

School-based intervention programs implementation, innovative teaching strategies, and the learners' academic performance in the public elementary schools

Daisy C. Joaquin

daisy.joaquin@deped.gov.ph

University of Rizal System, Morong Campus, Rizal, Philippines, 1960

Abstract

School heads and teachers exert great effort to deliver quality instruction, yet academic challenges persist. To address bottlenecks in teaching and learning, intervention mechanisms rooted in evidence-based practices are implemented. Motivated by these concerns, the researcher examined the effectiveness of school-based intervention programs and innovative teaching strategies in public elementary schools in Laguna, and how these contribute to learners' academic performance. The study aimed to determine the implementation of intervention programs, the extent of teachers' use of innovative strategies, and the level of learners' performance for School Year 2023–2024. A total of 300 randomly selected public elementary teachers from three school divisions participated, using multistage random sampling. Data were gathered through a researcher-made questionnaire and analyzed using correlational, qualitative, and descriptive methods. Findings showed that schools were implementing literacy and numeracy programs, and teachers used innovative strategies to a very high extent. Learners' academic performance had a mean of 85.49, interpreted as "Very Satisfactory." Results indicated a significant relationship between literacy-focused interventions—such as Project REACH and Project DEAR—and learners' performance, while numeracy interventions showed no significant relationship. Innovative teaching strategies also showed no significant relationship with academic performance. The study recommends systematic planning for more effective literacy and numeracy interventions, continuous professional development for teachers, and adoption of a mastery approach for remediation. Engagement of the entire school community is encouraged. An Optimized Intervention Framework for Literacy and Numeracy Skills Enhancement is proposed, and future researchers are encouraged to conduct similar studies in other contexts.

Keywords: school-based intervention programs, innovative teaching strategies, academic performance, literacy and numeracy skills, public elementary schools

1. Introduction

Developing a well-rounded individual starts with fostering learners for a dynamic workplace by providing them opportunities to develop knowledge and skills such as creativity, adaptability, and resilience.

Thence, education is the acquisition of knowledge, skills, values, and virtue, a stepping-stone in the life of a person. It is equally an intellectual and cognitive, as well as a social, emotional and ethical process in personal development. Wherefore, the educational institution is truly committed to developing learners as well-rounded individuals involving or having experiences in a wide range of ideas or activities. Consequently, the school heads and educators put concerted efforts to effectively facilitate and implement the teaching and learning process; yet some academic impediments and challenges were being encountered.

To address bottlenecks, lags, issues, and concerns (BLICs) in terms of academic delivery and implementation, intervention mechanisms are being undertaken. Intervention is a selection of evidence-based teaching and learning processes to help learners improve their learning. This entails choosing suitable interventions to assist a particular learner make purposeful changes in his or her learning. It also addresses the

academic problems of learners.

Many issues children face in their learning are inter-connected. It might be that a child is displaying concerning behaviour, and is falling behind academically, so each intervention needs to address everyone's specific areas of need. As a result, some interventions are targeted and are put in place to address a certain weakness. These interventions are likely to be more formally monitored to track the child's progress, whereas other interventions are more flexible, and adjust according to the changing needs of the student (Hawthorne, 2023).

The implementation of school- based intervention program was a critical tool in addressing various learning difficulties and enhancing student engagement. It aims to support struggling learners and increase their academic success. When the schools have identified the areas or the learning needs of the learners to be addressed, they must integrate their data to make an informed decision about which appropriate interventions should be implemented to improve student outcomes.

In recent years, national and international education policy makers increasingly have focused on quality—what do children learn in school, and how valuable are those skills when they leave school? This emphasis is evident in the new Sustainable Development Goals (SDGs), adopted in 2015. Goal 4 is “Ensure inclusive and equitable quality education and promote lifelong learning,” and more specifically, target 4.6 states: “by 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy” (Piper et.al., 2018).

Among the learning areas, literacy and numeracy are two of the most significant skills or learning that the learners should have. Obtaining an acceptable level of it can greatly improve many factors in one's life. Strong literacy and numeracy skills lay the foundation for all learners to succeed at school, at work and their daily life. Literacy helps learners' reading, writing, speaking and listening skills through a variety of subject areas. Whereas numeracy is “the ability to understand and apply mathematical concepts, processes, and skills to solve problems and make decisions in a variety of situations, including real-life scenarios.

In connection with this, countries all around the world responded to the SDGs. Philippines was also one of the nations that positively adapted it. However, during the early years of implementation, the Department of Education went through some major adjustments.

Based on the Department of Education (DepEd) National Report, the Philippines performed poorly in the 2019 PISA (Program for International Student Assessment) rankings when compared to other comparable countries. The Philippines was identified in lowest rank reading, and second, to the lowest in Math and Science among 79 participating countries. Filipino test-takers received a total score of 340 out of 487. Only 19.4 percent of Filipino students demonstrated the required level of templating ability. The PISA findings emphasized the significance of productive education for all children considering their diversity. Furthermore, the performance of the grade five students was evaluated at selected schools in six Southeast Asian nations. The results clearly showed that the Philippines is the 2nd least performer with 10 %, grade five students' reading challenges were particularly evident on the aspects of recognizing words and understanding the text read (Mocon-Ciriaco, 2019).

Data showed that the country was one of those who were struggling in both literacy and numeracy skills. These two basic skills were very important to be mastered particularly in the literacy skills of the learners where all other acquisition of learning came from.

According to Sucena et.al., (2022) learners must learn to read. Schools must be strategic in how they implement a program. If reading difficulties are not addressed early on, there will be possibilities of jeopardizing the acquisition of new knowledge exposing students to repeated failure and decreasing their urge to acquire reading skills (Raspin et. al., 2019).

Indeed, learning to read has been difficult in many schools across the country particularly in early grades. The DepEd has created a program to address the problem called Every Child A Reader Program (ECARP). It is a long-term campaign to encourage children to read. The main goal is to produce Filipino students who can read at their current level with comprehension (DepEd Order No. 50, s. 2012).

Nowadays, innovative teaching strategy was one of the most up-to-date strategies that can be used in bridging the gaps of learning. The learners being the center of the educative process they were always considered and prioritized their learning needs and addressing their learning gaps the soonest possible.

Consequently, the DepEd continually find ways and means to cater their needs that was very crucial to be addressed at once through school-based intervention program and innovative teaching strategies to improve and uplift the learner's academic performance and to understand how these factors influence learners' academic performance as well.

Thus, school leaders are always striving to improve their practices, the quality of their educational programs, and the total school program in general. These improvements were geared towards student success, whether it be through accountability measures like high stakes testing or general programs that contribute to the overall well-being of learners.

Innovation means the "action or process of innovating, through a new method, idea, or product" (McMillan, 2021). Technology has been at the core of the most recent innovations, altering the traditional classroom. The catalyst of change is innovation. Innovation helps prepare learners for a dynamic workplace by providing them opportunities to develop skills such as literacy and numeracy skills.

Accordingly, DepEd Order No. 173 s. 2019: Bawat Bata Bumabasa Initiative -3Bs, DepEd was constantly meeting its goal of producing prolific and responsible individuals endowed with critical competencies and abilities for lifelong learning in support of the K to 12 Basic Education Program. However, Vice President and Secretary of Education Sara Z. Duterte noted that the Department strengthen Numeracy and Literacy Programs Integrate "Peace Competencies" revitalize its Reading, Science and Technology, and Math programs as part of the MATATAG: Bansang Makabata, Batang Makabansa agenda activities are still insufficient. The existing scenario in schools was being magnified to analyse the contributions of teachers in gearing toward the solution of the perennial problems in literacy and numeracy skills as the foundational skills that need first to be mastered by the learners.

Background of the Study

Being educated does not only mean having better opportunities in life. It also means being able to live life to the fullest" - John Dewey

Schools and educators today were professionally concerned with individual learner and their opportunities to learn; the greatness of the nation lies in the strength of its people. Quality education for all citizens at all levels was the mandate of the constitution of the Republic of the Philippines. From the Official Gazette (2024) as stipulated in Article XIV, Section 1 of the 1987 Constitution:

"The state shall protect and promote the rights of all citizens to quality education at all levels and shall take appropriate steps to make such education accessible to all."

Education is essential for everyone. It helps people earn respect and recognition. It is indispensable in all aspects of life (personally, socially, physically, emotionally, spiritually and intellectually). Thus, if problems and learning gaps occurred among learners, appropriate school-based intervention programs must also be implemented.

It had been noted that the weaknesses of learners were in the literacy and numeracy level. As the department shown support to these there were Division initiative programs in which the school leaders anchored their school-based intervention program as well as the innovative teaching strategies.

In 2019, the Sulong Edukalidad Program will strive for excellence in all aspects. In terms of driving instructional change in their individual schools, school leaders have the second highest influence on student learning behind classroom teachers. The Governance of Basic Education Act of 2001, also known as Republic Act 9155, which is related to this, states that the school leader, who serves as both an administrative manager and an instructional leader, is the primary actor in carrying out DepEd goals. Similarly, to know the efficiency and competency of school leaders in carrying out processes influences the integrity and quality of a school's

performance, the competence and capabilities of school leaders have reflected the extent to which programs are carried out.

In addition, to ensure literacy support among all kinds of learners, SDO Laguna pursued its reading banner projects namely Project REACH (Reading Empowerment Asserting Connections at Home) and Proyektong BUS (Basahin, Unawain at Sulatin) as stated in Division Memorandum 66, s. 2021 in provision to the national reading programs such as Every Child A Reading Program (ECARP) and Bawat Bata Bumabasa Initiative (3Bs).

Official Gazette (2024) stated that school principals have Authority, Responsibility and Accountability (AuRA) in managing all school problems in conformity with national educational policies, programs, and standards, according to Republic Act No. 9155, Chapter 1 Section No. 7, Letter E, Paragraph 3.

Therefore, it is evident that the school administrator oversees supplying and overseeing program implementation in their own schools to enhance students' reading and numeracy abilities and get them ready to be independent and lifelong learners.

Recently, the Department of Education applied DepEd Memorandum 001, s. 2024 "Implementation of Catch-Up Fridays". Considering these considerations, DepEd shall implement Catch-up Fridays beginning January 12, 2024, across elementary and secondary schools and community learning centers (CLCs) nationwide. All Fridays of January 2024 shall be dedicated to the "Drop Everything and Read" (DEAR) activity and orientation for field officials. It shall also be used as a venue to gather feedback from field implementers on the guidelines of Catch-up Fridays. It focused on operationalizing the National Reading Program (NRP) during the first half of the day's schedule. Teachers shall employ an integrative approach to teaching. For example, the content of any learning area can be used as a springboard for developing the reading skills of learners. The Department's current initiatives provide opportunities to enhance learners' academic performance, particularly the low proficiency levels in reading based on national and international large-scale assessments.

