

BUILDING SCHOOL READINESS THROUGH PRE-K/DAYCARE PROGRAM: LITERACY, NUMERACY AND SOCIO-EMOTIONAL DEVELOPMENT IN THE PROVINCE OF CATANDUANES

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ABSTRACT

This study evaluated the effectiveness of Pre-K/Day Care programs in fostering school readiness among children in the Province of Catanduanes, focusing on literacy readiness, numeracy skills, and socio-emotional growth. Grounded in Vygotsky's Sociocultural Theory, which emphasizes learning as a socially mediated process within the Zone of Proximal Development, the research explored how these domains interact to support holistic development. A descriptive–correlational design was employed, involving a stratified random sample of ninety-nine Kindergarten teachers from the Division of Catanduanes. Data were gathered using a researcher-developed observational rating scale validated by experts and tested for reliability, yielding a Spearman–Brown coefficient of .787 for the entire instrument. Indicators were rated on a four-point Likert scale, and weighted means were computed to determine developmental levels, while Pearson product–moment correlation was used to examine relationships among variables at a 0.05 level of significance.

Findings revealed that children often demonstrated literacy readiness, with an overall weighted mean of 2.84. Among its subdomains, reading comprehension and early writing emerged as the strongest area (WM = 3.00), followed by letter recognition and vocabulary (WM = 2.82), while phonological awareness was the weakest (WM = 2.71), indicating the need for targeted interventions in sound manipulation and rhyming skills. Numeracy skills were also rated as often demonstrated (WM = 2.84), with number recognition and counting as the most developed subdomain (WM = 3.07), and shape, pattern, and measurement awareness close behind (WM = 3.04). However, basic operations and problem-solving were only sometimes demonstrated (WM = 2.41), suggesting that abstract reasoning and multi-step tasks remain challenging for learners at this stage. Socio-emotional growth was the strongest domain overall, with a weighted mean of 3.19, reflecting children's high levels of confidence, motivation for learning, self-regulation, and positive peer interaction.

Correlation analysis showed no significant relationship between literacy readiness and numeracy skills ($r = 0.098$), confirming that these domains develop independently in early childhood. In contrast, a strong positive relationship was found between literacy readiness and socio-emotional growth ($r = 0.826$), and a moderate positive relationship between numeracy skills and socio-emotional growth ($r = 0.641$). These findings underscore the critical role of socio-emotional competencies in supporting academic development and suggest that programs integrating literacy and numeracy instruction with socio-emotional learning can enhance overall school readiness. Based on these results, an action plan was proposed to strengthen phonological awareness and problem-solving skills through daily rhyming activities, sound games, and hands-on math experiences using manipulatives, while sustaining socio-emotional strengths through cooperative play, role-playing, and thematic projects that combine academic and social-emotional objectives.

The study concludes that Pre-K/Day Care programs in Catanduanes provide a solid foundation for school readiness, particularly in socio-emotional development, but require targeted interventions in phonological awareness and early mathematical reasoning. Practical implications include prioritizing teacher training in phonological and numeracy instruction, resource allocation for print-rich and manipulative-based learning environments, and embedding socio-emotional learning strategies into daily classroom routines. While findings are context-specific and limited by the descriptive–correlational design, they offer valuable baseline data for local policy-making and program improvement. Future research should consider longitudinal tracking, direct child assessments, and comparative studies across regions to enhance generalizability and inform national strategies for early childhood education.

Keywords: Descriptive Correlational Study, School Readiness, Pre-Kindergarten/Daycare Program, Early Literacy And Early Numeracy Skills, Socio-Emotional Development

INTRODUCTION

Early childhood is a critical developmental stage that shapes lifelong learning, behavior, and health, with the period from birth to age five being foundational. Internationally, including in the Philippines, there is recognition of the importance of investing in high-quality Early Childhood Education (ECE), which benefits both individuals and society in the long term. This understanding has driven global initiatives like the Education for All (EFA) movement, supported by the Philippines, which aims to enhance early childhood care and education (Department of Education, 2008). Despite this recognition, the Philippines faces significant challenges in early education, as international assessments reveal poor performance in reading and mathematics (Bautista, 2025). This highlights the need for effective early learning programs focusing on school readiness, which now includes cognitive abilities, socio-emotional competence, and emotional well-being (Blair & Raver, 2015; Fisher et al., 2013). Pre-K and Day Care programs are crucial for promoting this holistic school readiness. The Philippine Constitution (1987) guarantees the right to quality education, requiring the government to ensure accessible and high-quality education for all, with particular emphasis on early learning. The Kindergarten Education Act (RA 10157) of 2012 made kindergarten mandatory, while Executive Order No. 685 (2008) extended preschool programs to Day Care Centers, linking them with formal education (DepEd, 2008). Two key educational commissions, EDCOM I (1990-1991) and EDCOM II (2022-2023), highlighted the importance of early childhood education and the need to address systemic weaknesses, especially in foundational skills. EDCOM I led to the Barangay Day Care Law (RA 6972), and EDCOM II reinforced the importance of early childhood programs for school readiness (UNICEF & SEAMEO, 2020; DepEd, 2022). However, national assessments continue to reveal gaps in early learning outcomes, with the Southeast Asia Primary Learning Metrics (SEA-PLM) 2019 showing most Grade 5 learners struggling with basic literacy and numeracy (UNICEF & SEAMEO, 2020).

