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Basic Mathematics Literacy Skills of Grade 3 Learners in Cabiao, Nueva Ecija: Basis for Developing a Literacy Enhancement Program

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Abstract—This study assessed the basic mathematics literacy skills of Grade 3 learners in Cabiao, Nueva Ecija as a basis for developing a Mathematics Literacy Enhancement Program. The study employed a descriptive quantitative research design using a validated assessment instrument. Data gathered were analyzed using the weighted mean. Findings revealed that the learners demonstrated a Very High level of mathematics literacy skills across all assessed domains. Foundational understanding and numeracy skills obtained the highest weighted mean, indicating strong mastery of fundamental mathematical concepts and numerical competencies. In contrast, problem-solving skills obtained the lowest weighted mean among the three domains, although it remained within the Very High level. The findings suggest that learners possess strong mathematics literacy skills and are capable of applying mathematical concepts effectively. Based on the results, a Mathematics Literacy Enhancement Program focusing on problem-solving was developed to sustain and further strengthen learners' critical thinking, analytical reasoning, and mathematical performance while maintaining their very high level of mathematics literacy.

***Index Terms*—Polytechnic University of the Philippines, Cabiao Campus, Bachelor of Elementary Education, Basic Mathematics Literacy of Grade 3 Learners, Foundational Understanding, Problem Solving, Numeracy.**

1. The Problem and its Setting

A. Introduction

One of the fundamental objectives of Mathematics education is to develop students' logical reasoning and critical thinking skills (Applebaum, 2015). At the elementary level, the acquisition of basic mathematical literacy including number recognition, fundamental operations, fractions, and problem-solving served as essential groundwork for more advanced mathematical learning. Despite its recognized importance, many elementary pupils continue to face challenges in mastering these foundational skills.

International and national assessments consistently revealed a concerning level of underachievement in Mathematics. Results from the Programme for International Student Assessment (PISA) and the National Achievement Test (NAT) indicated that a substantial proportion of Filipino learners performed below the minimum proficiency level in Mathematics (OCED, 2018). These findings suggest gaps in foundational numeracy skills, which can hinder students' ability to understand and engage with more complex mathematical concepts as they progress through the educational system. Mathematics literacy is essential in helping learners develop the ability to understand mathematical concepts, interpret numerical information, reason logically, and apply appropriate strategies when dealing with mathematical tasks and real-life situations. At the elementary level, these skills serve as an important foundation because learners gradually move from performing basic computations toward solving problems that require understanding, reasoning, and application. Factors contributing to these difficulties include ineffective teaching strategies, inadequate learning environments, socio-economic challenges, and negative attitudes toward Mathematics.

To address these challenges, the Department of Education (DepEd) implemented programs to strengthen early numeracy and literacy. Initiatives such as the Every Child a Reader and Numerate program aim to improve foundational skills among early-grade learners (DepEd, 2020). Project All Numerates (PAN) is a regionwide numeracy assessment initiative implemented by the Department of Education – Regional Office III (DepEd Region III) to determine learners' numeracy levels and support mathematics instruction. For School Year 2024–2025, official DepEd directives state that the PAN assessment is administered only to Grades 4 to 7 learners, while Grades 1 to 3 are assessed through the Rapid Mathematics Assessment (RMA) and continue using PAN Window Cards as part of mathematics drills, reflecting an updated policy on grade coverage for math assessment tools.

In Cabiao, Nueva Ecija, mathematics instruction for Grade 3 learners was guided by assessment-based practices implemented by DepEd. Grade 3 learners were administered the Rapid Mathematics Assessment (RMA), a diagnostic assessment designed to measure foundational numeracy skills

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and identify learning gaps in mathematics. The results of the RMA served as the basis for teachers in implementing localized, school-based instructional interventions aimed at improving learners' numeracy skills and overall mathematics performance (Department of Education, 2024).

Research emphasized that early mathematics achievement is crucial, but continuous, high-quality instruction is necessary throughout the elementary years to sustain learning and close achievement gaps (National Council of Teachers of Mathematics, 2016). Localized challenges, such as limited resources and contextual barriers, may have reduced the effectiveness of national programs (Ganal&Guiab, 2021).

As Bachelor of Elementary Education (BEED) students, conducting this research serves as an essential part of the researchers' academic and professional preparation in the field of mathematics education. This study aims to contribute to mathematics pedagogy by assessing the basic mathematics literacy skills of Grade 3 learners in Cabiao, Nueva Ecija and utilizing the findings as a basis for developing a context-specific Literacy Enhancement Program. Conducted under the formal authorization of the Polytechnic University of the Philippines–Cabiao Campus, this research adheres to ethical standards by ensuring informed consent, voluntary participation, and the confidentiality of all participants.

Given this context, this study seeks to assess the mathematical literacy skills of Grade 3 learners in Cabiao, Nueva Ecija. By focusing on their competencies in foundational understanding, problem-solving, and numeracy, the research aimed to generate data that will inform the development of a context specific literacy enhancement program tailored to the needs of local learners.

B. Theoretical Framework

This study was guided by three important learning theories that explained how Grade 3 pupils developed their skills in mathematics: Piaget's Cognitive Development Theory, Vygotsky's Sociocultural Theory, and Bruner's Constructivist Theory. These theories will serve as the foundation of the study and will be shown in Figure 1.

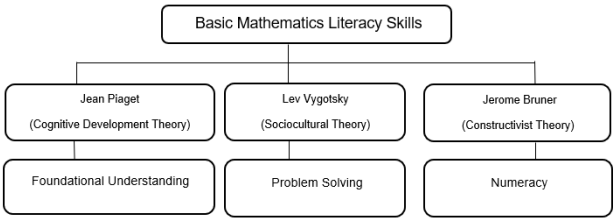

Fig. 1. Theoretical paradigm

According to Jean Piaget, children in Grade 3 will belong to the Concrete Operational Stage (ages 7–11). At this age, they will already think more logically about real and concrete situations (McLeod, 2023). They classified objects, will arrange things in order, and understand simple number operations. This was important because it explained how learners built their foundational understanding in math. It meant they were ready to learn and apply basic Mathematical concepts at this stage.

Lev Vygotsky's Sociocultural Theory highlighted the role of social interaction in learning. He explained that children learned better when they were guided by teachers or were helped by classmates. This idea was called the Zone of Proximal Development (ZPD) and scaffolding (Cherry, 2023). This directly connected to pupils' problem-solving ability since they were able to solve more difficult math problems when they received proper guidance and support. In other words, teamwork and teacher assistance played a big part in improving their skills.

Jerome Bruner's Constructivist Theory also helped explain how children learned math. Bruner (1966) stated that learners went through three stages: enactive (learning by doing), iconic (learning with pictures or images), and symbolic (learning with abstract symbols like numbers). This supported the development of numeracy, because learners moved step by step first by using objects to count, then by using pictures, and finally by solving number sentences and equations.