Based on the abovementioned premises, it depicts the gap between the learners' academic performance in different key stages and the actualization of school-based intervention implementation program and innovative teaching strategies. The actual experiences of the teachers in handling the learners and witnessing their learning difficulties not only in literacy and numeracy skills but also in all other learning areas prompt them to utilize this school-based intervention program and innovative teaching strategies to solve them little by little yet in the long run will achieve the desire better academic performance.

As a result, the researcher was motivated to investigate the effectiveness of the different school-based intervention programs and innovative teaching strategies utilized by the teachers in the public elementary schools in the province of Laguna and how it contributed on the learners' academic performance.

Scope and Limitation of the Study

The main purpose of this study was to determine the school-based intervention program implementation, innovative teaching strategies, and learners' academic performance in public elementary schools in the province of Laguna. The data gathering for this research was done in the second quarter of the Academic Year 2023-2024.

The province of Laguna comprises seven school divisions namely SDO Laguna, SDO San Pablo, SDO Calamba, SDO Sta. Rosa, SDO Biñan, SDO San Pedro and SDO Cabuyao. This includes the Schools Division Office of Laguna, City Schools Division offices starting from the first Congressional District to Fourth Congressional District. Breaking it down from (7) seven divisions down to (3) three divisions such as SDO San Pedro, SDO Santa Rosa, and SDO Laguna.

The respondents of the study were three hundred (300) randomly selected public elementary school teachers from the abovementioned three (3) schools divisions. Multi-stage random sampling technique was utilized to determine the total number of respondents.

Correlational research design was used to determine the relationships among variables. The qualitative data gathered from the responses of the respondents were gathered and thematic analysis was used to analyze the results. Whereas quantitative data were gathered, tabulated, and analyzed to arrive at overall findings, conclusions, and recommendations about the study.

Researcher-made questionnaire checklist was the research instrument used to determine the school-based intervention programs implementation, innovative teaching strategies, and learners' academic performance in the public elementary schools in the province of Laguna.

Lastly, this study made certain large involvement of the targeted participants, several limitations may occur such as refraining of the respondents to react to certain questions living it blank. Moreover, the presence of the participants during the distribution and retrieval of the questionnaires. In these cases, the research has no control. Hence, these were categorized as limitations of the study.

Statement of the Problem

The study aimed to assess and evaluate the School-Based Intervention Programs and Innovative Teaching Strategies and Learners' Academic Performance in randomly selected Public Elementary Schools in the province of Laguna in School Year 2023-2024.

Specifically, it sought answers to the following questions:

1. What is the extent of implementation of the common literacy-related and numeracy-related school-based intervention programs in the public elementary schools in the province of Laguna?
2. What is the extent of utilization of innovative teaching strategies in public elementary schools in the province of Laguna with respect to:
 - 2.1 interactive lessons;
 - 2.2 blended learning;
 - 2.3 project-based learning;
 - 2.4 inquiry-based learning; and
 - 2.5 peer teaching?
3. What is the level of learners' academic performance in numeracy and literacy in public elementary schools in the province of Laguna?
4. Is there a significant relationship between the extent of implementation of school-based intervention programs and the level of learners' academic performance in public elementary schools?
5. Is there a significant relationship between the innovative teaching strategies and the level of learners' academic performance in public elementary schools?
6. What specific output can be derived from the study?

Hypothesis

The following hypotheses were tested in this study:

1. There is no significant relationship between the extent of implementation of school-based intervention programs and the level of learners' academic performance in public elementary schools.
2. There is no significant relationship between the innovative teaching strategies and the learners' level of academic performance in public elementary schools.

Theoretical Framework

Innovation in education (in a broad sense) is the introduction of new advances, changes, or improvements. This was linked to the implementation of advanced pedagogical experiences as part of the

teaching-learning process.

The benchmark of the concept of innovation was anchored to the “Theory of Education Management Process” or the “Pedagogical Innovations” authored by A. V. Khutorskoy. It emphasizes the unity of the three components of the innovation process: the creation, development and application of innovations. The main goal is to ensure the advanced quality of human development as an important area of social activity; It must outpace other forms of social activism in its development. The aim is also to train a universal morally mature person, a competent specialist with a developed professional culture. In addition, Pedagogical Innovation is revolution in pedagogical activities, changes in the content and technology of training and education. Its goal is improving the efficiency of upbringing and education: an introduction to the goals, content, organization of joint activities of a teacher and a student. Accordingly, Dilobarkhon (2019) stated that the innovation process acquires special status in connection with the new state educational standards. It requires the teacher to improve the quality of education, introduce new teaching methods and training the younger generation.

The cited theory is substantial to the study as it is linked to the innovative teaching strategies commonly applied in literacy and numeracy. It could lead to better overall outcomes in the school environment. It creates a more engaging learning environment that provides various ways for students to interact with the materials and strategies, helping the learners to have a deeper understanding of the subject matter.

Another theory connected to this study is the “Essentialism Theory” which is broadly construed as the educational philosophy of teaching basic skills which emphasis is focusing on training the mind. This philosophy stresses core knowledge in reading, writing, math, science, history, foreign language, and technology. The tools include lecturing, memorization, repetition, practice, and assessment. According to Williams (2021), William C. Bagley was one of the most influential advocates of essentialism, “Urged schools and educators to create what we know today to be vigilant in sticking to the core curriculum”. This thought applies to what is expected of teachers. Teaching practice involves focusing on core knowledge and skills like reading, writing, math, and science, and prioritizing on the basics that are considered essential for learners’ development and success. Another educational philosophy that finds support in this research study is progressivism, because it focuses on the individuality, progress, and change which are fundamental to one’s education.

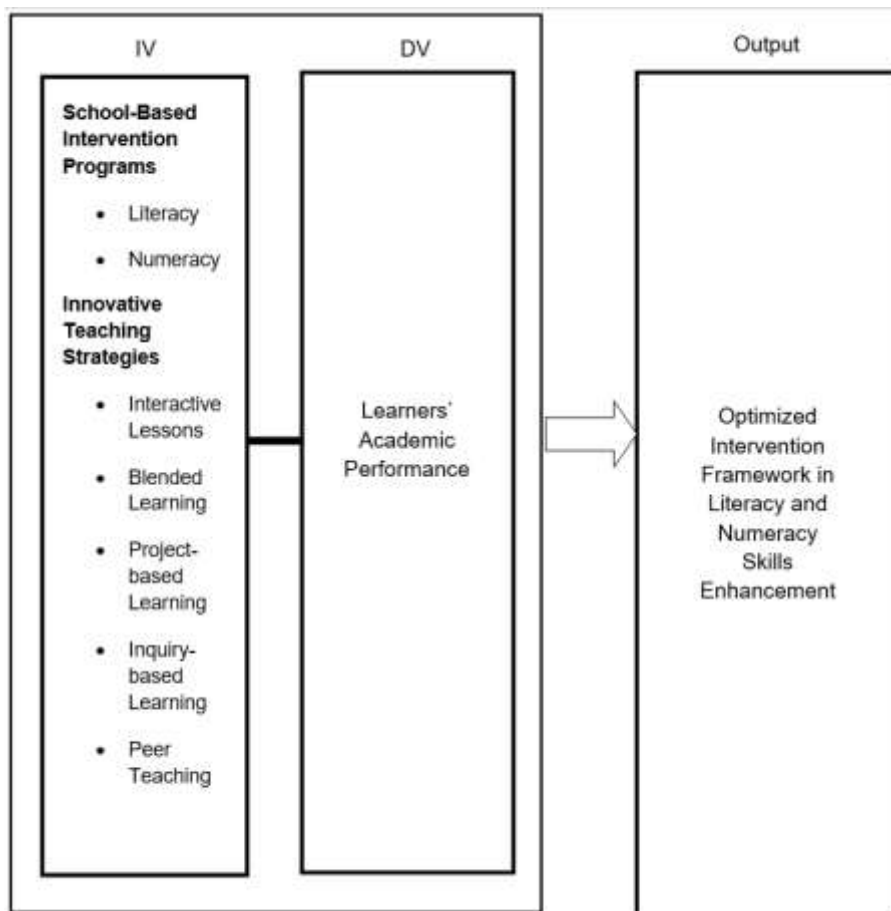
This theory of Essentialism is relevant to the study in terms of teaching the basic skills. Literacy and numeracy skills provide the foundation for a lifetime of learning, establishing mastery and eventually leading them to the most profound learning journeys.

Through these theories, innovations in education are beneficial because they create a more engaging learning environment. By providing various ways for learners to interact with the learning materials and resources, strategies and approaches, and activities that can help them gain a deeper understanding of the subject matter.

Conceptual Framework

Based on the theories depicted, a conceptual framework was formulated. The conceptual framework presented on the next page illustrates the main variables of the study namely School-Based Intervention Program, Innovative Teaching Strategies and learners’ Academic performance. Since the study focused on the correlational analysis of the variables, the presentation in the diagram shows its interconnectedness. The figure illustrates three frames indicating the variables of the study.

The first frame presents the independent variables namely of School-Based Intervention Program and Innovative Teaching Strategies. The first independent variable is School-Based Intervention Programs in terms of literacy and Numeracy The second independent variable is the Innovative Teaching Strategies in terms of interactive lessons, blended learning, project-based learning, inquiry-based learning and peer teaching.

**Figure 1**

Conceptual Model of the Study on the School-Based Intervention Program Implementation, Innovative Teaching Strategies, and the Learners Academic Performance in the Public Elementary Schools

The second frame presents the dependent variable which is the Learners Academic Performance. Significant elements are added in the framework like lines and arrow which are strategically positioned depicting the connections of the variables. The independent variables such as School-Based Intervention Programs and Innovative Teaching Strategies relate to an arrow pointing to the Learners' Academic Performance as the dependent variable of the study which is indicative of their interrelationship.

Lastly, the arrow pointing to the last frame indicates the output of the study that was designed based on the findings of the study entitled "Optimized Intervention Framework in Literacy and Numeracy Skills Enhancement".

Review of Related Literature and Studies

The following literature and studies are found significant and related to the research undertaken which was carefully reviewed by the researcher. The subsequent variables were included such as school-

based intervention program, literacy skills, numeracy skills, innovative teaching strategies, interactive lessons, blended learning, project-based learning, inquiry-based learning, peer teaching, and learners' academic performance.