School readiness includes not only literacy and numeracy but also socio-emotional development and executive functions like emotional regulation (Blair & Raver, 2015; Fisher et al., 2013). This holistic approach is especially vital in areas like Catanduanes, where children face challenges due to socio-economic conditions and geographic isolation. However, access to early childhood programs is uneven, with only 36% of barangays having functioning Child Development Centers (PIDS, 2024). Children from rural, low-income

households are particularly affected, entering formal schooling without adequate early learning experiences. The study aims to evaluate how effectively Day Care and Pre-K programs in Catanduanes support school readiness in literacy, numeracy, and socio-emotional development. While national policy emphasizes quality ECE, significant gaps remain in local implementation and outcomes, influenced by factors like resource availability, teacher training, and community support. This study seeks to fill the gap in localized data and assess the effectiveness of these programs in preparing children for formal schooling, with findings intended to inform improvements in program quality and strengthen the K-12 Basic Education Program in the country.

LITERATURE REVIEW

School Readiness and the Role of ECE Programs

The concept of school readiness has evolved to include not only academic skills such as literacy and numeracy but also cognitive, social, and emotional development, including self-regulation, persistence, and positive social interactions (Blair & Raver, 2015; Durflinger, 2017). Longitudinal studies show that early self-regulation predicts later academic success, and assessments that incorporate academic, social-emotional, and behavioral domains better forecast successful school transitions (Montroy et al., 2016; Ghandour et al., 2021).

High-quality Early Childhood Education (ECE) programs significantly support school readiness, with children in well-structured preschools performing better academically in kindergarten (McCoy et al., 2017). Program quality, particularly strong teacher-child interactions and emotionally supportive classrooms, is crucial for positive outcomes (Ulferts et al., 2019; von Suchodoletz et al., 2023). Philippine data from Southeast Asia Primary Learning Metrics (SEA-PLM) further confirm that preschool attendance enhances later academic performance and reduces grade repetition (UNICEF, 2019).

However, the long-term effects of ECE are mixed. Some studies report lasting benefits into adolescence (Follmer & Sperling, 2018), while others observe a “fade-out effect,” where early advantages decline in elementary school (Bailey et al., 2020). For instance, the Tennessee Voluntary Pre-K program demonstrated initial gains followed by lower achievement and more disciplinary issues in later grades (Dale et al., 2022). This fade-out may result from a mismatch between preschool and elementary school expectations, especially when preschools emphasize academic drills over play-based learning (Bailey et al., 2020). Research underscores that play and socio-emotional learning are critical for developing self-regulation and problem-solving skills, foundational for later academic success (IES, 2021). Overall, these findings highlight the importance of ongoing, localized evaluation of ECE programs, as variations in program quality, pedagogy, and alignment with elementary education determine whether early benefits are sustained. In the Philippine context, continued research is essential to ensure ECE promotes holistic and lasting developmental outcomes.

Early Literacy Development

Early literacy skills, including phonological awareness, letter recognition, and vocabulary, are critical predictors of future academic success, with phonological skills strongly linked to reading ability and sharing foundations with early numeracy (Jabanés, 2025; Alves et al., 2023; Raghobar & Barnes, 2017). Play-based preschool interventions, teacher-child interactions, and guided use of digital literacy tools enhance emergent literacy, while a rich

home literacy environment and parental involvement further support vocabulary and reading readiness (Durflinger, 2017; Neumann, 2018; Sundqvist et al., 2024; Niklas & Schneider, 2016; Suson et al., 2024; Bonifacci et al., 2021). In the Philippines, challenges such as large class sizes and heavy teacher workloads hinder individualized literacy instruction, prompting proposals for evidence-based frameworks like Response to Intervention (RtI) to provide tiered support for struggling readers (Bautista, 2025). This study contributes by assessing literacy readiness at the Pre-K level, laying a foundation for early education interventions.

Early Numeracy Development

Early numeracy is critical for future mathematical success, encompassing not only basic skills like counting but also understanding quantities, number relationships, and the structure of the number system, all of which predict later achievement (Raghubar & Barnes, 2017). Foundational skills include number recognition, counting, one-to-one correspondence, cardinality, and simple non-symbolic addition and subtraction through object manipulation (Raghubar & Barnes, 2017). Beyond operations, early numeracy involves pattern recognition, shape identification, and spatial awareness, which are essential for mathematical reasoning, geometry, and later algebraic thinking (EIF, n.d.; Northwestern College, 2019; Rittle-Johnson et al., 2019).