As shown in Figure 1, when three theories combined, these three skills formed the mathematics literacy skills of Grade 3 learners. The integration of these theories provided a comprehensive basis for understanding how learners developed their mathematical competencies. The results of this study were used as the basis for creating a Mathematics Literacy Enhancement Program that addressed their needs and improved their competencies in Mathematics.

C. Conceptual Framework

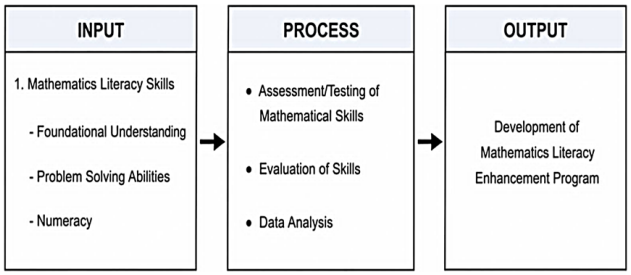

Fig. 2. Conceptual paradigm

This study adopted the Input-Process-Output (IPO) model to serve as the foundation of its conceptual framework. The IPO model provided a structured and systematic approach for identifying existing conditions, implementing targeted processes, and achieving desired outcomes.

The Input of this study consisted of the Mathematics literacy skills of Grade 3 learners, specifically their foundational understanding of mathematical concepts, problem-solving abilities, and numeracy skills.

The foundational understanding of mathematical concepts is anchored on Jean Piaget's Cognitive Development Theory, which explains that Grade 3 learners are in the Concrete Operational Stage. At this stage, the learners develop logical thinking and understand concepts best through concrete experiences involving real objects and situations. This allows learners to apply logical reasoning and establish connections between mathematical concepts and concrete real-life experiences. In this study, Piaget's theory supported the assessment of learners' ability to recognize numbers,

understand basic mathematical concepts, and perform fundamental operations, emphasizing that meaningful learning occurs when instruction is linked to concrete experiences.

The problem-solving abilities of learners are guided by Lev Vygotsky's Sociocultural Theory, which emphasizes that cognitive development occurs through social interaction and guided instruction. His concept of the Zone of Proximal Development (ZPD) highlights that learners can accomplish more complex tasks with the assistance of teachers, peers, or more knowledgeable others. In this study, this theory was reflected in the assessment of learners' mathematical problem-solving skills, which often require scaffolding, guidance, and collaborative learning to enhance reasoning and analytical thinking.

The numeracy skills of learners are supported by Jerome Bruner's Constructivist Theory, which proposes that learners construct knowledge through active engagement with learning experiences. Bruner emphasized that learning progresses through three modes of representation: enactive (learning through concrete actions), iconic (learning through visual representations), and symbolic (learning through abstract symbols).

In this study, Bruner's theory was applied in assessing learners' numeracy skills in multiplication and division through symbolic representations, as reflected in the paper-and-pencil questionnaire. Although the assessment focused on symbolic computation using numbers and mathematical operations, learners' ability to perform these tasks is developed through earlier experiences involving concrete manipulation of objects and understanding of basic numerical relationships. This highlights that mastery of multiplication and division are rooted in prior learning experiences that gradually lead to symbolic mathematical thinking.

The Process involved a systematic evaluation of these skills through diagnostic assessments and structured testing. The results were analyzed to identify specific areas of strength and weakness among the learners. This phase focused on understanding the depth of learners' Mathematical knowledge and the specific gaps that needed to be addressed.

The Output was the development of a Mathematics Literacy Enhancement Program tailored to the needs identified during the assessment phase. This program included targeted learning strategies, instructional activities, and interventions aimed at addressing the gaps in learners' understanding while also strengthening their existing skills. The ultimate objective will be to improve the overall Mathematics literacy of Grade 3 learners, equipping them with the necessary skills for continued academic success.

By utilizing the IPO model, this study ensured a clear and logical flow from identifying learner needs to implementing an evidence-based intervention designed to produce measurable improvements in mathematical literacy.

D. Statement of Problem

This study sought to determine the basic mathematics literacy skills of Grade 3 learners in Cabiao, Nueva Ecija as a basis for developing a literacy enhancement program. Specifically, it aimed to answer the following questions:

1. What was the respondents' current level of mathematics literacy skills in terms of:
    1. foundational understanding;
    2. problem solving abilities; and
    3. numeracy
2. What mathematics literacy program might be developed?

E. Scope and Limitations of the Study

For the academic year 2025–2026, this study evaluated the fundamental mathematical literacy abilities of grade 3 learners in Cabiao, Nueva Ecija. It emphasized students' numeracy, problem-solving abilities, and fundamental knowledge. Only grade 3 pupils were allowed to participate in the study. Other factors including parents' educational experience, study habits, and learning styles were not included, as well as students from different grade levels. A Mathematics Literacy Enhancement Program was developed based on the findings of the study, which was carried out during the 2025–2026 academic year.

F. Significance of the Study

The results of the study were beneficial to the following:

For learners, this study will help learners become more aware of their current literacy skills level and recognize their strengths. It also aim to assist them in overcoming difficulties in mathematics and in building greater confidence in the subject.

For teachers, this study will provide information to elementary school teachers so that they could identify ways to help a student develop their literacy skills in class, allowing them to design better teaching strategies and activities to support learners.

For future researchers, this study will serve as a source of material for others who wished to carry out research in related fields. Researchers were able to enhance this study to better contribute to the body of knowledge on mathematical literacy.

G. Definition of Terms

For a better understanding of this study, the following terms were defined in the context of this research.

Basic Mathematics Literacy Skills. The ability of Grade 3 learners to understand and apply basic mathematics concept and operation covering foundational understanding, problem solving, and numeracy.

Foundational Mathematics Understanding. Learners' basic knowledge of numbers, operations, and simple mathematical concepts that as the basis for higher learning.

Mathematics Literacy. The ability of Grade 3 learners to understand and apply mathematical concepts in real-life situations, including reasoning and problem solving.

Mathematics Literacy Skills Enhancement Program. A proposed intervention program designed to strengthen learners' basic math understanding, problem-solving, and numeracy.

Mathematics Performance. The learners' level of achievement in mathematics based on test results and assessments.

Numeracy. The practical use of numbers in daily life, such as

counting, measuring, and simple calculations.

Problem-Solving Ability. The skill to apply math concepts in solving word problems and real-life mathematical tasks.

2. Review of Literature and Studies

This section provides a summary of the literature relevant to the study question discussed in the preceding chapter. To provide readers with a comprehensive understanding of the research, this chapter highlighted the related review and studies on the Basic Mathematics Literacy Skills of Grade 3 learners in the district of Cabiao, Nueva Ecija.

A. Foundational Mathematics Understanding

Foundational understanding formed the cornerstone of both literacy and numeracy development, serving as the essential base upon which more complex cognitive skills were built. It involved not only the acquisition of basic concepts and skills but also the ability to apply them meaningfully in various learning contexts. Strengthening this foundational knowledge was critical to ensuring long-term academic success across disciplines.