Variables

The succeeding are the variables being used in the study that can be described in measurable terms and supported by related literature and studies: School-Based Intervention Program, Literacy, Numeracy, Innovative Teaching Strategies, Interactive Lessons, Blended Learning, Project-Based Learning, Inquiry-Based Learning, Peer Teaching, and Learners' Academic Performance.

Literature

The following are the variables of the study with reviewed related literature both foreign and local.

School-Based Intervention Program

Implementing effective reading intervention strategies into our classrooms as stated by Endo (2024) allows students to experience moments of success and even joy through their reading, no matter how short or long the text may be. The cumulative process of experiencing these small wins will make our students "page turners," not only in the books that they read, but also in the new chapters they begin in their personal achievements.

Educational intervention as explained by Del Mar (2023) is a set of action items that a teacher or administrator can take to improve a child's academic progress. Typically, an intervention population in a K–12 environment refers to students who are performing below grade level, with intensive intervention being for students who are performing two or more years below grade level. There are various types of intervention strategies, such as enhancing personal interactions to understand your students' interests and experiences, setting up your classroom space to minimize distractions, finding what motivates your students, among others.

Literacy

Struggling readers and non-readers face various challenges that impact literacy. These include Limited English Language Skills - Non-native English speakers may struggle with reading due to language barriers; Limited Access to Books - A lack of exposure to reading materials can hinder literacy development; and School Support - The effectiveness of literacy programs depends on how well schools address individual students' reading challenge (Groves Learning Organization, 2021).

Literacy is the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts as claimed by Montoya (2018). Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society.

Numeracy

According to Gigante (2023) numeracy is one of the fundamental skills that a learner must develop. From kinder to Grade 6 students are taught of the fundamental operations in solving problems and use it as a life skill in everyday life. Being a numerate means, you have the confidence to use the basic fundamental operations (4Fs) and problem solving to use basic concepts in understanding complex topics. Mastering these are the keys to understand and progress in Mathematics especially the complex topics like algebra. It is one of the main focuses of the teachers along with the literacy since these two are the emerging problems of the Department of Education in the Philippines.

Innovative Teaching Strategies

Addressing the learning gaps that students inevitably experience is one of the most important issues confronting teachers relative to the statement of Neendoor (2024). These gaps stem from diverse factors, such as individual circumstances, learning styles, and variations in prior knowledge. To ensure every student has equal opportunities to learn and succeed, teachers must employ efficient remediation strategies.

Innovative teaching methods as described by Saro et.al., (2022) help students and teachers visually and conceptually understand the ideas that need to be presented can boost teachers' confidence and help students improve their critical thinking abilities. To identify and concentrate on the unique belongings and categories that describe the position in the online learning process, including the teaching philosophy and practical teaching practices, it studies and uses the experiences of reflective methods in the new normal learning perspective.

Interactive Lessons

Interactive learning is an approach that can reach different kinds of students in the classroom who may not excel with traditional academic study. As schools advance and add technology to the classroom, lessons also become more engaging for students. In the area of math, for example, there are hundreds of interactive programs for students to use in elementary and secondary school. Generally, students ask for more technology based, engaging activities, but that is not the case with math worksheets! (Hatten and Pisano, 2023).

Using Learning Management Systems (LMS) is a big step forward for education in the Philippines as stated by Kumar (2023). These online platforms are changing how we teach and learn by creating a central hub for all educational activities. LMS helps teachers and students communicate better, make it easier to share course materials, and include assessment tools. This makes administrative tasks more efficient and encourages collaborative and interactive learning. Students can access resources and join discussions at their own pace, and teachers can keep track of progress and adjust their teaching to each student's needs. The widespread adoption of LMS in the Philippines shows a commitment to using technology to improve the quality and accessibility of education.

Blended Learning

“Blended learning, also known as hybrid learning, is an approach to education that combines online educational materials and opportunities for interaction online with traditional place-based classroom methods (Quigley, 2023).

Teaching and learning with the aid of blended learning practices provide pedagogical productivity, knowledge access, collaborations, personal development, cost-efficiency, simplifies corrections that are necessary for effective and engaging learning experiences, and promote learners' learning success and engagement (Mutya et.al., 2022)

Project-Based Learning

As specified by Larmer (2024) a key concept for understanding Project-based learning PBL is that it creates a “need to know” for students. When students ask, “Why are we learning this?” the answer is typically, “because you’ll need to know it later (for the next course, the next grade level, for college, etc.)” or “because it’s on the test.” Neither answer is very motivating for students; they’re extrinsic. In an authentic project, students see the application very clearly; “they’re learning this because they need it to accomplish this important task or answer this meaningful question.” This gives them a more powerful, intrinsic motivation to learn.

Inquiry-Based Learning

Inquiry-Based Learning specified by Aguila et.al., (2023) as a student-centered teaching and learning approach that emphasizes hands-on activities. It encourages students to ask questions, investigate and find answers through experimentation and problem-solving. The teacher in an IBL classroom serves as a facilitator to guide students through the inquiry process and provide support as needed.

According to Main (2021) inquiry-based learning is about triggering curiosity in students and initiating a student's curiosity achieves far more complex goals than information delivery. Despite its complex nature, inquiry-based learning is considered easier for teachers because it does not only shift responsibility from the educators to students, but also it is engaging for students. It is important for creating excitement in students. It motivates students to become specialists of their learning process. However, this type of learning requires a certain level of independent learning skills. They need to have developed the information-processing skills needed for working with minimal guidance.

Peer Teaching

Teachers should design activities through Peer Tutoring relative to the statement of Cuizon (2022) to promote camaraderie as they continue learning and continue establishing and maintaining programs that can encourage and engage the learners to involve in accomplishing performance tasks and find more ways to maintain the very good state of willingness. Peer tutoring may help learners make connections across 21st-century skills and concepts, and other disciplines. Following the principles of Peer Tutoring, learners should have time to discuss how they perform in performance task involvement. With careful planning and implementation, performance task involvement can be achieved successfully by all learners.

Gal et.al., (2021) discussed the advantages of peer teaching such as: Students can help their peers learn while at the same time learn on their own; and There is no "cognitive distance" between teachers and students; they use everyday language that is familiar to them and thus the learners and fellow teacher benefit by improving the academic performance of pupils, creating and cultivating social bonds between the fellow teacher and the students in his/her group who are in the same class on a day-to-day basis, sharing the same process and more.

Learners' Academic Performance

Remedial teaching is an educational programme for increasing the academic performance of poorly performing students in a curriculum. Remedial teaching is finding specific learning difficulties in low achieving learners who are lagging in academics and providing them with necessary support and guidance to bring their academic performance closer to the required standard and to prevent them from occurring in future (Appunni et.al., 2021).

Studies

The following are the variables of the study with reviewed related studies both foreign and local.

School-Based Intervention Program

Schultes (2023) examined the data on implementation of school-based interventions adds highly valuable information to corresponding evaluation studies. Measuring implementation outcomes, such as fidelity or acceptability, provides information on how to improve current and future implementation processes. Moreover, analyzing intervention outcomes in combination with implementation outcomes sheds light onto the reasons for variabilities in an intervention's effectiveness in different schools.

Literacy

Despins (2024) affirming that majority of reading in school is assigned, but the beauty of independent silent reading lies in students choosing their own materials. Just like adults who have the

freedom to select any book they desire, children should also be granted these authentic reading opportunities. During silent reading time, the intention is to maintain an uninterrupted flow. Consequently, students are compelled to independently navigate through any trouble spots. This process significantly contributes to the development of their reading confidence.

As stated by Knode (2019) parent involvement contributes to children's overall educational achievement as well as their literacy development. Home literacy is critical in helping children who read below grade level. Studies also found that the quality of the interaction between the child and parent is as important as interactive opportunities. Findings showed highly positive results evidenced by parent-child interactions. Participating parents reported that through strategy instruction provided by the researchers and interacting with other participating parents, they acquired more tools to be effective literacy coaches.

Numeracy

Celemin (2023) stating numeracy skills as the capacity to use mathematical ideas in all facets of life. It is one of the fundamental skills that students should have mastered by the end of their primary schooling. With the notable importance of mastery of numeracy skills, low achievement and performance of the learners were observed in this aspect. This study aimed in enhancing the numeracy skills of Grade 3 learners through authentic performance tasks. The variable in numeracy skills includes the four fundamental operations and problem solving and the application of authentic performance tasks was effective to bridge the gap on numeracy skills.

As mentioned by Sen. Win Gatchalian in the Public Hearing of the Committee on Basic Education last October 18, 2023. He stated that The MATATAG Curriculum aims to reduce the number of competencies and to focus more on the development of foundational skills: literacy, numeracy, and socio-emotional skills of Kindergarten to Grade 3 learners, thus, decongesting the present K to 12 curriculums The MATATAG or K to 10 curriculums, which will put emphasis on five important skills: language, reading and literacy, mathematics, makabansa, and good manners and right conduct.

Innovative Teaching Strategies

As educators continue to refine their approaches as explained by Pascaden et. al., (2023), it is evident that explicit teaching methodologies hold promise for enhancing reading outcomes and fostering a comprehensive love for reading. The call for further research, exploration of remedial reading teacher roles, and the development of clear policies underscores the ongoing commitment to advancing literacy instruction and remediation strategies. Ultimately, this literature review contributes to the broader understanding of the impact of explicit teaching on reading remediation and encourages continued efforts to unlock literacy for diverse learners.

Interactive Lessons

Alibraheim, et al. (2022) revealed that there are statistically significant differences at 0.05 between the average scores for middle school mathematics teachers in the post application of the cognitive achievement test, observation card, and product evaluation card related to the skills of producing interactive lessons due to the impact of the different interaction patterns in the e-training environment.

Alnajdi (2018) revealed that the lesson had several stages; starting from having a useful design based on ADDIE Model, then provided a demo to the students to understand the knowledge. After that, the lesson presented in an interactive way, assistance's hints provided to students during their learning process and reviewing the initial demo was available for the whole lesson. The effectiveness of this design has been measured, and results in both groups in this study compared, the experimental group showed statistically significant on students' performances with a mean score of 5.45 versus 4.24 for control group.

Blended Learning

Han (2023) demonstrated: The hypothesized factors (course overview, course objectives, assessments, 1148 class activities, course resources, and technology support) were aligned as a unified system in blended learning; There was a positive relationship between the effectiveness of blended learning and student learning outcomes. Additional findings, explanations, and suggestions for future research were also discussed in the study.

In the study of Kara and Kaban (2023) the results of quantitative data and qualitative findings indicated that teachers generally have a positive attitude towards the implementation of blended learning in elementary education.