The home environment significantly supports numeracy development, with activities such as number games and quantity discussions enhancing skills, while parental attitudes toward mathematics also influence learning outcomes (Nurmala et al., 2021; Blevins-Knabe, 2016; Susperreguy et al., 2018). Structured early childhood programs focusing on numeracy help reduce socioeconomic disparities and improve elementary math performance, particularly for disadvantaged children (Watts et al., 2018; Clements & Sarama, 2021). In the Philippines, research emphasizes the importance of culturally relevant instruction and accurate assessment tools to support Pre-K numeracy development (Suson et al., 2024).

Socio-Emotional Growth

Socio-emotional learning (SEL) is essential for school readiness, supporting academic success by helping children manage emotions, build resilience, and engage effectively with peers and teachers. Self-regulation, a core component of SEL, influences attention, behavior, and emotional control, with strong self-regulation linked to better academic and social outcomes (Blair & Raver, 2015; Ursache et al., 2016). Social competence, developed through play, cooperative learning, and culturally shaped interactions, is associated with later academic achievement (Durflinger, 2017; Montroy et al., 2016; Denham et al., 2020; Yap et al., 2023; Chen et al., 2021). Teachers play a critical role by providing emotional support and modeling positive interactions, and while SEL is integrated into the Philippine K–12 curriculum, challenges such as limited training and resources highlight the need for sustainable, culturally adapted programs (Hatfield et al., 2016; Domitrovich et al., 2017; UNICEF, 2022; Reyes et al., 2019; Torrente et al., 2016).

The Interconnectedness of Developmental Domains

This study examines the interconnectedness of literacy, numeracy, and socio-emotional development in early childhood, highlighting their reciprocal relationships. Research shows that socio-emotional learning (SEL) enhances self-regulation, social competence, and academic outcomes, including literacy, while play-based learning supports language, self-

regulation, and social skills simultaneously (Rivers et al., 2023; Durflinger, 2017; Li et al., 2016, as cited in Durflinger, 2017; Abastillas et al., 2024). Numeracy is also linked to SEL, with parental support and self-regulation influencing both mathematical reasoning and social-emotional development (Cuenca et al., 2022; Bonifacci et al., 2021). Literacy and numeracy share cognitive foundations such as working memory and reasoning, with early skills predicting later academic performance and K–12 interventions promoting gains in both domains (Almerino et al., 2024; Jabanés & Futral, 2025; Raghobar & Barnes, 2017). Local and international evidence further highlights the importance of home environments, cultural influences, and play in shaping early learning outcomes, while Early Childhood Education (ECE) programs can improve school readiness if aligned with contextual needs (Nurmala et al., 2021; Ablasa, 2024; Edilo et al., 2024; Yap et al., 2023; UNICEF, n.d.; Follmer & Sperling, 2018; Dale et al., 2022). Effective implementation requires valid assessment tools, teacher support, and attention to structural challenges such as class size (Suson et al., 2024; UNICEF, 2022; Evangelista & Tancinco, 2024). This evidence underscores the need for localized, holistic approaches to foster literacy, numeracy, and socio-emotional development in early learners.

METHODOLOGY

Research Design

The study utilized a descriptive–correlational research design to describe current levels of literacy readiness, numeracy skills, and socio-emotional growth, and to examine the relationships among these variables as they naturally occur, without manipulation (Creswell & Creswell, 2018; Fraenkel, Wallen, & Hyun, 2019). The descriptive component established a baseline profile of children enrolled in Pre-K/Day Care programs in the Province of Catanduanes, while the correlational component analyzed the strength and direction of the relationships among literacy readiness, numeracy skills, and socio-emotional growth in relation to school readiness, providing evidence-based insights for educational practice and policy

Sources of Data

The primary data sources of this study were the Kindergarten teachers. Serving as respondents, they completed the assessment instruments for each child under their care. This approach recognizes that direct testing of young children may be unreliable and stressful, while teachers, through continuous observation, could provide more valid and holistic assessments of children’s skills and behaviors.

Population of the Study

The population of the study comprised 131 Kindergarten teachers in the Division of Catanduanes who handled children enrolled in Pre-K and Day Care programs across the province. To determine the appropriate sample size, the Slovin’s formula was applied, resulting in a sample of 99 teachers. Stratified random sampling was used to ensure proportional representation of teachers from the different districts within the Division. This sampling method allowed for a fair distribution of respondents and enhanced the reliability and generalizability of the study’s findings.

Instrumentation and Validation

The study used a researcher-developed observational rating scale consisting of three parts. Part I, focusing on literacy readiness, assessed emergent literacy skills such as phonological awareness, letter recognition, vocabulary, reading comprehension, and early writing. Part II, dedicated to numeracy skills, covered foundational mathematical concepts, including number recognition, counting, basic operations, problem-solving, and awareness of shape, pattern, and measurement. Part III, assessing socio-emotional growth, evaluated social and emotional competencies such as self-awareness, self-regulation, social skills, peer interaction, confidence, and motivation for learning. The instrument underwent two-stage validation. Face validity was established through expert review by five specialists, while reliability was confirmed through a pilot test with 20 Kindergarten teachers using the split-half method, yielding a reliability coefficient of 0.787.

