand Mean:	**3.26**	**Moderately Challenging**			

Legend: *Very Highly Challenging (4.5 –5.00), Very Challenging (3.5 –4.50), Moderately Challenging (2.51–3.50), Slightly Challenging (1.51 – 2.50), Not Challenging (1.00 – 1.50)*

Figure 1.
Proposed Intervention to Improve the Implementation of Early Childhood Care and Development in the Classroom Design in Calauag East District, Division of Quezon

DISCUSSION

Performance Level of the Kindergarten Learners in ECCD in Bare and Designed Classroom Setups in Pretest and Posttest Assessments

Table 1 presents the performance level of kindergarten learners in ECCD across the seven domains in both bare and designed classroom set-ups during the pretest and posttest assessments. In the gross motor domain, both groups were interpreted as Average in the pretest (bare = 10.33; designed = 10.50) and improved slightly in the posttest (bare = 10.61; designed = 10.80), with small mean differences (0.17 and 0.19), which indicate comparable development in this area. In the fine motor domain, both groups were also Average, but the designed classroom consistently obtained higher mean scores in the pretest (11.25 vs. 9.72) and posttest (11.65 vs. 10.28), with notable differences (1.53 and 1.37), which suggest stronger development in the designed setting. In terms of self-help, both groups remained at the Average level; however, the pretest showed a higher mean in the bare classroom (9.28) compared with the designed classroom (7.05), while the posttest results reversed, with the designed classroom improving to 10.80 compared with 9.78 in the bare classroom, resulting in mean differences of 2.23 and 1.02.

In the receptive language domain, both groups maintained an Average level, with the designed classroom showing slightly higher mean scores in both pretest (11.00 vs. 10.22) and posttest (11.00 vs. 10.39), with differences of 0.78 and 0.61. For expressive language, both groups were still within the Average level, but the designed classroom demonstrated higher means in the pretest (10.70 vs. 8.67) and posttest (10.70 vs. 9.22), with differences of 2.03 and 1.48, indicating better development in communication skills. In cognitive development, both groups were interpreted as Average, yet the designed classroom recorded higher mean scores in the pretest (10.20 vs. 8.39) and posttest (11.80 vs. 9.72), with the largest mean differences observed (1.81 and 2.08), which reflects stronger gains in thinking and problem-solving skills. Similarly, in the socio-emotional domain, both groups remained at the Average level, but the designed classroom consistently showed higher means in the pretest (9.75 vs. 8.33) and posttest (10.60 vs. 9.28), with differences of 1.42 and 1.32, suggesting better emotional regulation and social interaction.

Looking at the overall performance, the grand mean results show that both groups were interpreted as Average in the pretest (bare = 9.28; designed = 10.06) and improved in the posttest (bare = 9.90; designed = 11.05). The mean difference increased from 0.78 in the pretest to 1.15 in the posttest, indicating a wider performance gap in favor of the designed classroom after the intervention period. These results show that while both classroom set-ups supported developmental growth, the designed classroom consistently provided higher performance across all domains, particularly in cognitive, expressive language, and fine motor skills.

The findings imply that while both classroom conditions can support acceptable developmental outcomes, the presence of structured, enriched, and interactive learning

environments provides stronger and more consistent support across ECCD domains. The higher mean scores observed in the designed classroom, especially in fine motor, expressive language, cognitive, and socio-emotional domains, suggest that young learners benefit from access to manipulatives, visual aids, and opportunities for guided interaction. These domains require active engagement, repetition, and reinforcement, which are more evident in designed classroom settings. In contrast, the smaller gains in the bare classroom indicate that minimalist environments may limit opportunities for practice and interaction, thereby slowing developmental progress.

These results align with previous studies which reported that enriched classroom environments enhance motor coordination, language development, and cognitive skills through interactive and play-based learning (Fernald et al., 2023; Siraj et al., 2023). At the same time, the findings support studies showing that children in resource-limited or visually deprived classrooms tend to demonstrate weaker performance due to reduced access to learning materials and stimuli (Gowramma & Behera, 2023; Khosa, 2024). Therefore, the study emphasizes the importance of adaptive classroom strategies and the integration of low-cost, learner-centered resources to support development, particularly in settings where classroom design is restricted.

Independent T-Test: Significant Difference between the Performance Level of the Kindergarten Learners in ECCD in Bare Classroom Setup and Designed Classroom Setup

Table 2 presents the independent t-test results on the significant difference between the performance level of kindergarten learners in ECCD in bare and designed classroom set-ups. In the gross motor domain, the computed p-value (0.572) is greater than 0.05, which led to the acceptance of the null hypothesis and a not significant result, despite the designed classroom having a slightly higher mean (10.80) than the bare classroom (10.61). Similarly, in the self-help domain, the p-value (0.253) is also greater than 0.05, which indicates no significant difference between the two groups, although the designed classroom (10.80) still showed a higher mean than the bare classroom (9.78). In contrast, the fine motor domain revealed a p-value of 0.023, which is less than 0.05, resulting in the rejection of the null hypothesis and a significant difference, with the designed classroom (11.65) outperforming the bare classroom (10.28).