Igarashi, Maulana, and Suryadarma (2024) emphasized the role of mother tongue-based instruction in enhancing learners' foundational understanding. Their study, conducted in the Philippines, found that early grade students achieved higher proficiency in reading comprehension and arithmetic when instruction was delivered in a familiar language. This highlighted the significance of conceptual clarity in the early years and affirmed that language accessibility directly supported learners' grasp of basic literacy and numeracy concepts.

Building upon this, National Council of Teachers of Mathematics (2014) explored the relationship between foundational understanding and mathematical literacy among primary school students. Their findings indicated that students who had mastered basic number operations and conceptual knowledge demonstrated stronger performance in problem-solving and logical reasoning tasks. This suggested that foundational understanding needed to go beyond rote memorization and instead emphasized both procedural fluency and conceptual depth. The study advocated for teaching strategies that deliberately integrated these dimensions to support meaningful learning outcomes.

While foundational understanding supported learning progression, its absence led to significant academic barriers. Mutia (2025) examined the challenges students faced in understanding complex mathematical concepts such as rational algebraic expressions, systems of equations, and geometric proofs. The study identified core issues rooted in weak foundational skills specifically in basic operations, algebraic manipulation, and logical reasoning. Additional factors such as math anxiety, ineffective instructional methods, and limited conceptual understanding compounded these difficulties. To address these gaps, Mutia proposed the MATH Framework—Mastery, Application, Tailored Support, and Holistic Engagement as a comprehensive approach to improving students' mathematical competence through strengthened foundational knowledge and collaborative support systems.

Complementing these findings, Dy and Nistal (2024) conducted a local study assessing the mathematics proficiency of Grade 3 pupils in Cagayan de Oro City during the 2022–2023 school year. This study highlighted the importance of understanding the factors that influence learners' mathematics proficiency. Utilizing a descriptive research design with 150 respondents, the study examined the influence of home language, study habits, parental involvement, and attitudes toward mathematics on learners' proficiency levels. Results revealed significant correlations between mathematical performance and factors such as study habits, parental support, and student attitudes while the language used at home showed no significant relationship. The study recommended that teachers incorporate literacy strategies, game-based learning, and regular lesson reviews to improve student outcomes. These recommendations aligned with prior research advocating for engaging, learner-centered approaches to foundational mathematics instruction.

Collectively, these studies affirmed the critical role of foundational understanding in mathematics as a determinant of student success. They further emphasized that learners needed sufficient opportunities to develop and apply basic mathematical concepts through meaningful learning experiences. They highlighted the need for targeted instructional strategies, supportive learning environments, and contextually relevant teaching practices that cultivated deep conceptual understanding from the early grades. Addressing foundational gaps not only enhanced academic performance but also prepared learners for more advanced mathematical thinking and real-world problem-solving.

B. Problem Solving Ability

Problem-solving ability played a crucial role in developing students' analytical thinking and decision-making skills. It helped learners apply mathematical concepts to different situations and develop appropriate strategies for solving mathematical tasks. It enabled them to analyze given information, identify relevant details, and determine the most suitable approach to a problem. It also encouraged learners to explain their reasoning and evaluate whether their solutions were appropriate. Developing problem-solving ability was particularly important in elementary mathematics because learners gradually progressed from basic computation to more complex and unfamiliar mathematical situations. Through continuous practice, learners could strengthen their ability to reason logically and apply mathematical knowledge with greater confidence. It was considered one of the core components of literacy and numeracy, as it required both conceptual understanding and logical reasoning. A systematic review and meta-analysis by Educational Psychology Review (2024) highlighted how task characteristics such as linguistic complexity, number of operations, and presence of irrelevant information significantly influenced students' problem-solving performance. Tasks with high linguistic complexity tend to hinder learners' focus on mathematical relationships, indicating that effective problem-solving requires more than

computational skill.

Building on this, Zainiyah and Marsigit (2019) emphasized the importance of real-life context in fostering students' mathematical literacy. Their study found that incorporating real-world scenarios into problem-solving instruction increased student engagement, persistence, and confidence. Learners exposed to contextualized mathematical tasks were better equipped to handle complex problems, underlining the need for teaching approaches that integrate meaning and application, rather than relying solely on abstract drills.

Similarly, Liljedahl et al. (2016) argued that problem-solving serves as the heart of mathematics education, acting as a bridge between abstract concepts and real-world applications. In elementary classrooms, this often took the form of word problems that encouraged students to translate everyday situations into mathematical expressions. Such activities not only supported concept application but also deepened understanding through reasoning and justification (Chamberlin et al., 2022). Chamberlin and colleagues further emphasized the value of non-routine problems in developing students' mathematical modeling skills a competency that gains importance as students progressed to higher levels of education.

The developmental nature of problem-solving ability was also affirmed by studies that explored how learners moved from basic skill acquisition to higher-order thinking. For instance, Zainiyah and Marsigit (2019), along with Aguila (2020), underscored that structured learning experiences grounded in real-life situations fostered both reasoning and comprehension. Aguila (2020) introduced the SQRQCQ strategy (Survey, Question, Read, Question, Compute, Question) to Grade 3 learners, enabling them to approach word problems more systematically. The strategy helped students improve not just in computation, but also in understanding problem contexts critical for solving increasingly complex mathematical tasks. Despite the strong emphasis on problem-solving in curriculum standards, Lester and Cai (2016) noted a lack of consensus on which instructional strategies are most effective in promoting this skill. This signals a persistent research gap in designing pedagogical approaches that support diverse learners in developing both procedural fluency and conceptual understanding.

Addressing this gap, Soriano, Guanlao, and Gadia (2021) applied Polya's four-step problem-solving model: understand the problem, devise a plan, carry out the plan, and look back to evaluate Grade 3 learners' problem-solving processes. Their findings revealed that while students performed well in the initial phases of understanding and planning, they required further guidance in executing and evaluating solutions. This emphasized the importance of scaffolding and differentiated instruction in supporting learners through each stage of the problem-solving process.

Beyond classroom-based studies, broader syntheses of empirical research offered valuable insight into how task design impacted performance. The meta-analysis by Educational Psychology Review (2024) reiterated that factors like linguistic difficulty and irrelevant information could obscure mathematical relationships, leading to lower student performance. This further supported the idea that problem-solving was a multidimensional skill; blending cognition, comprehension, and strategic thinking.

In support of rigorous research efforts, Donthu et al. (2021) and Taufik et al. (2019) advocated for the use of systematic literature reviews to identify patterns, gaps, and trends in educational research. Mengist et al. (2020) added that meta-analytic approaches provided quantifiable evidence across studies, making findings more generalizable and actionable for curriculum development. Such research methodologies enhanced our understanding of problem-solving instruction by consolidating findings from diverse classroom contexts.

In the Philippine context, the 2019 Trends in International Mathematics and Science Study (TIMSS) revealed that Filipino Grade 4 students performed significantly below the international average in both Mathematics and Science. Only 19% reached the low benchmark in Mathematics, suggesting that most students lacked basic mathematical knowledge and struggled with even simple problem-solving tasks. The results indicated foundational gaps not just in computation but also in understanding and applying mathematical concepts to real-world scenarios. (Mullis et al., 2020).