Evaluation and Scoring

To determine the levels of literacy readiness, numeracy skills, and socio-emotional development of children in Pre-K / Day Care programs in the Province of Catanduanes, the following measures were employed:

Assigned Points	Numerical Range	Verbal Interpretation
4	3.25-4.00	Always Demonstrated
3	2.50-3.24	Often Demonstrated
2	1.75-2.49	Sometimes Demonstrated
1	1.00-1.74	Rarely Demonstrated

Data Gathering Procedure

Before the data collection, the researcher followed a systematic and ethical procedure. Official permits were first obtained from the Office of the Schools Division Superintendent of DepEd Catanduanes, and coordination was made with the Public Schools District Supervisor and School Heads regarding the schedule and method of data collection. The purpose and scope of the study were explained to ensure full cooperation. Voluntary, written informed consent was secured from parents or legal guardians after thoroughly informing them about the study's purpose, procedures, potential risks and benefits, confidentiality measures, and their right to withdraw at any time without penalty. Respondents were given adequate time to complete the surveys according to the agreed schedule. Finally, the researcher personally collected the completed questionnaires to ensure secure and confidential handling, after which the data were tallied, encoded, and carefully cleaned for statistical analysis.

Statistical Treatment of Data

The following statistical tools were employed in the study:

1. Weighted Mean was used to determine the levels of literacy readiness, numeracy skills, and socio-emotional growth of the pupils as assessed by the teacher-respondents.
2. Person Product-Moment Correlation (PPMC) was used to examine the relationship among the key variables of the study, specifically literacy readiness, numeracy skills, and socio-emotional growth

Presentation, Analysis and Interpretation of Data

1. Level of Literacy Readiness of Children in Pre-K/Day Care Programs in the Province of Catanduanes

Table 1
Level of Literacy Readiness of Children in Pre-K/Day Care Programs
in the Province of Catanduanes

Variable	Weighted Mean	Verbal Interpretation	Rank
Phonological Awareness	2.71	Often Demonstrated	3
Letter Recognition and Vocabulary	2.82	Often Demonstrated	2
Reading Comprehension and Early Writing	3.00	Often Demonstrated	1
Overall weighted mean	2.84	Often Demonstrated	

Legend:

3.25-4.00	-Always Demonstrated	1.75-2.49	-Sometimes Demonstrated
2.50-3.24	-Often Demonstrated	1.00-1.74	-Rarely Demonstrated

Table 1.4 shows that children in Pre-K/Day Care programs in Catanduanes demonstrate a generally positive level of early literacy development, with an overall weighted mean of 2.84. The strongest performance was in Reading Comprehension and Early Writing (WM = 3.00, Rank 1), indicating children are engaging with stories, understanding print direction, and attempting basic writing tasks like forming letters and writing their names. Letter Recognition and Vocabulary (WM = 2.82, Rank 2) was also often demonstrated. Pupils can generally recognize alphabet letters, match letters with sounds, identify their names in print, and name familiar objects—skills that are crucial for transitioning into more formal reading instruction. Phonological Awareness (WM = 2.71, Rank 3) while still rated as *often demonstrated*, showed slightly lower mastery compared to other domains. Skills such as recognizing rhyming words, segmenting sounds, and blending phonemes were found to be more challenging for some pupils. These tasks require more advanced auditory discrimination, which naturally develops over time and with repeated exposure to sound-based literacy activities.

Overall, the results suggest that learners are building a strong early literacy foundation, with confidence in writing and comprehension, steady progress in letter recognition and vocabulary, and emerging phonological awareness. Teachers are encouraged to continue current practices while providing additional support for phonemic skills, aligning with the International Literacy Association's (2020) emphasis on the interconnectedness of early literacy domains.

2. Level of Numeracy Skills of Children in Pre-K/Day Care Programs in the Province of Catanduanes

Table 2
Level of Numeracy Skills of Children in Pre-K/Day Care Programs
in the Province of Catanduanes

Variable	Weighted	Verbal Interpretation	Rank
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	Mean		
Number Recognition and Counting	3.07	Often Demonstrated	1
Basic Operations and Problem-Solving	2.41	Sometimes Demonstrated	3
Shape, Pattern, and Measurement Awareness	3.04	Often Demonstrated	2
Overall weighted mean	2.84	Often Demonstrated	

Legend:

3.25-4.00	-Always Demonstrated	1.75-2.49	-Sometimes Demonstrated
2.50-3.24	-Often Demonstrated	1.00-1.74	-Rarely Demonstrated

Table 2 reveals that children in Pre-K/Day Care programs in Catanduanes show a solid foundation in numeracy, with an overall weighted mean of 2.84. The strongest performance was in Number Recognition and Counting (WM = 3.07, Rank 1), where children demonstrated familiarity with numbers, counting sequences, and one-to-one correspondence—key skills for basic math operations. Shape, Pattern, and Measurement Awareness (WM = 3.04, Rank 2) was also often demonstrated, showing that children can recognize shapes, sort objects by attributes, understand measurement concepts, and identify positional relationships in their environment.