Project-Based Learning

Wanglang, Chotika; Chatwattana, Pinanta. (2023) according to the results of their study, which are in line with the expectation of the researchers, it is found that: The overall suitability of the development of the project-based learning model using gamification to enhance 21st century learners (overall elements) is at a very high level, and The overall suitability of the development of the project-based learning model using gamification to enhance 21st century learners is at a very high level.

Almulla (2020) A significant relation was found between the Project-Based Learning method and collaborative learning, disciplinary subject learning, iterative learning, and authentic learning, which, in turn, produced student engagement. The results show that the PBL technique improves student engagement by enabling knowledge and information sharing and discussion. Thus, the PBL approach is highly recommended for educational use by students and should be encouraged in universities.

Inquiry-Based Learning

Antonio et.al., (2024) revealed that inquiry-based learning enhances academic performance across grade levels. Notably, it exhibits greater efficacy at the high school level compared to other educational level, with effect sizes showing no significant variation by publication type (i.e., articles and theses). Meanwhile, He also cited Aktamiş et al., (2016) explaining that inquiry-based science education enhances academic performance and aids in honing science process skills and attitudes, though its impact on student achievement is more pronounced.

According to Ederon et.al., (2024) the basic concept of inquiry-based learning refers to learners' self-discovery. The learners or the students are guided to inquire or generate relevant questions and to produce the appropriate answers through critical thinking. In inquiry-based learning, learners are exposed to how knowledge is generated and shared and how all stakeholders, including professionals, teachers, parents, and society, contribute to learners' knowledge is also shown. This learning style tends to be more enjoyable for the students because they actively participate in their learning.

Peer Teaching

TeachThought Staff (2019) Help from peers increases learning both for the students being helped as well as for those giving the help. For the students being helped, the assistance from their peers enables them to move away from dependence on teachers and gain more opportunities to enhance their learning. For the students giving the help, the cooperative learning groups serve as opportunities to increase their own performance. They have the chance to experience and learn that “teaching is the best teacher.”

Learners' Academic Performance

Llego (2024) indicated that engaging stakeholders, including educators, policymakers, community leaders, and families, is crucial for driving positive change and improving education systems. The dissemination of research findings and educational advocacy is vital for translating academic research into

actionable policymaking and practice. This article presents strategies for disseminating research and educational advocacy, focusing on essential stakeholder engagement, communication best practices, and policy implications. The goal is achieving improved educational outcomes through evidence-based decision-making processes.

2. Methodology

This part of the study contains the research method, setting of the study, subject and the procedure of the study, sources of data, sampling design and sample, construction and validation of the instrument, administration of the instrument, data gathering procedure, and the corresponding statistical treatment of the research study.

Method of Research Used

This study utilized the correlational research design that investigates relationships between variables without the researcher controlling or manipulating any of them. A correlation reflects the strength and/or direction of the relationship between two (or more) variables. There are many different methods you can use in correlational research. The most common data collection methods for this type of research include surveys, observations, and secondary data. It's important to carefully choose and plan your methods to ensure the reliability and validity of your results. You should carefully select a representative sample so that your data reflects the population you're interested in without research bias (Bhandari., 2023).

Qualitative research was also used which focuses on understanding phenomena through detailed, narrative data. It explores the "how" and "why", using methods like interviews, observations, and content analysis. In contrast, quantitative research is numeric and objective, aiming to quantify variables and analyze statistical relationships. It addresses the "when" and "where," utilizing tools like surveys, experiments, and statistical models to collect and analyze numerical data (National University, 2024).

A researcher designed-questionnaire checklist was the main instrument used to assess the school-based intervention program implementation and innovative teaching strategies utilized by the public elementary teachers in the province of Laguna for the School Year 2023-2024.

The responses were then tabulated, analyzed and reported by means of descriptive statistical treatment. Researcher's designed questionnaire checklist was administered to collect the data on the perception of the respondents about the school-based intervention program as well as the extent of its implementation as measured by the literacy and numeracy skills in which the teachers were commonly aligned their school-based intervention program as well as the innovative teaching strategies using interactive lessons, blended learning, project-based learning, inquiry-based learning and peer teaching.

Setting of the Study

The study was conducted in the province of Laguna. It is situated in CALABARZON region in Luzon. Its Capital is Sta.Cruz while its largest city is the City of Calamba. It comprises twenty-four (24) municipalities and (6) cities. In education sector, Laguna comprises of seven (7) Schools Division namely SDO Laguna, SDO Calamba, SDO San Pablo, SDO Binan, SDO Sta. Rosa, SDO San Pedro and SDO Cabuyao. However, in the conduct of the study, three (3) out of seven (7) SDO were selected such as SDO San Pedro, SDO Sta. Rosa, and SDO Laguna.

The teacher-respondents came from these three (3) SDO. The number of schools per division was based on its population size. The following schools were selected: (1) Landayan Elem. School and (2) San Pedro Central Elem. School from SDO San Pedro. (1) Sta. Rosa Elem. School Central 3 and (2) Dita Elem. School from SDO Sta. Rosa. (1) Paete Central Elem. School (2) Mabitac Elem. School (3) Majayjay Elem. School (4) Gatid Elem. School (5) Sta. Maria Elem. School and (6) Siniloan Elem. School from SDO Laguna. (The map of Laguna was shown on the next page).

**Figure 2**

Map of Laguna Showing the Location of the Selected Three (3) Schools Divisions in the Province and the Number of Schools Participating in the Study

Subject of the Study

The total subject respondents were three hundred (300) randomly selected public elementary school teachers from the three (3) schools divisions in the province of Laguna. The teacher-respondents came from large schools. To determine the selected schools of public elementary, multi-stage random sampling was used. The distribution of the total number of public elementary schools' teacher-respondents was made.

From the seven (7) schools divisions in the province of Laguna, three (3) divisions were drawn, namely: SDO San Pedro, SDO Santa.Rosa, and SDO Laguna. Two (2) schools were set from SDO San Pedro such as Landayan Elementary School (ES) and San Pedro Central ES. From SDO Santa.Rosa, the two (2) schools were Sta. Rosa ES Central 3 and Dita ES. Moreover, from SDO Laguna, six (6) schools were designated including: Paete Central ES, Mabitac ES, Majayjay ES, Gatid ES, Sta. Maria ES, and Siniloan ES.

From there 10 schools were selected and in each school that was drawn, there were 30 teacher-respondents.

Procedure of the Study

The researcher started with the planning and formulation of the problem. Based on the concepts that was garnered, the title of the study was formed which was followed by the title defense. After the approval of the title, the development of Chapters 1, 2, and 3 was completed. Next was the finalization of the manuscript to be submitted and used during the proposal defense or colloquium. Afterwards, manuscript revision was undertaken to have a final copy of the manuscript.

The questionnaire designed for the study was subjected to a validation process. In this process, copies of the questionnaire and/or research questions were presented to the theses committee. These experts examined it to ascertain the appropriateness and adequacy of the instrument. The Division Superintendent produced to each congressional district the request permission to carry out the study in the chosen public elementary schools. After the content validation, pilot testing was administered, and the result was submitted to the Statistical Center for reliability testing. A second letter was sent to the public district supervisor of the schools that were selected, requesting permission for the researcher to carry out the research study.

After receipt of the approved permit to conduct the study from the respective sub-offices, the researcher visited the identified schools to become familiar with the location and the environment. This was also the time for the handling of letter to respective school heads to seek permission for the conduct of the study. Upon approval of the school head, questionnaires were given to the respondents.

The researcher discussed the main goal of the study to the target participants as well as assuring their confidentiality to assure them that the research was specifically for academic purposes and will therefore not bring about any conflict to the respondents, and the researcher.

Few respondents were asked through an interview of the common school-based intervention programs implemented in the public elementary schools in the Province of Laguna. The Literacy projects that are currently implemented are the following:

(1) PROJECT 3Bs INITIATIVE (Bawat Bata Bumabasa) ****Based on DepEd Memorandum No. 173, s. 2019* – aims to improve reading proficiency among students. It notes national assessment results show many students struggle with early literacy and reading comprehension. The initiative aims to strengthen reading skills for all students and foster a culture of reading. The implementation of the program includes: Foundation for learning to read through oral language and increasingly complex conversation; Phonological awareness which encompasses rhythm, sounds, and syllables; Phonics that recognizes the relationship between letters and sounds that facilitates blending of sounds; Vocabulary words to expand the range of words that they can understand and use in context; and Fluency with appropriate phrasing, expression, and pace and eventually comprehend what they have read.

(2) PROJECT REACH (Reading Empowerment Asserting Connection at Home) ****Based on DepEd Reading Program* – a reading program designed to emphasize teaching and developing reading at home through the support and involvement of parents or guardians who become vital reading partners of the teachers. The implementation of the program comprises of the following: Connection between the school and home in order to develop or enhance the reading skills of the learners; Participation of parents and guardians in assisting their children to read at a regularly scheduled time; Developing the learners' vocabulary, study skills, media literacy, and reading comprehension skills.

(3) PROJECT DEAR (Drop Everything and Read) ****In line with Catch-up Fridays Implementation & Based on DepEd Memorandum No. 001, s. 2024* – is classroom time set aside for teachers and students to Drop Everything and Read. The goal of DEAR is to encourage independent silent reading for extended periods of time on a daily or weekly basis. Students choose the book they wish to read based on interest and ability. The implementation of the program covers the following: Provide learners with the opportunity to engage in independent silent reading of their preferred materials; Foundational, social, and other relevant skills necessary to actualize the intent of the basic education curriculum by focusing on the development of learner's reading, critical thinking, analytical, and writing skills; Learners' knowledge and skills in and appreciation of reading, values, health, and peace education.

Moreover, the Numeracy programs that are currently implemented are the following:

(1) ELLN Program (Early Language Literacy and Numeracy) ****Based from DepEd Order No. 12, s. 2015* – will develop in Filipino children literacy and numeracy skills and attitudes which will contribute to lifelong learning. More specifically, it aims to improve reading and numeracy skills of Kinder to Grade 3 pupils, following K to 12 Basic Education Curriculum, and to establish a sustainable and cost-effective professional development system for teachers. The implementation of the program comprises the following: Strengthens the skills of school heads as instructional managers and supervisors to improve management and administration of the program such as planning, operations, action research, implementing, and monitoring; Strengthens teachers' capacity to teach and assess early numeracy skills effectively to track students' progress over time, identify trends, and adjust instructional strategies accordingly, fostering a culture of on-going growth and development; Enhances teachers' pedagogical knowledge, skills, and attitudes in early numeracy for the learners to be a good reader equipped with fundamental numeracy; Establishes a school-based mentoring/learning partnership program thru School Learning Action Cell (SLAC) to sustains commitment in mentoring, sharing of teaching experiences to improve instruction and outcomes.