Additionally, in the language domains, both receptive language and expressive language showed significant differences between the two classroom conditions. The receptive language domain obtained a p-value of 0.017, while expressive language obtained 0.022, both below the 0.05 level of significance. In both cases, the designed classroom recorded higher mean scores (11.00 and 10.70) compared to the bare classroom (10.39 and 9.22). The cognitive domain showed the most pronounced difference, with a very low p-value of 0.000, indicating a highly significant difference, where the designed classroom (11.80) clearly outperformed the bare classroom (9.72). Likewise, the socio-emotional domain yielded a p-value of 0.039, which is also significant, with the designed classroom (10.60) showing better performance than the bare classroom (9.28). Overall, the general performance of learners showed a significant difference (p =

0.001), confirming that the designed classroom (11.05) performed better than the bare classroom (9.90).

These research findings indicate that classroom design had a significant effect on most ECCD domains, particularly in fine motor, language, cognitive, and socio-emotional development. However, the absence of significant differences in gross motor and self-help domains suggests that these skills may be less dependent on classroom design and more influenced by routine physical activities and daily practices. The results imply that enriched classroom environments support learning areas that require interaction, visual reinforcement, and structured engagement. This means that providing learners with access to manipulatives, visual materials, and interactive activities enhances their ability to develop higher-order skills and communication abilities.

The current results are consistent with existing studies that emphasize the importance of enriched classroom environments in early childhood education. Research shows that structured and interactive learning spaces improve fine motor coordination, language acquisition, and cognitive development among young learners (Fernald et al., 2023; Siraj et al., 2023). The significant results in the cognitive and language domains support studies that highlight the role of print-rich and manipulative-based environments in strengthening comprehension, problem-solving, and communication skills (Fernandez et al., 2024; Khosa, 2024). Meanwhile, the non-significant findings in gross motor and self-help domains are aligned with studies suggesting that these skills can still develop through routine activities even in less enriched environments (Gowramma & Behera, 2023). Overall, the findings confirm that classroom design plays an important role in shaping most areas of ECCD development and supports the need for adaptive and learner-centered classroom strategies in early childhood education.

The Challenges Encountered and Strategies Used by kindergarten Teachers of Calauag East District in Implementing Early Childhood Care and Development in terms of Classroom Design in Calauag East District, Division of Quezon

Table 3 presents the challenges encountered and the most utilized strategies of kindergarten teachers in implementing ECCD in terms of classroom design. The overall grand mean of 3.26 indicates that the challenges were Moderately Challenging. Among the indicators, “insufficient government support and funding allocation” (M = 3.79) and “reduced reinforcement due to prohibition of visual displays” (M = 3.68) were interpreted as Very Challenging, followed by “limited parental involvement” (M = 3.58) and “difficulty in maintaining student engagement in bare classrooms” (M = 3.55). The rest of the challenges, including limited resources, curriculum adaptation, infrastructure constraints, and classroom management concerns, were rated as Moderately Challenging. The lowest mean was observed in “inadequate teacher training and professional development” (M = 2.71), although it still fell within the moderate range. These results show that teachers generally experience manageable but persistent challenges, with systemic and environmental factors being the most difficult to address.

In response to these challenges, teachers applied practical and context-based strategies. For limited resources, most teachers used recyclable and locally available materials (60.53%). To address inadequate training, they attended webinars and SLAC sessions (48.65%). In managing large class sizes, grouping learners for cooperative tasks was the most common strategy (51.35%). Financial limitations were addressed through low-cost instructional methods (45.95%), while coordination with school heads (61.76%) was the most utilized approach for inconsistent policy implementation. Teachers also encouraged parental volunteering (57.89%) to improve involvement and repurposed materials (56.76%) to manage space constraints. For major concerns such as insufficient funding, teachers documented needs and presented them to the PTA (50.00%). Engagement issues in bare classrooms were addressed through movement and songs (42.11%), while lack of visual aids was managed using tactile tools (47.37%). The prohibition of visual displays was addressed through take-home learning guides (52.63%), and classroom management concerns were handled using role-play strategies (47.37%). These strategies reflect teachers' adaptability and resourcefulness in sustaining ECCD implementation despite limitations.