However, Basic Operations and Problem-Solving (WM = 2.41, Rank 3) was only sometimes demonstrated, indicating that while children are developing early addition, subtraction, and problem-solving skills, these abilities are not yet consistently applied. Tasks requiring abstract reasoning or multi-step problem-solving remain more challenging at this stage, highlighting the need for additional guided practice and hands-on, concrete experiences. In summary, the data indicates that children in these programs have a solid grasp of foundational numeracy skills such as counting, number recognition, and spatial awareness, though more practice is needed in more complex problem-solving tasks. This aligns with Bernabini et al. (2020), who found that preschoolers typically excel in number recognition and counting, with advanced skills developing gradually through structured learning experiences.

3. Level of Socio-Emotional Growth of Children in Pre-K and Day Care Programs in the Province of Catanduanes

Table 3
Level of Socio-Emotional Growth of Children in Pre-K and Day Care Programs in the Province of Catanduanes

Variable	Weighted Mean	Verbal Interpretation	Rank
Self-Awareness and Self-Regulation	3.17	Often Demonstrated	2
Social Skills and Peer Interaction	3.15	Often Demonstrated	3
Confidence and Motivation for Learning	3.24	Often Demonstrated	1
Overall weighted mean	3.19	Often Demonstrated	

Legend:

3.25-	-Always Demonstrated	1.75-	-Sometimes Demonstrated
4.00		2.49	
2.50-	-Often Demonstrated	1.00-	-Rarely Demonstrated
3.24		1.74	

Table 3 shows that pupils in the Pre-K/Day Care programs in Catanduanes often demonstrate socio-emotional growth, with an overall weighted mean of 3.19. This indicates that children are developing essential social and emotional competencies that support learning, positive interactions, and self-confidence. Among the three domains, pupils exhibited the strongest performance in Confidence and Motivation for Learning (WM = 3.24, Rank 1). This suggests that children are generally eager to participate in classroom activities, show curiosity, and demonstrate persistence when faced with tasks, reflecting a positive attitude toward learning. Self-Awareness and Self-Regulation (WM = 3.17, Rank 2) was also often demonstrated. Pupils are becoming more aware of their emotions, learning to manage behavior, and performing self-help tasks independently. These skills are foundational for emotional resilience and constructive engagement in both structured and unstructured learning situations. Social Skills and Peer Interaction (WM = 3.15, Rank 3) also scored in the *Often Demonstrated* range. Children are learning to cooperate with peers, share materials, participate in group activities, and build friendships. While slightly lower than the other domains, these skills are still developing well and are essential for creating positive classroom communities.

Overall, the results suggest that pupils are building solid socio-emotional competencies, which lay a strong foundation for learning readiness and positive peer interactions. Continued support and cooperative activities will further enhance these skills. These findings align with Liman's (2024) research, which highlights the close link between preschoolers' self-regulation, socio-emotional skills, and positive peer interactions and motivation for learning.

4. Relationship Between Literacy Readiness and Numeracy Skills among Children in Pre-K/Day Care Programs in the Province of Catanduanes

Table 4
Relationship Between Literacy Readiness and Numeracy Skills of Children in Pre-K/Day Care Programs in the Province of Catanduanes

Variables	Statistical Test	Computed Value	Critical Value @ .05	Decision	Interpretation
Literacy Readiness vs. Numeracy Skills among Children in Pre-K/Day Care Programs	Pearson r	0.098	0.195	Reject Ho	Significant Relationship

Ho: There is no significant relationship between literacy readiness and numeracy skills among children in pre-k/day care programs

£ = 0.05 level of significance

As shown in Table 4, the Pearson correlation results indicate no significant relationship between literacy readiness and numeracy skills among children in the Pre-K/Day Care programs. The computed Pearson r value of 0.098 is lower than the critical value of 0.195 at the 0.05 significance level, leading to the conclusion that the null hypothesis cannot be rejected. This suggests that, within this group of young learners, early literacy abilities—such as phonological awareness, letter recognition, vocabulary, reading comprehension, and early writing—do not necessarily predict performance in numeracy skills, including number recognition, counting, basic operations, patterns, shapes, and measurement awareness. This aligns with Aunio and Räsänen's (2020) research, which highlighted that literacy and numeracy, while both important for school readiness, often develop through distinct cognitive pathways and may not show strong correlations in early childhood.

Several factors may explain the lack of a significant relationship. First, literacy and numeracy skills develop through different modalities: literacy is more dependent on language and auditory processing, while numeracy relies on visual-spatial reasoning and concrete manipulation of objects. Second, children develop these skills at different rates due to individual differences in cognitive development, prior experiences, and exposure to learning activities. Purpura et al. (2021) noted that variability in children's developmental trajectories means that strengths in literacy do not always align with strengths in numeracy, and vice versa. Lastly, some children may excel in literacy but still be developing numeracy skills, or vice versa, reflecting the natural diversity in early childhood development.

In summary, while both literacy and numeracy are crucial for school readiness, the findings suggest they may develop independently in Pre-K/Day Care settings. Educators are encouraged to provide balanced and engaging activities that support growth in both areas, ensuring that children have opportunities to develop literacy and numeracy skills concurrently. This recommendation is in line with Clements and Sarama (2020), who advocate for integrated but differentiated approaches in early childhood classrooms to foster development across both domains without assuming direct correlations.