(2) NLRP (Adoption of the National Learning Recovery Program) ****Based from DepEd Order No. 13, s. 2023* – aims to strengthens the learning recovery and continuity program of the Department of Education (DepEd), to improve numeracy and literacy; and accelerate the achievement of the education targets. It also aims to close learning gaps and assists the learners in attaining learning standards. The implementation of the program consists of the following: Addresses the learning gaps of the learners through collaboration of the stakeholders; Drives collaborative action to promote better numeracy and mathematics learning in schools across all grade levels; Improves shared understanding of numeracy and its critical connections with Mathematics and the real-world.

(3) NLC (National Learning Camp) ****Based on DepEd Order No. 14, s. 2023* – offers every end-of-school year (EOSY) break to complement learning efforts in the previous school year and provide a firmer basis for further gains in the upcoming school year. It has a two-fold purpose: improving learner performance and strengthening teacher capacity. The implementation of the program contains the following: Assists the learners and aims to close learning gaps in attaining learning standards; Provides enhancement camp that enriches learning for advanced learners by providing greater depth, breadth, and complexity of learning area competencies; Provides consolidation camp for further practice on and application of previously taught competencies. Opportunities are provided to identify links connecting concepts and skills across grade-level competencies; Provides intervention camp that supports learners who are yet to grasp foundational Mathematics skills.

After several weeks retrieval of the questionnaire was made to make sure that all respondents have ample time to answer the questions intelligently, conscientiously and with all honesty.

Analysis and interpretation of the gathered data was also done by the researcher using appropriate statistical tools. Summary of findings, conclusions and recommendations were formulated. A pre oral defense was held, where the researcher presented the study's results. After some revision of manuscript, incorporating comments and suggestions from the panelists and the researcher's adviser, the final oral defense was held. After the defense, whole research was completed, incorporating all necessary feedback and revisions. The editor thoroughly reviewed the manuscript, followed by a final review and fine-tuning from the Dean of the graduate school. The reproduction of the hardbound copies of the manuscript was done after receiving a go signal from the Dean of the Graduate Schools. Hardbound copies of the manuscript were submitted to the University Library and National Library.

Sources of Data

The research study employed a researcher-made survey questionnaire in order to collect the data needed in the study. This was conducted to determine the school-based implementation program as described by the respondents, the extent of implementation of the school-based intervention program, the extent of

utilization of innovative teaching strategies and the level of learners' academic performance in the public elementary school.

The said questionnaire for extent of implementation of the school-based intervention program was measured in terms of common literacy-related and numeracy-related where in indicative statements were formulated and the respondents answered them using the five-point likert scale as listed below:

Scale	Range	Verbal Interpretation	Description
5	4.20 – 5.00	Very Much Implemented	The teacher implemented 80%-100% of the given statement on the School-Based Intervention Programs.
4	3.40 – 4.19	Much Implemented	The teacher implemented 60%-79.99% of the given statement on the School-Based Intervention Programs.
3	2.60 – 3.39	Moderately Implemented	The teacher implemented 40%-59.99% of the given statement on the School-Based Intervention Programs.
2	1.80 – 2.59	Less Implemented	The teacher implemented 20%-39.99% of the given statement on the School-Based Intervention Programs.
1	1.00 – 1.79	Least Implemented	The teacher implemented 0%-19.99% of the given statement on the School-Based Intervention Programs.

For questionnaire part on extent of utilization of innovative teaching strategies in terms of interactive lessons, blended learning, project-based learning, inquiry-based learning and peer teaching, the respondents answered them using the five-point likert scale as listed below:

Scale	Range	Verbal Interpretation	Description
5	4.20 – 5.00	Very High Extent	The teacher utilized 80%-100% of the given statement in innovative teaching strategies.
4	3.40 – 4.19	High Extent	The teacher utilized 60%-79.99% of the given statement in innovative teaching strategies.
3	2.60 – 3.39	Moderate Extent	The teacher utilized 40%-59.99% of the given statement in innovative teaching strategies.
2	1.80 – 2.59	Low Extent	The teacher utilized 20%-39.99% of the given statement in innovative teaching strategies.
1	1.00 – 1.79	Very Low Extent	The teacher utilized 0%-19.99% of the given statement in innovative teaching strategies.

For the level of learners' academic performance, the respective pupils of the teacher-respondents were used by getting the second quarter rating of the pupils in literacy and numeracy learning area and was assessed using the following scale for learners' interpretation of grades.

Description	Grading Scale
Outstanding (O)	90.00 - 100.00

Very Satisfactory (VS)	85.00 – 89.99
Satisfactory (S)	80.00 – 84.99
Fairly Satisfactory (FS)	75.00 – 79.99
Did Not Meet Expectations (D)	Below 75

**Adapted from Grading System in School.*

Sampling Design and Sample

The respondents of the study were three hundred (300) public elementary teachers in the province of Laguna for the Second Quarter of School Year 2023-2024. They were chosen since they were the one who can answer the problem that the researcher gathered.

Multistage random sampling technique was used in the study to draw a sample from a population using smaller and smaller groups (units) at each stage. It's often used to collect data from a large, geographically spread group of people in national surveys (Bhandari, 2023).

To get the sample size or the total number of respondents of public elementary teachers in the province of Laguna, a copy of data was requested by the researcher from the Division Office. Based on the data gathered, the total sample size of three hundred (300) public elementary school teachers were defined.

The first step was clustering by defining the (7) seven divisions. Next step was breaking it from (7) seven divisions down to (3) three divisions such as SDO San Pedro, SDO Santa Rosa, and SDO Laguna. Thirdly, randomly select schools from the clusters; there were (10) ten selected schools from the (3) three divisions. Finally, randomly select units (or respondents) from within the selected (10) schools. From each school, there were 30 teacher-respondents (Source: Bhandari, 2023).

Construction of the Instrument

This study utilized a researcher-made questionnaire for Part 1 and Part 2. Part 1 is titled Extent of the Implementation of the Common School-Based Intervention Programs. Part 2 is titled Extent of Utilization of Innovative Teaching Strategies. For Part 3, in assessing the learners' academic performance, final rating of the pupils in literacy and numeracy learning areas for the first and second quarter were gathered.

Validation of the Instrument

The researcher-made questionnaire was used in the study. The researcher crafted the questionnaire-checklist and have it validated by the members of the panel and experts of the field. A total of seven (7) validators validated the questionnaire-checklist. To guide the researcher and the experts in the process of validation, DepEd Order and Memorandum were printed which served as bases for the checking of the content in the validation process.

After gathering the comments, inputs and suggestions of the experts and validators, the research instrument was finalized. To test the reliability of the research instrument, the researcher executed the pilot testing gathering thirty (30) teachers as respondents to answer the questionnaires using hard copies. After the data gathering for the pilot testing, the researcher submitted the hard copies to the URS Statistical Center testing. The result of the pilot testing yielded a Highly Reliable results in all the components of the instrument. After presenting the result to the statistician and dissertation adviser, the researcher was given the signal to execute the data gathering process in the Public Elementary Schools in the Province of Laguna.

Administration of the Instrument

The instrument was administered by the researcher immediately after securing the permit to conduct the study from the respective school authorities. The researcher personally

visited ten (10) schools in the Province of Laguna and asked the school heads' permission for the conduct of the study. Google Form and hard copy of the questionnaire-checklist were provided to all teachers. The teachers from various public elementary schools were provided with sufficient time to answer the questionnaires and complete the necessary data needed in the study.

Data Gathering Procedure

The researcher collected data through Google form and hard copy forms. The survey questionnaires were personally distributed to the respective school heads. The retrieval of the survey questionnaires followed. The gathered data were then taken to the URS Statistical Center for appropriate data treatment.

Statistical Treatment

The following statistical treatments were applied in the study.

To determine the extent of the implementation of the common literacy- related and numeracy related school –based intervention programs in the public elementary schools in the province of Laguna, mean was used.

To determine the extent of utilization of innovative teaching strategies in public elementary schools in the province of Laguna with respect interactive lessons, blended learning, project-based learning and peer teaching, mean was used.

To determine the level of learners' academic performance in literacy and numeracy in public elementary schools in the province of Laguna, mean was used.

To determine the significant relationship between the extent of implementation of school-based intervention program and the level of learners' academic performance in the public elementary schools, Pearson-r was used.

To determine the significant relationship between the innovative teaching strategies and learners' academic performance in the public elementary schools, Pearson-r was used.

3. Results and Discussion

This chapter illustrates the presentation, analysis, and interpretation of data gathered. It also shows the results of the statistical analysis done, and interpretation of findings. These are presented in tables following the sequence of the specific research problem regarding school-based intervention program implementation, innovative teaching strategies, and the learners' academic performance in the public elementary schools.

Extent of Implementation of the Common Literacy-Related and Numeracy-Related School-Based Intervention Programs in the Public Elementary Schools in the Province of Laguna

Table 1 illustrates the extent of implementation of the common literacy-related school-based intervention programs in terms of Project 3Bs.

Table 1
Extent of Implementation of the Common Literacy-Related School-Based Intervention Programs in
Terms of Project 3Bs

Literacy	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
Project 3Bs - Bawat Bata Bumabas								

1. Provides the foundation for learning to read through oral language and increasingly complex conversation.	4.88	VMI	5.00	VMI	4.99	VMI	4.97	VMI
2. Focuses on the phonological awareness which encompasses rhythm, sounds, and syllables.	4.90	VMI	5.00	VMI	4.99	VMI	4.98	VMI
3. Includes phonics that recognizes the relationship between letters and sounds that facilitates blending of sounds.	4.90	VMI	5.00	VMI	4.99	VMI	4.98	VMI
4. Exposes the learners to simple vocabulary words to expand the range of words that they can understand and use in the context.	4.90	VMI	5.00	VMI	4.99	VMI	4.98	VMI
5. Develops fluency with appropriate phrasing, expression, and pace and eventually comprehend what they have read.	4.87	VMI	5.00	VMI	4.99	VMI	4.97	VMI
Overall	4.89	VMI	5.00	VMI	4.99	VMI	4.97	VMI

Legend: VMI- Very Much Implemented

It shows that Project 3Bs - Bawat Bata Bumabasa had an overall mean of 4.97 and verbally interpreted as “Very Much Implemented.” The following statements such as: (a) “Focuses on the phonological awareness which encompasses rhythm, sounds, and syllables;” (b) “Includes phonics that recognizes the relationship between letters and sounds that facilitates blending of sounds;” and (c) “Exposes the learners to simple vocabulary words to expand the range of words that they can understand and use in the context” garnered the highest overall mean of 4.98 respectively and verbally interpreted as “Very Much Implemented.” Regarding the schools’ divisions, cluster B obtained the overall highest mean of 5.0 which is verbally interpreted as “Very Much Implemented.”