In response, the Department of Education (DepEd) implemented policies to improve early numeracy skills. DepEd Order No. 18, s. 2017—building on Order No. 12, s. 2015 outlined the professional development framework under the Early Language, Literacy, and Numeracy Program. This initiative aims to enhance teaching strategies in Kindergarten to Grade 3 by building teachers' capacity to implement context-driven, learner-centered approaches. By improving instruction at the foundational level, the program sought to foster problem-solving skills that are essential for lifelong learning. (Department of Education, 2017).

Within the classroom, problem-solving is being reinforced through visual representations, structured questioning, and strategic scaffolding. These approaches helped students develop clarity in understanding the problem situation, identify relevant information, and determine suitable strategies for solution. Aguila's (2020) implementation of the SQRQCQ model showed that structured steps in problem-solving improved both comprehension and execution among young learners. Similarly, the work of Soriano, Guanlao, and Gadia (2021) confirmed that students benefited from guided strategies that address both procedural and conceptual aspects of mathematics.

Taken together, these findings reinforced the idea that developing problem-solving skills required both strategic instruction and appropriate task design. Teachers played a crucial role in facilitating metacognitive awareness guiding learners to think about their thinking as they worked through complex problems. Effective teaching therefore went beyond formulas and procedures, aiming instead to cultivate critical thinking, persistence, and flexibility in mathematical reasoning.

A local study was conducted to determine the problem-solving skills and the level of conceptual and procedural knowledge of Grade 3 learners in Mathematics. Using a descriptive research design, a researcher-made test was

administered to 105 purposively selected students. The results revealed that learners demonstrated outstanding skills in understanding the problem and devising a plan, satisfactory performance in carrying out the plan, and very satisfactory performance in looking back or reviewing their work. Furthermore, learners showed outstanding performance on easy problems, but only satisfactory performance on average and difficult items. These findings emphasized the importance of sustained instructional support to develop higher-level problem-solving competencies and conceptual understanding among primary students.

C. Numeracy

Numeracy was widely recognized as a fundamental skill essential for everyday life and academic success. It encompasses the knowledge, skills, practices, and attitudes necessary for understanding and applying mathematical concepts in a variety of real-world contexts (Victorian Curriculum and Assessment Authority, 2017).

Empirical studies examining the numeracy abilities of elementary students highlighted persistent challenges in achieving proficiency, particularly in the early grades. Cruz and Reyes (2023) conducted a quantitative study using the Makati Localized Assessment Tool to evaluate the numeracy levels of students from Grades 1 through 3 at Jose Magsaysay Elementary School. Despite an eight-week intervention aimed at improving skills, significant gains only were observed in Grade 1 learners, while Grades 2 and 3 showed no statistically meaningful improvement. This finding underscored the need for more sustained and differentiated instructional strategies, such as additional drills, individualized tutoring, enhanced learning materials, and greater parental involvement, to address the diverse learning needs of students effectively.

Supporting this, Tallud S. M.,and Caballes D. G. (2023) reported similar results from their assessment of numeracy skills in the same school context, reiterating the limited impact of short-term interventions for older primary students and emphasizing the importance of tailored support to bridge numeracy gaps. In contrast, Celemin Glendell (2023) demonstrated that authentic performance tasks could significantly improve numeracy proficiency among Grade 3 learners, with notable progress in addition and subtraction, although difficulties remained in multiplication and division. This suggested that while authentic, contextualized learning experiences are beneficial, targeted interventions are necessary to address specific skill deficits.

Further investigations by Rediani, N. N. (2024) revealed that Grade 3 students displayed particularly low numeracy literacy related to measurement concepts such as length, time, and area. The study attributed these weaknesses to teachers' limited use of concrete materials and hands-on instructional methods, indicating that pedagogical approaches played a critical role in numeracy development. Similarly, Talento (2024) identified basic operations and problem-solving as key areas of difficulty for Grade 3 learners. The study advocated for the incorporation of locally relevant and context-based materials to enhance engagement and comprehension, reinforcing the importance of culturally and contextually appropriate teaching resources.

Adding to the growing body of evidence on effective numeracy interventions, Varron, R. (2021) investigated the impact of a targeted numeracy intervention on the mathematical performance of Grade 3 pupils. Employing a quasi-experimental design with pre- and post- testing, the study found significant improvements in students' post- intervention scores following a focused four-week program targeting essential learning competencies. This underscored the potential effectiveness of well-structured, targeted numeracy interventions in enhancing foundational math skills among elementary learners.

The significance of numeracy skills is further emphasized by international assessments, which reveal systemic challenges in the Philippines. The Trends in International Mathematics and Science Study (TIMSS) 2019 positioned Filipino fourth graders near the bottom among 58 participating countries, with only 19% reaching a basic level of mathematical understanding (Mullis et al., 2020). Likewise, the Program for International Student Assessment (PISA) 2018 ranked the Philippines second to last in mathematics out of 79 countries, highlighting widespread deficiencies in numeracy education (OECD, 2019).

The students struggling with numeracy in early schooling tended to continue facing challenges throughout their academic journey, reinforcing the critical need for early, effective interventions. In response to these challenges, the Department of Education (DepEd) has initiated programs such as the Every Child a Reader Program (ECARP), guided by Department Orders No. 18, s. 2017, and No. 12, s. 2015, aimed at enhancing literacy and numeracy skills from Kindergarten to Grade 3 (Department of Education, 2017). These initiatives focus on sustainable professional development for teachers and the provision of quality, contextually appropriate educational resources aligned with the K to 12 Basic Education Curriculum. Collectively, these studies and initiatives illustrated the multifaceted nature of numeracy development and the pressing need for comprehensive, context-sensitive approaches to instruction and intervention. Early foundational skills, reinforced by ongoing support and authentic learning experiences, are essential to bridging numeracy gaps and promoting lifelong mathematical competence.

D. Synthesis of the Reviewed Literature and Studies

The literature consistently highlighted foundational mathematics understanding as the critical base for developing both literacy and numeracy skills. This foundational knowledge involved not only mastering basic arithmetic operations but also acquiring deep conceptual understanding that allowed learners to apply mathematical ideas meaningfully in diverse contexts. Research by Igarashi, Maulana, and Suryadarma (2024) underscored the effectiveness of mother tongue-based instruction in improving early learners' comprehension and proficiency, demonstrating that language accessibility significantly supported the acquisition of foundational skills. Conversely, inadequate foundational understanding contributed to ongoing difficulties in mathematics learning, compounded by ineffective instructional methods and student anxiety, which

calls for more tailored and supportive teaching approaches (Mutia, 2025).