5. Relationship Between Literacy Readiness and Socio-Emotional Growth among Children in Pre-K/Day Care Programs in the Province of Catanduanes

Table 5
Relationship Between Literacy Readiness and Socio-Emotional Growth among Children in Pre-K/Day Care Programs in the Province of Catanduanes

Variables	Statistical Test	Computed Value	Critical Value @ .05	Decision	Interpretation
Literacy Readiness vs. Socio-Emotional Growth among Children in Pre-K/Day Care Programs	Pearson r	0.826	0.444	Reject H_0	Significant Relationship

H_0 : There is no significant relationship between level of literacy readiness and the level of socio-emotional growth among children in pre-k/day care programs
 $\alpha = 0.05$ level of significance

Table 5 shows that the Pearson correlation results reveal a strong and significant relationship between literacy readiness and socio-emotional growth among children in the Pre-K/Day Care programs. The computed Pearson r value of 0.826 exceeds the critical value of 0.444 at the 0.05 significance level, leading to the rejection of the null hypothesis. This indicates that children who demonstrate higher literacy readiness—such as phonological awareness, letter recognition, vocabulary, reading comprehension, and early writing—also tend to exhibit stronger socio-emotional growth. Specifically, children who are more confident in reading and writing tasks are likely to show better self-awareness, self-regulation, social skills, peer interaction, and motivation for learning. This finding aligns with Jones and Kahn (2020), who emphasized that literacy activities foster socio-emotional competencies by promoting confidence, persistence, and positive attitudes toward learning.

The strong correlation can be explained by the interaction between cognitive and socio-emotional development in early childhood. Literacy activities often involve communication, expression, and interaction, which support emotional understanding, social engagement, and confidence. For example, reading stories together can enhance empathy, while practicing early writing or letter identification can foster a sense of accomplishment and independence. Denham, Bassett, and Zinsser (2021) similarly noted that socio-emotional growth is supported in literacy-rich environments, where children develop self-regulation and resilience through collaborative learning tasks.

Overall, this finding underscores the importance of integrating literacy activities with socio-emotional learning in Pre-K/Day Care programs. Programs that promote both reading and writing skills alongside self-awareness, social interaction, and motivation contribute to holistic development and better prepare children for future learning. Liman (2024) further supports this, showing that preschoolers' self-regulation and peer interactions are strengthened when literacy tasks are embedded in social contexts, emphasizing the value of combining academic and socio-emotional instruction.

6. Relationship Between Numeracy Skills and Socio-Emotional Growth among Children in Pre-K/Day Care Programs in the Province of Catanduanes

Table 6
Relationship Between Numeracy Skills and Socio-Emotional Growth among Children in Pre-K/Day Care Programs in the Province of Catanduanes

Variables	Statistical Test	Computed Value	Critical Value @ .05	Decision	Interpretation
Numeracy Skills vs. Socio-Emotional Growth among Children in Pre-K/Day Care Programs	Pearson r	0.641	0.444	Reject H_0	Significant Relationship

H_0 : There is no significant relationship between numeracy skills and socio-emotional growth among children in pre-k/day care programs
 $\alpha = 0.05$ level of significance

Table 6 presents Pearson correlation results indicating a significant positive relationship between numeracy skills and socio-emotional growth among children in the Pre-K/Day Care programs. The computed Pearson r value of 0.641 exceeds the critical value of 0.444 at the 0.05 significance level, leading to the rejection of the null hypothesis. This suggests that children who show higher proficiency in numeracy skills—such as number recognition, counting, basic operations, patterning, shapes, and measurement awareness—also tend to demonstrate stronger socio-emotional development. In particular, children who are confident in early math activities are more likely to exhibit self-regulation, positive peer interactions, social skills, and motivation for learning. This aligns with Aunio and Räsänen (2020), who highlighted that early numeracy tasks often require persistence and cooperation, which support socio-emotional competencies alongside cognitive growth.

The relationship can be explained by the fact that numeracy tasks often involve problem-solving, cooperation, and persistence, all of which foster socio-emotional development. For example, activities like counting objects in a group or completing patterns together require patience, communication, and respect for peers, reinforcing emotional and social skills. Purpura et al. (2021) also found that engaging children in structured math activities strengthens both cognitive skills and socio-emotional development, enhancing motivation and self-regulation. Overall, the findings emphasize the interconnectedness of cognitive and socio-emotional development in early childhood. Educators are encouraged to create learning experiences that integrate numeracy with social interaction and emotional engagement, ensuring that children develop both critical thinking and socio-emotional skills. Clements and Sarama (2020) support this approach, advocating for integrated learning trajectories in early math education, where numeracy tasks are embedded in socially interactive contexts to foster holistic development.

7. Proposed Action Plan

The results indicate a need to propose an action plan for enhancing literacy, numeracy, and socio-emotional growth among children in Pre-K/Day Care programs in the Province of Catanduanes.