The result reveals that Project 3Bs was being highly implemented in most of the public elementary schools in the province of Laguna to address the different reading difficulties and gaps of struggling learners.

This implies that the schools gave great attention in mastering the basics such as letter-sound recognition, blending of sounds, and expanding their vocabulary words. To read with comprehension, learners must be able to read first with some proficiency or mastery.

This was supported by the research conducted by Voyager Sopris Learning (2022) that Reading interventions are supportive scaffolding in a more targeted and direct approach to reading. Most reading intervention programs focus on breaking down the five essential components of reading: phonological and phonemic awareness, phonics, vocabulary, comprehension, and fluency. The main goal of reading interventions is to intervene when reading problems occur and use strategic and intentional teaching to get students back to their targeted reading goal.

Table 2 shows the extent of implementation of the common literacy-related school-based intervention programs in terms of Project REACH.

Table 2
Extent of Implementation of the Common Literacy-Related School-Based Intervention Programs in Terms of Project REACH

Literacy	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
Project REACH								
1. Establishes a connection between the school and home to develop or enhance the reading skills of the learners.	4.88	VMI	4.82	VMI	4.92	VMI	4.89	VMI
2. Empowers parents and guardians in assisting their children to read at a regularly scheduled time;	4.90	VMI	4.82	VMI	4.92	VMI	4.90	VMI

3. Empowers the readers by developing their vocabulary, study skills, media literacy, and reading comprehension skills.	4.88	VMI	4.82	VMI	4.92	VMI	4.89	VMI
4. Brings the learning resources (Self-Learning Modules/SLM, Learning Activity Sheet/ LAS, Summative test, references & video clips) closer to our learners' homes or locality.	4.90	VMI	4.82	VMI	4.92	VMI	4.90	VMI
5. Ensures that REACH Monthly Assessment in Reading (MAR) helps them master the focus skills and measures both their lower and higher order thinking skills.	4.88	VMI	4.82	VMI	4.91	VMI	4.89	VMI
Overall	4.89	VMI	4.82	VMI	4.92	VMI	4.89	VMI

Legend: VMI- Very Much Implemented

It can be depicted that Project REACH (Reading Empowerment Asserting Connection at Home) had an overall mean of 4.89 and verbally interpreted as “Very Much Implemented.” The statements (a) “Empowers parents and guardians in assisting their children to read at a regularly scheduled time;” and (b) “Brings the learning resources (Self-Learning Modules/SLM, Learning Activity Sheet/ LAS, Summative test, references & video clips) closer to our learners' homes or locality.” ranked first with overall mean of 4.90 respectively and verbally interpreted as “Very Much Implemented.” Whereas, among the schools' divisions, cluster C obtained the overall highest mean of 4.92 which is verbally interpreted as “Very Much Implemented.”

The result reveals that most of the public elementary schools strictly abide and implemented the Project REACH with the involvement of other stakeholders.

This implies that parental involvement is vital. Creating a supportive home environment contributes effectiveness in the remediation process. Parents can establish a nurturing environment by providing a quiet space for homework, where the learners can also make use of the learning resources effectively.

The outcomes harmonized to the study conducted by Knode (2019) stating that parent involvement contributes to children's overall educational achievement as well as their literacy development. Home literacy is critical in helping children who read below grade level. Studies also found that the quality of the interaction between the child and parent is as important as interactive opportunities. Findings showed highly positive results evidenced by parent-child interactions. Participating parents reported that through strategy instruction provided by the researchers and interacting with other participating parents, they acquired more tools to be effective literacy coaches.

Table 3 illustrates the extent of implementation of the common literacy-related school-based intervention programs in terms of Project DEAR.

Table 3
Extent of Implementation of the Common Literacy-Related School-Based Intervention Programs in Terms of Project DEAR

Literacy	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
Project DEAR								
1. Provides learners with the opportunity to engage in independent silent reading of their preferred materials.	5.00	VMI	4.83	VMI	4.92	VMI	4.92	VMI
2. Strengthens the foundational, social, and other relevant skills necessary to actualize the intent of the basic education curriculum by focusing on the development of learner's reading, critical thinking, analytical, and writing skills.	4.95	VMI	4.82	VMI	4.92	VMI	4.91	VMI
3. Enhances learners' knowledge and skills in and appreciation of reading, values, health, and peace education.	5.00	VMI	4.82	VMI	4.92	VMI	4.92	VMI
4. Uses appropriate and targeted activities that may vary according to the learners' reading ability and capacity (like, picture association, reading aloud, story reading, combined with games, etc.)	4.95	VMI	4.83	VMI	4.91	VMI	4.90	VMI
5. Monitors individual progress through learner's reflection journal, compiling reading experiences, personal essays, and other forms of creative expression that reflect their unique learning experiences.	4.95	VMI	4.82	VMI	4.91	VMI	4.90	VMI
Overall	4.97	VMI	4.82	VMI	4.92	VMI	4.91	VMI

Legend: VMI- Very Much Implemented

Project DEAR - (Drop Everything and Read) had an overall mean of 4.91 and verbally interpreted as “Very Much Implemented.” The statements (a) “Provides learners with the opportunity to engage in independent silent reading of their preferred materials;” and (b) “Enhances learners’ knowledge and skills in and appreciation of reading, values, health, and peace education.” ranked first with overall mean of 4.92 respectively and verbally interpreted as “Very Much Implemented.” About the schools’ divisions, cluster A obtained the highest overall mean of 4.97 which is verbally interpreted as “Very Much Implemented.”

The result reveals that most of the public elementary schools strictly abide and implemented Project DEAR to intensify the aspiration of the learners for reading.

This implies that independent silent reading is also a way to foster a love for reading, use imagination and develop critical thinking and skills. Enhancing student learning outcomes can also be acquired by providing appropriate and interesting learning resources and materials.

This was in relation with the research of Despins (2024) affirming that majority of reading in school is assigned, but the beauty of independent silent reading lies in students choosing their own materials. Just like adults who have the freedom to select any book they desire, children should also be granted these authentic reading opportunities. During silent reading time, the intention is to maintain an uninterrupted flow. Consequently, students are compelled to independently navigate through any trouble spots. This process significantly contributes to the development of their reading confidence.

Table 4 presents the extent of implementation of the common numeracy-related school-based intervention programs in terms of Early Language Literacy and Numeracy Program.

Table 4
Extent of Implementation of the Common Numeracy-Related School-Based Intervention Programs in Terms of Early Language Literacy and Numeracy Program.

Numeracy		Cluster A		Cluster B		Cluster C		Overall	
		Mean	VI	Mean	VI	Mean	VI	Mean	VI
Early Language Literacy and Numeracy Program									
1.	Strengthens the skills of school heads as instructional managers and supervisors to improve management and administration of the program such as planning, operations, action research, implementing, and monitoring.	4.97	VMI	4.72	VMI	4.77	VMI	4.80	VMI
2.	Strengthens teachers’ capacity to teach and assess early numeracy skills effectively to track students’ progress over time, identify trends, and adjust instructional strategies, accordingly, fostering a culture of on-going growth and development.	4.93	VMI	4.73	VMI	4.77	VMI	4.79	VMI
3.	Enhances teachers’ pedagogical knowledge, skills, and attitudes in early numeracy for the learners to be a good reader equipped with fundamental numeracy	4.97	VMI	4.72	VMI	4.77	VMI	4.80	VMI
4.	Establishes a school-based mentoring/learning partnership program thru School Learning Action Cell (SLAC) to sustains commitment in mentoring, sharing of teaching experiences to improve instruction and outcomes.	4.93	VMI	4.73	VMI	4.76	VMI	4.79	VMI
5.	Equipped learners with competencies needed for academic success in later key stage to improve Early Language Literacy and Numeracy Assessment (ELLNA) National Achievement Test Results.	4.93	VMI	4.72	VMI	4.76	VMI	4.79	VMI
Overall		4.95	VMI	4.72	VMI	4.76	VMI	4.79	VMI

Legend: VMI- Very Much Implemented

It can be gleaned that Early Language Literacy and Numeracy Program had an overall mean of 4.79 and verbally interpreted as “Very Much Implemented.” The statements (a) “Strengthens the skills of school heads as instructional managers and supervisors to improve management and administration of the program such as planning, operations, action research, implementing, and monitoring;” and (b) “Enhances teachers’

pedagogical knowledge, skills, and attitudes in early numeracy for the learners to be a good reader equipped with fundamental numeracy” ranked first with highest overall mean of 4.80 respectively and verbally interpreted as “Very Much Implemented.” Whereas, among the schools’ divisions, cluster A attained the overall highest mean of 4.95 which is verbally interpreted as “Very Much Implemented.”

The result reveals that most of the public elementary schools strictly abide and implemented the Project Early Language Literacy and Numeracy Program centring on school heads and teachers’ professional developments.

It implies that professional development is indispensable since it is a coherent part of school improvements. It upturns teaching quality and school leadership that are beneficial in raising student achievements.

It is related to the study of Pascaden et. al., (2023) explaining that as educators continue to refine their approaches, it is evident that explicit teaching methodologies hold promise for enhancing reading outcomes and fostering a comprehensive love for reading. The call for further research, exploration of remedial reading teacher roles, and the development of clear policies underscores the ongoing commitment to advancing literacy instruction and remediation strategies. Ultimately, this literature review contributes to the broader understanding of the impact of explicit teaching on reading remediation and encourages continued efforts to unlock literacy for diverse learners.

Table 5 illustrates the extent of implementation of the common numeracy-related school-based intervention programs in terms of National Learning Recovery Program.