Problem-solving was identified as an essential component of mathematical literacy, requiring students to integrate cognitive skills such as comprehension, logical reasoning, and strategic thinking. The complexity of problem-solving tasks particularly those with high linguistic demands or irrelevant information could hindered learners' ability to focus on mathematical relationships, suggesting that proficiency depended on more than computational ability alone (Educational Psychology Review, 2024). Incorporating real-life contexts and structured approaches, such as the SQRQCQ strategy, was shown to improve learners' engagement, persistence, and systematic problem-solving skills (Aguila, 2020; Zainiyah & Marsigit, 2019). However, research indicated that students often need ongoing guidance to effectively execute and evaluate solutions, underscoring the importance of scaffolding and differentiated instruction throughout the problem-solving process (Soriano, Guanlao, & Gadia, 2021). Providing such support can help learners develop greater independence and confidence when approaching challenging mathematical problems.

These findings align with national assessments like TIMSS, which revealed that Filipino learners struggled not only with computations but also with applying mathematical knowledge in complex problem scenarios.

Numeracy, defined as the capacity to understand and use mathematics in real-world contexts, was closely tied to foundational understanding and problem-solving skills. Empirical studies pointed to persistent challenges in numeracy proficiency, especially in learners beyond the initial grades, where short-term interventions often yielded limited gains (Cruz & Reyes, 2023; Tallud & Caballes, 2023). Effective numeracy development was linked to authentic performance tasks and hands-on, culturally relevant teaching practices, which improved student motivation and helped address specific deficits, particularly in multiplication, division, and measurement concepts (Celemin, 2023; Rediani, 2024; Talento, 2024). Systemic challenges were further reflected in international benchmarking, such as PISA and TIMSS, where Filipino students ranked low in numeracy achievement. These outcomes emphasized the urgent need for sustained, context-sensitive instructional programs, as promoted by the Philippine Department of Education's initiatives aimed at strengthening foundational literacy and numeracy (DepEd, 2017).

Together, these studies demonstrated that foundational mathematics understanding, problem-solving ability, and numeracy skills were deeply interconnected and required comprehensive, learner-centered instructional approaches. Effective teaching should have emphasized not only procedural fluency but also conceptual understanding, engagement, and metacognitive strategies that fostered critical thinking and real-life application. These approaches enabled learners to connect mathematical concepts with meaningful situations and apply their knowledge beyond the classroom. They also provided opportunities for learners to develop confidence and independence when completing mathematical tasks. Continuous assessment and feedback were equally important in identifying learners' strengths and areas that required further development. By considering these aspects, teachers could provide learning experiences that were responsive to the varying abilities and needs of elementary learners. The ongoing challenges observed in contexts such as Cabiao, Nueva Ecija, highlighted the necessity for targeted enhancement programs that are culturally and contextually appropriate. Such programs should have incorporated accessible language instruction, interactive and authentic learning experiences, scaffolded problem-solving support, and sustained interventions to address diverse learner needs, ultimately promoting improved academic outcomes and lifelong mathematical competence.

3. Methodology

This section presents the methodology of research, population and sample size, sampling technique, description of respondents, research instrumentation, the data gathering procedures, statistical treatment of the study, and conclusion.

A. Method of Research

The researchers used a descriptive type of research, also known as survey or statistical research, which utilized a questionnaire to gather information about the basic mathematics literacy skills of Grade 3 learners in Cabiao, Nueva Ecija. A survey-questionnaire method was employed, where the respondents answered questions based on the statement of the problem formulated in this study. This method helped the researchers obtain accurate data that served as the basis for developing a literacy enhancement program for the learners.

B. Population, Sample Size, and Sampling Technique

The population of the study consisted of all Grade 3 pupils enrolled in three public elementary schools in Cabiao during the school Year 2025–2026. These schools were Polilio Elementary School, Palasinan Elementary School, and Bagong Silang Elementary School.

The researcher used Cochran's Formula for sample computation to determine the appropriate number of respondents. This formula is commonly used when the population is large or when the exact population size varied.

$$n = \frac{n_0}{1 + \left(\frac{n_0 - 1}{N}\right)}$$

Where:

- n_0– initial sample size from Cochran's Formula
- N – total number of population
- n – corrected sample size

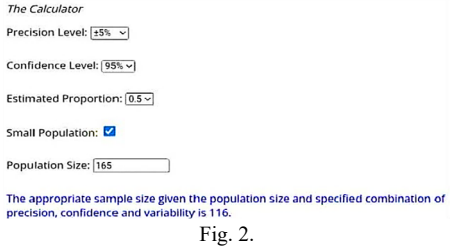

Fig. 2.

Table 1
Total number of population and sample size of the respondents

Name of School	Total Number of Population	Sample Size
Palasinan Elementary School	58	41
Polilio Elementary School	39	27
Bagong Silang Elementary School	68	48
Total	**165**	**116**

The appropriate sample size, given the population size and specified combination of precision, confidence, and variability, was 116. To find the sample size for each school, the researcher computed the average percentage by dividing the total sample size by the total population. The result was 70.30%.

$$GA = \frac{sample\ size}{total\ number\ of\ population}$$

$$GA = \frac{116}{165}$$

GA = 0.7030 or 70.30%

Table 1 presents the total population and sample size. The table is divided into three columns, the first column contained the name of the selected schools in Region District of Cabiao, which are Palasinan Elementary School, Polilio Elementary School and Bagong Silang Elementary School. The second column listed the total number of Grade three (3) learners in each school, with a total population of One Hundred Sixty Five (165) students and the last column displayed the sample size of One Hundred Sixteen (116).

The total population included One Hundred Sixty Five (165) pupils, distributed as follows: Thirty Nine (39) pupils from Polilio Elementary School, Fifty Eight (58) pupils from Palasinan Elementary School and Sixty Eight (68) pupils from Bagong Silang Elementary School. To determine the number of respondents the researchers used Cochran's formula, which resulted in One Hundred Sixteen (116) out of One Hundred Sixty Five (165) as the sample size with a margin of error of 0.05.

The researchers employed a systematic sampling technique in selecting the respondents. This technique was used to obtain a representative sample from the total population of Grade 3 learners in the three selected schools. Using this method, the researchers listed all Grade 3 learners and selected every third (3rd) learner from the list until the desired sample size was reached.

This technique was chosen because it is simple, efficient, and ensured that each learner had an equal and unbiased chance of being included in the study. It also helped the researchers gather accurate data that truly represented the learners' level of mathematics literacy within the three schools in Cabiao, Nueva Ecija.

C. Description of Respondents

The respondents of this study are the Grade 3 learners from three selected elementary schools in Cabiao, Nueva Ecija, namely Polilio Elementary School, Palasinan Elementary School, and Bagong Silang Elementary School from the School Year 2025-2026. The study initially targeted a total population of 165 Grade 3 Learners, but the final sample size consisted of 116 respondents who were selected through systematic sampling. This sampling method was used to ensure that the respondents were chosen fairly and systematically from the total population of learners. The respondents were distributed across the three selected schools based on their respective Grade 3 populations, allowing the study to represent learners from different school settings.