Proposed Action Plan for Enhancing Literacy, Numeracy, and Socio-Emotional Growth in Pre-K/Day Care Programs in the Province of Catanduanes

Rationale

The overall results revealed that children in Pre-K/Day Care programs are building a solid foundation in early learning, as evidenced by their consistent demonstration of literacy readiness, numeracy skills, and socio-emotional growth. Strong performance in areas such as reading comprehension and early writing, number recognition and counting, and confidence and motivation for learning indicates that pupils are eager, engaged, and progressing well in core developmental domains. However, weaker outcomes in phonological awareness and basic operations/problem-solving highlight the need for targeted interventions to strengthen these emerging skills. Correlation analyses further showed that while literacy and numeracy develop independently, both are significantly linked to socio-emotional growth, underscoring the importance of integrating academic instruction with activities that foster self-regulation, peer interaction, and emotional resilience. These findings justify the need for a balanced action plan that sustains strengths, addresses gaps, and leverages socio-emotional competencies to support holistic school readiness.

Objectives:

1. To help children improve phonological awareness and letter recognition so they can identify sounds and letters confidently.
2. To strengthen basic counting and problem-solving by using hands-on activities with numbers, shapes, and patterns.
3. To build confidence, self-regulation, and peer interaction through cooperative play and reflection activities.
4. To combine literacy and numeracy tasks with social-emotional learning in thematic projects for holistic growth.

Action Plan Matrix for Enhancing Literacy, Numeracy, and Socio-Emotional Growth in Pre-K and Day Care Programs in the Province of Catanduanes

Areas of Concern	Objectives	Proposed Activities/Strategies	Responsible Person	Timeline (Quarterly)	Expected Outcome
Weak phonological awareness and limited letter recognition	Strengthen phonological awareness and letter recognition	<ul style="list-style-type: none"> - Daily rhyming songs and sound games - Alphabet recognition activities - Print-rich classroom environment 	Teacher	<p>Q1: Focus on sounds and rhymes</p> <p>Q2: Letter recognition drills</p> <p>Q3: Vocabulary expansion</p> <p>Q4: Early writing integration</p>	By year-end, 80% of pupils can identify letters, recognize rhymes, and begin simple writing
Difficulty in basic operations and problem-solving	Improve basic operations and problem-solving	<ul style="list-style-type: none"> - Use manipulatives (blocks, beads) for addition/subtraction - Guided math play - Collaborative problem-solving tasks 	Teacher	<p>Q1: Counting and one-to-one correspondence</p> <p>Q2: Shape and pattern recognition</p> <p>Q3: Simple addition/subtraction</p> <p>Q4: Multi-step problem-solving</p>	By year-end, 70% of pupils can solve simple math problems using concrete materials
Need to sustain confidence and peer interaction	Foster confidence, self-regulation, and peer interaction	<ul style="list-style-type: none"> - Cooperative group activities - Role-play and storytelling - Reflection sessions 	Teacher with parent support	<p>Q1: Classroom routines and self-help tasks</p> <p>Q2: Cooperative play and sharing</p> <p>Q3: Role-play for empathy</p> <p>Q4: Peer-led group projects</p>	By year-end, 85% of pupils show improved self-regulation, peer cooperation, and motivation
Literacy and numeracy develop independently but both link	Integrate literacy, numeracy, and socio-emotional	<ul style="list-style-type: none"> - Thematic projects (e.g., "My Family," "Animals") combining reading, counting, and group 	Teacher	<p>Q1: Simple thematic units (family, community)</p> <p>Q2: Integrated</p>	By year-end, 75% of pupils show measurable growth

strongly to socio-emotional growth	learning	work - Story-based math problems - Collaborative book-making		literacy-math games Q3: Group storytelling with math tasks Q4: Culminating project (class book-making)	across literacy, numeracy, and socio-emotional do
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SUMMARY OF FINDINGS

The salient findings of the study are as follows:

1. Level of Literacy Readiness of Children in Pre-K/Day Care Programs in the Province of Catanduanes

The level of literacy readiness of the children in Pre-K/Day Care programs in the Province of Catanduanes was moderate, with a weighted mean of 2.84. Among the literacy indicators, the strongest skills were reading comprehension and early writing, both with a weighted mean of 3.00, indicating that pupils are progressing well in understanding texts and expressing ideas through writing. However, phonological awareness was identified as the weakest skill, with a weighted mean of 2.71, suggesting that children need targeted support in recognizing sounds, rhymes, and phonemes to strengthen their foundational literacy abilities.

2. Level of Numeracy Skills of Children in Pre-K/Day Care Programs in the Province of Catanduanes

The level of numeracy skills of children in the Pre-K and Day Care programs in the Province of Catanduanes was moderate, with an overall weighted mean of 2.84. The strongest skill was number recognition and counting, with a weighted mean of 3.07, suggesting that children are confident in identifying numbers and performing basic counting tasks. In contrast, the weakest skill was basic operations and problem-solving, with a weighted mean of 2.41. This indicates the need for further reinforcement through hands-on activities and guided practice to help children develop their early mathematical reasoning and problem-solving abilities.