Table 5
Extent of Implementation of the Common Numeracy-Related School-Based Intervention Programs in Terms of National Learning Recovery Program

Numeracy	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
National Learning Recovery Program								
1. Addresses the learning gaps of the learners through collaboration of the stakeholders.	4.98	VMI	4.80	VMI	4.93	VMI	4.92	VMI
2. Drives collaborative action to promote better numeracy and mathematics learning in schools across all grade levels.	4.98	VMI	4.80	VMI	4.94	VMI	4.92	VMI
3. Improves shared understanding of numeracy and its critical connections with Mathematics and the real-world.	4.98	VMI	4.82	VMI	4.93	VMI	4.92	VMI
4. Applies key principles in developing numeracy and mathematics skills.	4.97	VMI	4.78	VMI	4.93	VMI	4.91	VMI
5. Increases the availability of broad and reliable data on numeracy and mathematics progress and achievements.	4.97	VMI	4.80	VMI	4.94	VMI	4.92	VMI
Overall	4.98	VMI	4.80	VMI	4.94	VMI	4.92	VMI

Legend: VMI- Very Much Implemented

National Learning Recovery Program had an overall mean of 4.92 and verbally interpreted as “Very Much Implemented.” The statements (a) “Addresses the learning gaps of the learners through collaboration of the stakeholders;” (b) “Drives collaborative action to promote better numeracy and mathematics learning in schools across all grade levels,” (c) “Improves shared understanding of numeracy and its critical connections with Mathematics and the real-world;” and (d) “Increases the availability of broad and reliable data on numeracy and mathematics progress and achievements” obtained the highest overall mean of 4.92 respectively and verbally interpreted as “Very Much Implemented.” However, among the schools’ divisions, cluster A attained the overall highest mean of 4.98 which is verbally interpreted as “Very Much Implemented.”

The result discloses that most of the public elementary schools strictly abide and implemented the National Learning Recovery Program ascertaining the importance of collaboration among the stakeholders.

This implies that stakeholders' involvement can often lead to greater project and goals attainment. Collaboration involves together support and engagement to help the learners achieve their goals.

It is in connection to what has been mentioned by The Knowledge Nest (2018) that in any educational system, stakeholders play a vital role in shaping curriculum development, policies, and decision-making processes. These individuals, groups, or organizations have a vested interest in the educational system and contribute to its growth and success. It is crucial to identify and understand the diverse range of stakeholders involved to ensure a well-rounded and holistic approach to education.

Table 6 on the next page describes the extent of implementation of the common numeracy-related school-based intervention programs in terms of National Learning Camp.

Table 6
Extent of Implementation of the Common Numeracy-Related School-Based Intervention Programs in Terms of National Learning Camp

Numeracy	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
National Learning Camp								
1. Assists the learners and aims to close learning gaps in attaining learning standards.	4.92	VMI	4.95	VMI	4.93	VMI	4.93	VMI
2. Provides an enhancement camp that enriches learning for advanced learners by providing greater depth, breadth, and complexity of learning area competencies.	4.90	VMI	4.92	VMI	4.93	VMI	4.92	VMI
3. Provides a consolidation camp for further practice on and application of previously taught competencies. Opportunities are provided to identify links connecting concepts and skills across grade-level competencies.	4.92	VMI	4.93	VMI	4.93	VMI	4.93	VMI
4. Provides an intervention camp that supports learners who are yet to grasp Foundational Mathematics skills.	4.90	VMI	4.92	VMI	4.93	VMI	4.92	VMI
5. Consolidates feedback to address the needs and ensure a continuous improvement in the implementation of the program.	4.90	VMI	4.92	VMI	4.93	VMI	4.92	VMI
Overall	4.91	VMI	4.93	VMI	4.93	VMI	4.93	VMI

Legend: VMI- Very Much Implemented

National Learning Camp Program had an overall mean of 4.93 and verbally interpreted as "Very Much Implemented." The statements (a) "Assists the learners and aims to close learning gaps in attaining learning standards;" and (b) "Provides a consolidation camp for further practice on and application of previously taught competencies. Opportunities are provided to identify links connecting concepts and skills across grade-level competencies," obtained the highest overall mean of 4.93 respectively and verbally interpreted as "Very Much Implemented." However, among the schools' divisions, cluster B and C attained the overall highest mean of 4.93 which is verbally interpreted as "Very Much Implemented."

The result indicates that most of the public elementary schools strictly abide and implemented the National Learning Camp Program determining the learning gaps and recover the learning competencies.

This implies that immediately addressing the learning gaps often leads to a focus on remedial strategies that may impact the learners' progressive learning outcomes.

The results harmonized with the statement of Neendoor (2024) which is addressing the learning gaps that students inevitably experience is one of the most important issues confronting teachers. These gaps stem from diverse factors, such as individual circumstances, learning styles, and variations in prior knowledge. To ensure every student has equal opportunities to learn and succeed, teachers must employ efficient remediation strategies.

Table 7 on the next page presents the composite table on the extent of Implementation of the common literacy-related and numeracy-related school-based intervention programs.

Based on the summary or composite table, the extent of implementation of the school-based intervention program with respect to Literacy Skills, Project 3Bs obtained the highest overall mean of 4.97 whereas; with respect to Numeracy Skills, National Learning Camp (NLC) Program attained the highest mean of 4.93 which are verbally interpreted as “Very Much Implemented” respectively.

Table 7
Composite Table on the Extent of Implementation of the Common Literacy-Related and Numeracy-Related School-Based Intervention Programs in the Public Elementary Schools in the Province of Laguna

	Project	Cluster A		Cluster B		Cluster C		Overall	
		Mean	VI	Mean	VI	Mean	VI	Mean	VI
Literacy	Project 3Bs	4.89	VMI	5.00	VMI	4.99	VMI	4.97	VMI
	Project REACH	4.89	VMI	4.82	VMI	4.92	VMI	4.89	VMI
	Project DEAR	4.97	VMI	4.82	VMI	4.92	VMI	4.91	VMI
Numeracy	ELLN Program	4.95	VMI	4.72	VMI	4.76	VMI	4.79	VMI
	NLR Program	4.98	VMI	4.80	VMI	4.94	VMI	4.92	VMI
	NLC Program	4.91	VMI	4.93	VMI	4.93	VMI	4.93	VMI
Grand		4.93	VMI	4.85	VMI	4.91	VMI	4.90	VMI

Legend: VMI- Very Much Implemented

It can be gleaned from the table that most of the public elementary schools highly implemented the literacy and numeracy intervention programs.

This implies that the teachers can highly observe the implementation of the programs for the struggling/non-reader and low numerate learners. This also indicates that teacher possess the ability to closely monitor the execution of programs designed to support struggling and low numerate learners. Teachers are eager to address the learning gaps through the implementation of various interventions in literacy and numeracy.

In line with the study of Maulion (2022) it is intended to give emphasis on enhancing learners' literacy and numeracy. The schools' objective is to either reduce the number of pupils who struggle with reading and non-numerates every month or, at all costs, to eliminate the gaps. Thus, teachers must be equipped with teaching prowess in literacy and numeracy by means of Learning Action Cell session that the school will be conducting.

Extent of Utilization of Innovative Teaching Strategies in Public Elementary Schools in the Province of Laguna with Respect to Interactive Lessons, Blended Learning, Project-Based Learning, Inquiry-Based Learning, and Peer Teaching

Table 8 shows the extent of utilization of innovative teaching strategies in public elementary schools as measured by interactive lessons.

Table 8
Extent of Utilization of Innovative Teaching Strategies in Public Elementary Schools in the Province of Laguna with respect to Interactive Lessons

Interactive Lessons	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
1. Allows the learners to actively involved in the interactive learning process through activities that require their participation, such as answering questions, solving problems, or making decisions.	4.95	VHE	4.88	VHE	4.90	VHE	4.91	VHE
2. Incorporates various multimedia elements like images, videos, audio clips, animations, and simulations to present information in diverse formats, catering to different learning styles and	4.93	VHE	4.83	VHE	4.85	VHE	4.86	VHE

preferences.								
3. Ensures that interactive lessons can adapt to the learner's pace, level of understanding, and learning preferences. They may include branching scenarios or personalized pathways based on learner responses or performance.	4.93	VHE	4.85	VHE	4.88	VHE	4.88	VHE
4. Designs interactive lessons to be accessible across different devices and platforms, allowing learners to engage with the content anytime, anywhere, and on various devices like computers, tablets, or smartphones.	4.93	VHE	4.83	VHE	4.83	VHE	4.85	VHE
5. Includes features for tracking learner progress, such as quizzes, assessments, or progress bars, helping learners monitor their advancement and providing instructors with insights into learners' performance.	4.95	VHE	4.85	VHE	4.87	VHE	4.88	VHE
Overall	4.94	VHE	4.85	VHE	4.87	VHE	4.88	VHE

Legend: VHE- Very High Extent

The table highlights that among the indicators of Interactive Lessons, the statement “the respondents allow the learners to actively involve in the interactive learning process through activities that require their participation, such as answering questions, solving problems, or making decisions obtained the highest mean of 4.91, which is verbally interpreted as “Very High Extent.” On the other hand, the lowest in rank is the statement “designs interactive lessons to be accessible across different devices and platforms, allowing learners to engage with the content anytime, anywhere, and on various devices like computer, tablets, or smartphones” with a mean of 4.85 which is verbally interpreted as “Very High Extent”. The obtained overall mean is 4.88 with a verbal interpretation of “Very High Extent”. Cluster A obtained the highest overall mean of 4.94 and verbally interpreted as “Very High Extent.”

The result means that the extent of utilization of innovative teaching strategies as measured by interactive lessons is very high extent.

This implies that the learners are encouraged to actively be involved in their learning process. There are many benefits to interactive learning, including increased engagement and enhance social skills with their peers. With the integration of various multimedia elements like images, videos, audio clips, animations, and the like could increase students' engagement, collaboration, and critical thinking.

This result is related to the statement of Veza et.al. (2023) stating that interactive lectures, on the other hand, break up the monotony of traditional lectures by incorporating short activities or questions throughout the presentation. Utilising technology such as polling software, instructors can gather real-time feedback from students and adapt the lecture based on their responses. This method maintains student engagement and encourages active listening.

Table 9 illustrates the extent of utilization of innovative teaching strategies in public elementary schools as measured by blended learning.

Table 9
Extent of Utilization of Innovative Teaching Strategies in Public Elementary Schools in the Province of Laguna with respect to Blended Learning

Blended Learning	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
1. Ensures that blended learning allows for customization and personalization of learning experiences based on individual learner needs, interests, and goals, enhancing engagement and relevance.	4.65	VHE	4.65	VHE	4.69	VHE	4.68	VHE
2. Seamlessly integrates both traditional classroom instruction and online learning activities. It leverages technology to enhance and complement face-to-face interactions.	4.65	VHE	4.65	VHE	4.72	VHE	4.69	VHE
3. Offers flexibility in terms of time, location, and pace of learning. Learners can access online resources and complete activities at their own convenience, while still benefiting from	4.62	VHE	4.60	VHE	4.63	VHE	4.62	VHE

in-person interactions during scheduled class sessions.									
4.	Incorporates a variety of learning modalities, such as lectures, discussions, group activities, multimedia presentations, simulations, and online assessments. This diversity caters to different learning styles and preferences.	4.65	VHE	4.62	VHE	4.71	VHE	4.68	VHE
5.	Promotes active engagement through interactive online activities, collaborative projects, and hands-on exercises. It encourages learners to take ownership of their learning and participate more actively in the educational process.	4.65	VHE	4.65	VHE	4.69	VHE	4.68	VHE
Overall		4.64	VHE	4.63	VHE	4.69	VHE	4.67	VHE

Legend: VHE- Very High Extent

The result shows that among the indicators of Blended Learning, the statement that, blended learning seamlessly integrates both traditional classroom instruction and online learning activities. It leverages technology to enhance and complement face-to-face interaction got the highest mean of 4.69 with the verbal interpretation of “Very High Extent”. However, the lowest in rank is the statement “Offers flexibility in terms of time, location, and pace of learning. Learners can access online resources and complete activities at their own convenience, while still benefiting from in-person interactions during scheduled class sessions” with a mean of 4.62 which is verbally interpreted as “Very High Extent”. Cluster C gained the highest overall mean of 4.69 and verbally interpreted as “Very High Extent.”