These learners were assessed in terms of their foundational understanding, problem-solving abilities, and numeracy, which are essential components of basic mathematics literacy. The assessment aimed to identify the current level of mathematics literacy skills of the respondents and determine the areas where learners may need additional support and improvement in mathematics.

The majority of the respondents are 8 to 9 years old, and they include both male and female pupils. At this stage, learners are expected to strengthen their understanding of basic mathematical concepts and develop important numeracy skills needed in their daily learning experiences. Their performance in basic mathematics literacy skills serves as the basis for developing a Literacy Enhancement Program for Grade 3 learners in the selected schools.

D. Research Instrument

This study used a survey questionnaire to gather data. A survey was a method of collecting and analyzing information from a group of people, while a questionnaire was the set of questions used to gather the needed information. The instrument used was designed to assess the basic mathematics literacy skills of Grade 3 learners based on the objectives of the study.

The questionnaire was composed of three parts. The first part will measure the learners' foundational understanding, the second part will assess their problem-solving ability, and the third part will evaluate their numeracy skills. The items in each part were developed to correspond to the specific mathematics literacy skills being assessed and were reviewed to ensure their appropriateness to the Grade 3 learners.

The researchers also used a scoring system, where each correct answer received 1 point and an incorrect answer received 0 points. This was designed to measure the level of mathematical literacy of Grade 3 learners.

The questionnaire was scored using a dichotomous scoring system, where each correct answer receives 1 point and each incorrect answer receives 0 points. No partial credit was given. Total scores for each learner were summed for each skill area (Foundational Understanding, Problem Solving, Numeracy). Mean scores were then computed to determine the level of mathematics literacy.

The instrument used in this study was a test-type

questionnaire. The computed mean scores were subsequently converted into four-point scale based on the established interpretation ranges to facilitate data analysis and interpretation.

The corresponding scale values were then used in computing the weighted mean for each skill area and for the overall level of mathematics literacy. The interpretation scale is as follows:(0.76-1.00) Very High; (0.51-0.75) High; (0.26-0.50) Low; (0.00-0.25) Very Low.

E. Validation of the Instrument

The validity of a research instrument refers to the extent to which it measures what it is intended to measure. According to the American Educational Research Association, American Psychological Association, and National Council on Measurement in Education (2014), validity is essential in ensuring that research instruments are appropriate, accurate, and aligned with the purpose of the study. It guarantees that the tool properly measures the intended skills or competencies.

In this study, the research instrument designed to assess the basic mathematics literacy skills of Grade 3 learners was first reviewed by the thesis adviser for content accuracy and clarity of learners. Based on her recommendations, some items were revised to improve clarity and appropriateness for Grade 3 learners. After the initial revision, the instrument was validated by two expert validators who checked the content validity, structure, and appropriateness of the test items for Grade 3 learners. Minor revisions were suggested, particularly in simplifying instructions and ensuring clarity of items, to make the instrument more understandable for the respondents.

The revised instrument was then resubmitted and reviewed again until it was approved. After the validation process, the instrument was submitted to the University Research Ethics Committee (UREC) of the Polytechnic University of the Philippines–Cabiao Campus for ethical review. The committee evaluated the instrument to ensure that it followed ethical standards, particularly on informed consent, confidentiality, and the protection of participants' rights. After compliance with all ethical requirements, the UREC granted ethics clearance, allowing the instrument to be used in the actual data gathering.

With the approval of the thesis adviser and the ethics clearance from UREC, the instrument was finalized and approved for use in the study. All comments and suggestions from validators were carefully considered and incorporated to ensure that the instrument is valid, ethical, and appropriate for assessing the basic mathematics literacy skills of Grade 3 learners.

F. Data-Gathering Procedures

The initial phase of data collection involved conducting a pilot test of the research instrument among a small group of Grade 3 learners from a school not included in the main study to determine its clarity and suitability. The results were analyzed using mean to assess the appropriateness of the instrument, and necessary revisions were made based on the findings before final use. After the pilot testing and finalization of the instrument, the researchers secured approval for its use. To accomplish this, a request letter was prepared and signed by the thesis adviser. On the same day, the researchers personally submitted the request letter together with Chapter 1 to 3, the validated instrument, and the certificate of validation to the School Division Superintendent of the DepEd Division Office in Santa Rosa, Nueva Ecija. During the submission, one of the staff members asked for the researchers' contact number for follow-up regarding the status of the request.

On March 26, 2026, the researchers sent a follow-up email to the School Division Office of Nueva Ecija regarding the status of the research request. On the same day, the secretary replied and informed the researchers that the recommendation for approval had already been forwarded to the Office of the Assistant Schools Division Superintendent (ASDS) on March 24, 2026, and that the researchers may coordinate with the records section for updates and release of the signed document.

On March 30, 2026, the researchers personally visited the office for follow-up; however, they were informed that the document had not yet been signed by School Division Superintendent and that the processing would take approximately one week. On April 11, 2026, the researchers again sent a follow-up email regarding the approval of the request.

On April 13, 2026, the researchers received a response stating that the request had already been approved and could already be claimed from the records section.

After receiving the approved letter from the division office, the researchers prepared request letters for the principals of the selected elementary schools in Cabiao, Nueva Ecija: school principal of Polilio Elementary School, school principal of Palasinan Elementary School, and school principal of Bagong Silang Elementary School to ask permission to conduct the study and administer the questionnaire to Grade 3 learners for the School Year 2025–2026. After the approval of the school principals, the researchers personally distributed the questionnaires to the selected Grade 3 learners in the three elementary schools. The total population of the study consisted of 165 learners, and 116 respondents were selected through systematic sampling. During the administration of the questionnaire, the researchers personally guided the learners and explained the instructions to ensure that the respondents clearly understood each item before answering. The researchers also monitored the administration to ensure that the procedures were consistently followed across the three selected schools. After the respondents completed the questionnaire, the researchers collected and checked the accomplished instruments to ensure that the responses were properly recorded.

After gathering the data, the results were tallied according to the frequency of the answers provided by the respondents. The data gathered were analyzed and interpreted using mean to determine the basic mathematics literacy skills of Grade 3 learners. The results of the study served as the basis for developing a Literacy Enhancement Program. All procedures were conducted in accordance with ethical standards approved by the University Research Ethics Committee (UREC), ensuring confidentiality, informed consent, and protection of

Table 2
Interpretation scale

Scale	Man Range	Weighted Mean (WM)	Verbal Interpretation (VI)	Description
4	0.76 - 1.00	4 - 3.25	(Very High/Advanced/Mastered)	(Learners have mastered the basic mathematics literacy skills expected at their grade level and can perform mathematical tasks accurately and independently.)
3	0.51 - 0.75	3.24 – 2.5	(High/Developing)	(Learners demonstrate adequate mathematics literacy skills and can perform mathematical task with minimal assistance.)
2	0.26 – 0.50	2.49 – 1.75	(Low/Beginning)	(Learners show limited mathematics literacy skills and required additional guidance in performing mathematical tasks.)
1	0.00 – 0.25	1.75 – 1	(Very Low/ Needs Intervention)	(Learners have not yet acquired the essential mathematics literacy skills and require immediate intervention and support.)