The findings imply that while challenges in classroom design are present, teachers are able to respond through creative, low-cost, and collaborative approaches. However, the results also show that systemic issues such as funding limitations, policy constraints, and parental involvement require stronger institutional and community support. The findings are consistent with studies that identified financial constraints and weak policy implementation as major barriers in ECCD programs (Gitonga, 2024; Sadani, 2024). At the same time, the adaptive strategies used by teachers align with studies that emphasize the importance of professional development, collaboration, and resourcefulness in improving classroom practices (Chang et al., 2024). The results also support literature highlighting the role of parental engagement and community support in strengthening early childhood learning outcomes (Sargsyan et al., 2024). Overall, the study confirms that while teachers can manage classroom design challenges through practical strategies, sustained improvement in ECCD implementation requires stronger support systems, aligned policies, and active stakeholder involvement.

Proposed Intervention to Improve the Implementation of Early Childhood Care and Development in the Classroom Design in Calauag East District, Division of Quezon

The research output presents the Learner-Adaptive Early Childhood Advancement Program (LAECA) as a practical and responsive intervention designed to improve kindergarten learners' developmental performance across the seven ECCD domains. The program was developed based on the study's findings, which showed that although learners in both bare and designed classrooms achieved average development, those in bare classroom conditions still experienced delays in key areas such as fine motor, self-help, expressive language, and socio-emotional development. LAECA addresses these gaps through a structured yet flexible approach that integrates domain-specific learner support, adaptive classroom strategies, and strengthened stakeholder collaboration. It promotes the use of movement-based instruction, multisensory activities, routine-based independence training, and play-dialogue learning to ensure active engagement and

continuous development. In addition, the program emphasizes low-cost, portable, and take-home learning resources to support learners even in resource-limited environments. Through its phased implementation, monitoring system, and collaborative framework involving teachers, parents, school heads, and community stakeholders, LAECA aims to reduce developmental delays, improve learner outcomes, and provide a sustainable model for enhancing early childhood education in both bare and designed classroom settings.

Conclusions

Based on the findings, the study concludes that kindergarten learners in both bare and designed classroom set-ups generally demonstrated Average Development across all ECCD domains during the pretest and posttest assessments. However, the designed classroom set-up consistently produced higher mean scores, especially in the posttest, where it performed better across all seven domains. The results also confirmed a significant difference in the overall ECCD performance of learners, particularly in fine motor, receptive language, expressive language, cognitive development, and socio-emotional development, which led to the rejection of the null hypothesis emphasizing that designed classrooms provide stronger developmental support than bare classrooms. The study further concludes that ECCD implementation is affected by challenges related to limited funding, reduced reinforcement opportunities, low parental involvement, and difficulty sustaining learner engagement. Thus, the proposed Learner-Adaptive Early Childhood Advancement Program (LAECA) is necessary as a targeted and responsive intervention to address developmental delays and strengthen ECCD implementation in both classroom conditions.

Recommendations

Based on the results, DepEd policymakers and officials may review existing classroom set-up policies for kindergarten to ensure that these remain responsive to the developmental needs of young learners. Clear minimum standards for early childhood classrooms may include access to manipulatives, portable instructional materials, print-rich resources, play-based learning tools, and child-friendly spaces. School heads may also support gradual classroom improvement through supplemental funding, regular ECCD monitoring, PTA consultations, parent volunteer systems, and community partnerships that address limited resources, low parental involvement, and learner engagement concerns.

Teachers may strengthen ECCD implementation through practical and low-cost strategies such as movement-based learning, rotating activity centers, tactile materials, play-dialogue activities, and take-home reinforcement guides, especially for learners with delays in fine motor, self-help, expressive language, and socio-emotional domains. Future researchers may pilot-test and evaluate the Learner-Adaptive Early Childhood Advancement Program (LAECA) in other schools or districts using larger samples and experimental or quasi-experimental designs. Further studies may also examine the long-

term effects of classroom design, parental involvement, resource-sharing systems, and flexible learning arrangements on kindergarten learners' ECCD performance.

Compliance with Ethical Standards

The researcher ensured full compliance with ethical standards throughout the conduct of the study. Prior to data collection, formal permission was secured from the appropriate school authorities, and informed consent was obtained from the parents or guardians of the kindergarten learners. Participation in the study was voluntary, and respondents were informed of their right to withdraw at any time without any consequence. The anonymity and confidentiality of all participants were strictly maintained, and all data collected were handled in accordance with data privacy regulations. The well-being of the learners was safeguarded at all times, and all procedures were conducted in a manner appropriate for their age and developmental level. The researcher declares that there was no conflict of interest in the conduct of the study. Plagiarism was strictly avoided, and all sources were properly cited. The interpretation of the findings was carried out objectively and without bias, and the results were used solely for academic and research purposes. Any use of artificial intelligence tools was limited to assistance in organizing and refining the presentation of the manuscript, with full responsibility for the content remaining with the researcher.

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Corresponding author: *lyca.millamina@deped.gov.ph*