3. Level of Socio-Emotional Growth of Children in Pre-K/Day Care Programs in the Province of Catanduanes

The level of socio-emotional growth of children in Pre-K/Day Care programs in the Province of Catanduanes exhibited strong socio-emotional growth, with an overall weighted mean of 3.19. The highest indicators were confidence and motivation for learning (WM = 3.24) and peer interaction (WM = 3.15). These results indicate that children are not only eager to engage in learning activities but also interact positively with their peers. The findings highlight socio-emotional development as a key strength, suggesting that children who are confident and socially engaged are more likely to succeed in both literacy and numeracy tasks.

4. Relationship Between Literacy Readiness and Numeracy Skills Among Children in Pre-K/Day Care Programs in the Province of Catanduanes

The results show that there is no significant relationship between literacy readiness and numeracy skills among children in Pre-K/Day Care programs. The computed Pearson r value of 0.098 was lower than the critical value of 0.195 at the 0.05 level of significance. Therefore, the null hypothesis is not rejected. This suggests that, while both literacy and numeracy skills are essential for school readiness, they develop independently in early childhood.

5. Relationship Between Literacy Readiness and Socio-Emotional Development of Children in Pre-K/Day Care Programs in the Province of Catanduanes

The findings indicate that there is a strong and significant relationship between literacy readiness and socio-emotional growth among children in Pre-K/Day Care programs. The computed Pearson r value of 0.826 exceeded the critical value of 0.444 at the 0.05 level of significance, leading to the rejection of the null hypothesis. This result highlights that literacy activities not only build academic skills but also foster socio-emotional competencies, underscoring the importance of integrating literacy instruction with socio-emotional learning to support holistic child development.

6. Relationship Between Numeracy Skills and Socio-Emotional Growth Among Children in Pre-K/Day Care Programs

There was a significant positive relationship between numeracy skills and socio-emotional growth among children in Pre-K/Day Care programs. The computed Pearson r value of 0.641 exceeded the critical value of 0.444 at the 0.05 level of significance, leading to the rejection of the null hypothesis. The result highlights that early math activities not only build cognitive skills but also foster persistence, cooperation, and emotional growth, underscoring the interconnectedness of cognitive and socio-emotional development in early childhood.

7. Proposed Action Plan for Enhancing Literacy, Numeracy, and Socio-Emotional Growth in Pre-K/Day Care Programs in the Province of Catanduanes

There is a need to propose an action plan to enhance literacy, numeracy, and socio-emotional development in Pre-K/Day Care programs in the Province of Catanduanes, based on the findings that children demonstrated moderate literacy and numeracy skills but stronger socio-emotional growth. Weak areas, such as phonological awareness and problem-solving, require targeted support, while strengths in confidence, motivation, and peer interaction should be sustained. Integrating literacy and numeracy with socio-emotional activities through structured strategies and timelines will ensure balanced, holistic development and improved school readiness.

CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

1. Children in Pre-K/Day Care programs in the Province of Catanduanes demonstrate moderate literacy readiness, with strengths in reading comprehension and early writing. However, phonological awareness emerged as the weakest area, highlighting the need for targeted interventions to strengthen foundational literacy skills.
2. Pupils have moderate numeracy skills, excelling in number recognition and counting but struggling with basic operations and problem-solving. This highlights the importance of hands-on, guided activities to build mathematical reasoning and problem-solving abilities.

3. Children display strong socio-emotional development, particularly in confidence, motivation for learning, and peer interaction. These strengths suggest that socio-emotional growth serves as a critical foundation for academic success in literacy and numeracy.
4. Literacy readiness and numeracy skills develop independently in early childhood. Both areas remain essential for school readiness but require distinct instructional approaches.
5. Literacy activities not only enhance academic skills but also foster confidence, self-regulation, and positive peer interactions, supporting holistic child development.
6. Early math activities contribute not only to cognitive development but also to persistence, cooperation, and emotional regulation, reinforcing the interconnectedness of learning and socio-emotional competencies.
7. The proposed action plan emphasizes strengthening weak areas such as phonological awareness and problem-solving while sustaining socio-emotional strengths. Integrating literacy and numeracy instruction with socio-emotional learning ensures balanced development and prepares children more effectively for formal schooling.

RECOMMENDATIONS

In view of the study's findings and conclusions, the following recommendations are hereby presented:

1. Teachers should strengthen phonological awareness through daily rhyming, sound games, and phoneme recognition activities.
2. Teachers should reinforce problem-solving in numeracy by using hands-on tasks, puzzles, and guided practice.
3. Parents should support literacy at home by reading aloud, practicing rhymes, and encouraging early writing.
4. Parents should reinforce numeracy through everyday activities like counting, measuring, and shopping tasks.
5. Schools should provide balanced programs that integrate literacy, numeracy, and socio-emotional development.
6. School administrators should invest in teacher training, progress monitoring, and resources for literacy and numeracy interventions.
7. Pupils should actively engage in literacy and numeracy activities, practice teamwork, and celebrate small achievements to build confidence.

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