Table 3
Weighted mean on respondents' level of mathematics literacy skills

Level of Mathematics Literacy Skills	Weighted Mean (WM)	Verbal Interpretation (VI)
1.1 Foundational Understanding;	3.77	Very High
1.2 Problem Solving Abilities; and	3.43	Very High
1.3 Numeracy	3.77	Very High
Overall	**3.66**	**Very High**

the respondents throughout the study and used solely for the purposes of the study and were handled responsibly throughout the research process.

G. Statistical Treatment of Data

The data gathered from the Grade 3 learners were analyzed using appropriate descriptive and inferential statistical tools to determine their level of Mathematics literacy skills of Grade 3 Learners in order to develop a Literacy Enhancement Program.

1) Weighted Mean

Weighted mean was used to determine the level of Mathematics Literacy of the respondents in terms of foundational understanding, problem-solving ability, and numeracy skills. It was applied to compute the average responses from the survey questionnaire using a 4-point scale (4–1), where each response was assigned a corresponding weight. The computed weighted mean for each scale was then compared to the predetermined interpretation scale to determine the level of Mathematics Literacy. The resulting weighted mean were also used to identify the strengths and areas that may require further enhancement among the respondents.

The formula is as follows:

$$WM = \frac{\sum fx}{N}$$

Where:
WM = Weighted Mean
f = Frequency
x = Scale Value
∑fx = Sum of the products of frequency and scale value
N = Total number of respondents Interpretation

4. Results and Discussion

This chapter presents the gathered data from the survey in tabular form with the support of the corresponding interpretations and theoretical bases.

A. Respondents' Level of Mathematics Literacy Skills

Table 3 presents the respondents' level of mathematics literacy skills in terms of foundational understanding, problem-solving abilities, and numeracy. The results reveal an overall weighted mean of 3.66, interpreted as a Very High level of basic mathematics literacy skills. This indicates that the respondents demonstrate consistently strong mathematical competence across all assessed domains. The findings further suggest that learners are not only capable of performing basic mathematical operations but also understand, interpret, and apply mathematical concepts in various academic and real-life situations.

The overall result implies that learners exhibit balanced development across conceptual understanding, procedural fluency, and application skills. This means that mathematics learning among the respondents extends beyond memorization of formulas and procedures and involves meaningful understanding, reasoning, and application of mathematical concepts. The result also suggests that learners develop mathematical literacy that allows them to function effectively in both academic tasks and everyday problem-solving situations.

The very high overall performance further indicates that instructional practices and learning experiences provided to the learners are effective in strengthening mathematics literacy. These include structured teaching approaches, guided instruction, scaffolding techniques, repeated practice, and contextualized learning activities that help learners connect mathematical concepts to real-life situations. Such learning conditions promote deeper understanding and sustained engagement in mathematics.

In terms of foundational understanding, the respondents obtain a weighted mean of 3.77, interpreted as Very High. This indicates that learners demonstrate strong mastery of essential mathematical concepts such as number identification, number comparison, missing pattern identification, and basic operations including addition and subtraction.

The result suggests that learners recognize numerical relationships and demonstrate understanding of mathematical concepts beyond simple memorization. This level of performance reflects strong conceptual grounding, which is essential for more advanced mathematical learning.

Strong foundational understanding is critical because it serves as the basis for all higher mathematical skills, including problem-solving and reasoning. Igarashi, Maulana, and Suryadarma (2024) emphasize that learners develop stronger

mathematical comprehension when instruction is accessible and meaningful, particularly when language is familiar to students. This supports the idea that comprehension improves when learners connect mathematical concepts with prior knowledge and experiences.

Mutia, R. (2025) further emphasizes that weak foundational understanding leads to difficulty in more complex mathematical areas such as algebraic thinking and multi-step problem-solving. The very high result in this study indicates that learners successfully develop strong early competencies that support future mathematical learning progression.

Dy and Nistal (2024) also highlight that foundational mathematical skills are influenced by instructional strategies, student engagement, parental involvement, and learning environment. This suggests that the strong performance observed is attributed not only to classroom instruction but also to external support systems that reinforce learning.

Similarly, the respondents obtain a weighted mean of 3.77 in terms of numeracy, also interpreted as Very High. This indicates that learners are highly proficient in performing mathematical operations such as multiplication, and division with accuracy, speed, and confidence.

According to the Organisation for Economic Co-operation and Development (OECD, 2023), numeracy involves interpreting, applying, and reasoning with mathematical information in real-world contexts. This means that numeracy extends beyond computation and includes decision-making based on quantitative information.

The very high numeracy level is attributed to consistent exposure to practice-based activities such as drills, exercises, and guided computations. These instructional strategies strengthen computational fluency and improve accuracy in mathematical operations.

Celemin, G. (2023) emphasizes that authentic, performance-based tasks enhance learners' numeracy skills by allowing them to apply mathematical concepts in realistic situations. This supports the idea that learners develop stronger numeracy skills when instruction is contextualized and meaningful.

However, Rediani, N. N. (2024) and Talento, D. (2024) note that numeracy difficulties still occur in areas such as multiplication, division, and measurement when learners lack exposure to concrete learning materials. This highlights the importance of sustained use of manipulatives, visual aids, and real-life examples.

On the other hand, the respondents obtain a weighted mean of 3.43 in terms of problem-solving ability, which is the lowest among the indicators but still interpreted as Very High. This indicates that learners are generally capable of solving mathematical problems; however, they experience difficulty when dealing with non-routine, multi-step, or word problems that require deeper analysis, interpretation, and strategic thinking.

The result suggests that learners demonstrate stronger performance in procedural tasks compared to higher-order thinking tasks. Fauzi and Widjajanti (2023) explain that learners often experience a gap between procedural knowledge and conceptual understanding, where they perform operations correctly but struggle to apply them in unfamiliar situations.

Organisation for Economic Co-operation and Development (2023) findings also show that learners perform better in routine computational tasks than in problem-solving tasks requiring reasoning and interpretation. This reflects a global trend in mathematics education.

Aguila, R. (2020) emphasizes that structured strategies such as SQRQCQ improve learners' ability to understand and systematically solve word problems. Soriano, Guanlao, and Gadia (2021) further find that learners perform better in understanding and planning stages of problem-solving but require additional support in execution and evaluation.

The slightly lower result indicates that learners still need development in strategic competence, logical reasoning, and metacognitive skills to improve performance in complex mathematical tasks.

Overall, the findings reveal that the respondents demonstrate a Very High level of Basic Mathematics Literacy Skills, with an overall weighted mean of 3.66. This suggests that the learners have developed the essential mathematical competencies needed to perform basic mathematical tasks accurately and apply their knowledge in different learning situations. This indicates that learners are highly competent in foundational understanding, numeracy, and problem-solving abilities and are well-prepared for higher-level mathematics learning.

The consistently high results across indicators suggest that effective instructional strategies are implemented in the learning environment. These include structured lessons, guided practice, scaffolding, repetition, and contextualized learning activities that make mathematics more meaningful and understandable.

The results further show that learners benefit from continuous reinforcement and repeated exposure to mathematical concepts, which strengthens accuracy, fluency, and confidence. This consistent practice supports long-term retention and application of mathematical skills.

In addition, learners demonstrate positive attitudes toward mathematics, which contributes to strong performance. A positive disposition encourages participation, persistence, and willingness to engage in challenging tasks, especially in problem-solving activities.

The findings also indicate that learners transfer mathematical knowledge into real-life situations, demonstrating functional mathematical literacy. This shows that learning extends beyond classroom exercises and is applied in everyday contexts such as budgeting, measuring, and decision-making.

However, despite the very high overall performance, the relatively lower result in problem-solving suggests the need for continued enhancement of higher-order thinking skills. Strengthening learners' abilities in analysis, reasoning, and multi-step problem-solving remains essential.

Finally, the findings highlight the importance of maintaining a balanced instructional approach that develops both computational fluency and conceptual understanding while strengthening problem-solving skills. This approach ensures that learners are not only mathematically skilled but also

Table 4
Action plan for the proposed mathematics literacy enhancement program

Program Component	Objectives	Activities/Strategies	Persons Involved	Time Frame	Expected Outcomes	Indicator
Read, Understand, and Solve (RUS)	Improve learners' comprehension of mathematical word problems	Guided analysis of contextualized word problems by identifying the given facts, asked information, and required operation	Grade 3 Teachers and Learners	Term 1	Learners correctly identify and understand mathematical word problems	Improved word-problem comprehension
Problem-Solving Strategy Sessions	Strengthen learners' ability to select appropriate mathematical operations	Implement structured problem-solving activities based on Polya's Four-Step Problem-Solving Model (Understand, Plan, Solve, Check)	Grade 3 Teachers and Learners	Term 1	Learners apply appropriate strategies in solving mathematical problems	Improved problem-solving performance
Real-Life Math Connections	Enhance application of mathematical concepts in real-life situations	Contextualized mathematics tasks involving shopping, budgeting, measurement, and classroom situations	Grade 3 Teachers and Learners	Term 2	Learners apply mathematical concepts in real-life situations	Increased participation and application skills
Math Talk Sessions	Develop reasoning and critical-thinking skills	Think-Pair-Share activities, collaborative problem solving, and solution-sharing sessions	Grade 3 Teachers and Learners	Term 2	Learners explain and justify their mathematical solutions confidently	Improved mathematical reasoning
Assessment and Feedback Activities	Monitor and evaluate learners' progress in problem-solving	Conduct post-assessment and feedback sessions to determine learners' improvement	Grade 3 Teachers and Learners	Term 3	Learners demonstrate improved mathematics literacy skills	Improved assessment results

capable of applying mathematics meaningfully in real-life situations.

B. Proposed Mathematics Literacy Enhancement Program

Table 4 presents the Proposed Mathematics Literacy Enhancement Program developed based on the findings of the study. The program was designed to sustain and further strengthen the mathematics literacy skills of Grade 3 learners, particularly in problem-solving abilities, which obtained the lowest weighted mean (3.43) among the three dimensions assessed. The program focused on providing structured and meaningful learning experiences that would allows learners to apply their existing mathematical knowledge to different problem-solving situations.

The program consists of five components: Read, Understand, and Solve (RUS), Problem-Solving Strategy Sessions, Real-Life Math Connections, Math Talk Sessions, and Assessment and Feedback Activities. These components provide learners with opportunities to improve their comprehension of mathematical word problems, apply appropriate problem-solving strategies, connect mathematics to real-life situations, develop mathematical reasoning, and monitor their learning progress. Each component was designed to compliment the learners' existing competencies while providing additional opportunities to practice and strengthen their mathematical skills. The proposed program is anchored on the findings of the study which revealed that although learners demonstrated a Very High level of mathematics literacy skills, problem-solving abilities obtained the lowest weighted mean among the variables. Through the implementation of the program, learners are expected to further strengthen their problem-solving abilities while sustaining their high level of foundational understanding and numeracy skills.

5. Summary of Findings, Conclusions, and Recommendations

This section shows a summary of the findings, conclusions, and recommendations of the study based on the data gathered and analyzed in the previous chapter. The study aimed to determine the basic mathematics literacy skills of Grade 3 Learners in Cabiao, Nueva Ecija in selected elementary public school in terms of foundational understanding, problem-solving abilities, and numeracy during the School Year 2025-2026.

A. Summary of Findings

1) Respondents' Level of Mathematics Literacy Skills.

1. In terms of foundational understanding, the Grade 3 Learners obtained a weighted mean of 3.77.
2. In terms of problem-solving abilities, the Grade 3 Learners obtained a weighted mean of 3.43.
3. In terms of numeracy, the Grade 3 Learners obtained a weighted mean of 3.77.

2) Proposed Mathematics Literacy Enhancement Program

Based on the findings of the study, a Mathematics Literacy Enhancement Program was developed. The program focuses on strengthening learners' problem-solving abilities through five components: Read, Understand, and Solve (RUS), Problem-Solving Strategy Sessions, Real-Life Math Connections, Math Talk Sessions, and Assessment and Feedback Activities. It aims to sustain the learners' Very High level of foundational understanding and numeracy while giving attention to problem-solving, which obtained the lowest weighted mean among the three assessed areas.

B. Conclusions

1) Respondents' Level of Mathematics Literacy Skills.

1. The respondents demonstrated a "Very High" level of foundational understanding, which indicates that they possess strong knowledge and understanding of basic mathematical concepts.
2. The respondents demonstrated a "Very High" level of problem-solving abilities and obtained the lowest weighted mean among the three variables.
3. The respondents demonstrated a "Very High" level of numeracy skills, indicating that they are capable of

performing multiplication and division accurately.

2) Proposed Mathematics Literacy Enhancement Program

The proposed enhancement program was designed to address the identifies needs of Grade 3 learners in problem-solving skills and further enhance their mathematical performance.

C. Recommendations

1) To Pupils

Pupils are encouraged to continue practicing mathematical activities, especially problem-solving tasks, to further strengthen their mathematics literacy skills.

2) To Teachers

1. Teachers are encouraged to continue using effective teaching strategies that help learners maintain their very high level of mathematics literacy skills.
2. Teachers may continue providing activities that develop learners' problem-solving, reasoning, and analytical skills.
3. Teachers may implement the proposed mathematics literacy enhancement program as supplementary material to further strengthen learners' problem-solving skills.

3) To Future Researchers

1. Future researchers may conduct similar studies using different grade levels or variables related to mathematics literacy skills.
2. Future researchers may further assess the effectiveness of the proposed mathematics literacy enhancement program in strengthening learners' problem-solving skills.

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