The results shown that the extent of utilization of innovative teaching strategies as measured by blended learning is “Very High Extent”.

This implies that teachers are focused on the application of varied learning modalities. Teaching learners based on their learning styles and needs can increase comprehension and give the student a feeling of success. Teachers utilize multiple modalities to engage the learners in the type of approaches or strategies that they can learn and understand.

The result is connected to the study of Han (2023) demonstrated: (1) The hypothesized factors (course overview, course objectives, assessments, 1148 class activities, course resources, and technology support) were aligned as a unified system in blended learning. (2) There was a positive relationship between the effectiveness of blended learning and student learning outcomes. Additional findings, explanations, and suggestions for future research were also discussed in the study.

Table 10 depicts the extent of utilization of innovative teaching strategies in public elementary schools as measured by project-based learning.

Table 10
Extent of Utilization of Innovative Teaching Strategies in Public Elementary Schools in the Province of Laguna with respect to Project-Based Learning

Project-Based Learning		Cluster A		Cluster B		Cluster C		Overall	
		Mean	VI	Mean	VI	Mean	VI	Mean	VI
1.	Empowers students to take ownership of their learning. Learners have autonomy and agency in choosing project topics, setting goals, and determining project outcomes, which enhances motivation and engagement.	4.65	VHE	4.65	VHE	4.64	VHE	4.64	VHE
2.	Emphasizes hands-on learning experiences where learners actively manipulate and interact with content, objects, or virtual environments to deepen their understanding and skills.	4.67	VHE	4.65	VHE	4.71	VHE	4.69	VHE
3.	Allows for customization and personalization of learning experiences based on individual learner needs, interests, and goals, enhancing engagement and relevance.	4.70	VHE	4.65	VHE	4.68	VHE	4.68	VHE
4.	Contextualizes learning within real-world scenarios or contexts, enabling learners to apply their knowledge and skills to practical situations, thereby enhancing relevance and transferability.	4.63	VHE	4.65	VHE	4.72	VHE	4.69	VHE

5. Begins with a driving question or problem that prompts inquiry and investigation and allows learners to engage in research, exploration, and critical thinking to seek solutions or answers.	4.67	VHE	4.63	VHE	4.67	VHE	4.66	VHE
Overall	4.66	VHE	4.65	VHE	4.68	VHE	4.67	VHE

Legend: VHE- Very High Extent

It is evident from the table that the statements: “Teacher emphasizes hands-on learning experiences where learners actively manipulate and interact with content, objects, or virtual environments to deepen their understanding and skills;” and “Contextualizes learning within real-world scenarios or contexts, enabling learners to apply their knowledge and skills to practical situations, thereby enhancing relevance and transferability.” with overall mean of both 4.69 which are verbally interpreted as “Very High Extent” respectively. However, the lowest in rank is the statement “Empowers students to take ownership of their learning. Learners have autonomy and agency in choosing project topics, setting goals, and determining project outcomes, which enhances motivation and engagement.” with a mean of 4.64 which is verbally interpreted as “Very High Extent”. Cluster C gained the highest overall mean of 4.68 and verbally interpreted as “Very High Extent.”

The result means that the extent of utilization of innovative teaching strategies as measured by project-based learning is very high extent.

This explains that teachers apply project-based learning for the learners to have a deeper understanding and greater retention of content knowledge. Learners are better able to apply what they know to new situations and as they experience it in an actual scenario. They expose them to a real-world experience in creating meaningful projects. The learners are given learning opportunities that can boost their curiosity and critical thinking while doing it.

The result is related to the study of Almulla (2020) A significant relation was found between the Project-Based Learning method and collaborative learning, disciplinary subject learning, iterative learning, and authentic learning, which, in turn, produced student engagement. The results show that the PBL technique improves student engagement by enabling knowledge and information sharing and discussion. Thus, the PBL approach is highly recommended for educational use by students and should be encouraged in universities.

Table 11 displays the extent of utilization of innovative teaching strategies in public elementary schools as measured by inquiry-based learning.

Table 11
Extent of Utilization of Innovative Teaching Strategies in Public Elementary Schools in the Province of Laguna with respect to Inquiry-Based Learning

Inquiry-Based Learning	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
1. Designs inquiry-based learning iteratively, incorporating feedback from learners, instructors, and evaluations to continuously improve content, usability, and effectiveness.	4.77	VHE	4.72	VHE	4.73	VHE	4.73	VHE
2. Provides scaffolding and support to guide their exploration. This may include asking probing questions, providing resources, facilitating discussions, and offering feedback.	4.73	VHE	4.73	VHE	4.73	VHE	4.73	VHE
3. Focuses on the process of inquiry rather than just the acquisition of knowledge or information. It emphasizes skills such as critical thinking, problem-solving, information literacy, and metacognition.	4.77	VHE	4.75	VHE	4.76	VHE	4.76	VHE
4. Promotes the integration of multiple disciplines and perspectives. Learners make connections across subject areas and explore topics from interdisciplinary angles, fostering a holistic understanding.	4.77	VHE	4.75	VHE	4.76	VHE	4.76	VHE
5. Fosters intrinsic motivation and curiosity. By	4.78	VHE	4.73	VHE	4.74	VHE	4.75	VHE

allowing learners to pursue their interests and questions, IBL promotes a sense of engagement, ownership, and joy in learning.								
Overall	4.76	VHE	4.74	VHE	4.74	VHE	4.75	VHE

Legend: VHE- Very High Extent

It is evident from the table that from among the indicators of Inquiry-based Learning, the statement (a) “Focuses on the process of inquiry rather than just the acquisition of knowledge or information. It emphasizes skills such as critical thinking, problem-solving, information literacy, and metacognition; and (b) “promotes the integration of multiple disciplines and perspectives. Learners make connections across subject areas and explore topics from interdisciplinary angles, fostering a holistic understanding” garnered the highest overall mean of 4.76, verbally interpreted as as “Very High Extent” respectively. On the other hand, the statement, the teacher provides scaffolding and support to guide their exploration; and designs inquiry-based learning iteratively, incorporating feedback from learners, instructors, and evaluations to continuously improve content, usability, and effectiveness ranked the lowest with an overall mean of 4.73 and verbally interpreted as “Very High Extent”. Cluster A gained the highest overall mean of 4.76 and verbally interpreted as “Very High Extent.”

The result reveals that the extent of utilization of innovative teaching strategies as measured by inquiry-based learning is “Very High Extent”.

This explains that teachers encourage the learners to develop their thinking skills by providing questions and get answers based on inquisitiveness, interest, and imagination. They could only act as the facilitators, and the learners explore and ask questions.

This is congruent to the findings of the study of Antonio et.al. , (2024) that inquiry-based learning enhances academic performance across grade levels. Notably, it exhibits greater efficacy at the high school level compared to other educational level, with effect sizes showing no significant variation by publication type (i.e., articles and theses).

Meanwhile, He also cited Aktamiş et al., (2016) explaining that inquiry-based science education enhances academic performance and aids in honing science process skills and attitudes, though its impact on student achievement is more pronounced.

Table 12 displays the extent of utilization of innovative teaching strategies in public elementary schools as measured by peer teaching.

Table 12
Extent of Utilization of Innovative Teaching Strategies in Public Elementary
Schools in the Province of Laguna with respect to Peer Teaching

Peer Teaching	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
1. Facilitates collaboration and social interaction among learners through activities like group discussions, peer review, or collaborative projects, fostering a sense of community and shared learning experiences.	4.62	VHE	4.85	VHE	4.78	VHE	4.76	VHE
2. Promotes active engagement among students. Both the teacher and the learner are actively involved in the learning process, which can enhance comprehension, retention, and critical thinking skills.	4.63	VHE	4.83	VHE	4.77	VHE	4.76	VHE
3. Provides students with the opportunity to learn from different perspectives. Peers may offer alternative explanations, examples, or approaches to problem-solving, enriching the learning experience for everyone involved.	4.65	VHE	4.83	VHE	4.76	VHE	4.75	VHE
4. Fosters social interaction and collaboration among students. It encourages communication, teamwork, and peer support, which can enhance the learning environment and promote a sense of belonging within the classroom community.	4.62	VHE	4.83	VHE	4.78	VHE	4.76	VHE
5. Plays a facilitating role by providing guidance, support, and oversight. Teachers may provide training, resources, and guidelines to ensure the effectiveness and success of peer	4.62	VHE	4.83	VHE	4.78	VHE	4.76	VHE

teaching activities.								
Overall	4.63	VHE	4.84	VHE	4.77	VHE	4.76	VHE

Legend: VHE- Very High Extent

The data shows that teachers: Facilitates collaboration and social interaction among learners through activities like group discussions, peer review, or collaborative projects, fostering a sense of community and shared learning experiences; Promotes active engagement among students. Both the teacher and the learner are actively involved in the learning process, which can enhance comprehension, retention, and critical thinking skills; Fosters social interaction and collaboration among students. It encourages communication, teamwork, and peer support, which can enhance the learning environment and promote a sense of belonging within the classroom community; and plays a facilitating role by providing guidance, support, and oversight. Teachers may provide training, resources, and guidelines to ensure the effectiveness and success of peer teaching activities; all of them obtained the highest overall mean of 4.76 with a verbal interpretation of “Very High Extent.” On the other hand, the statement, “The teacher provides students with the opportunity to learn from different perspectives. Peers may offer alternative explanations, examples, or approaches to problem-solving, enriching the learning experience for everyone involved.” ranked the lowest with an overall mean of 4.75 and verbally interpreted as “Very High Extent”. Cluster B gained the highest overall mean of 4.84 and verbally interpreted as “Very High Extent.”

The result reveals that the extent of utilization of innovative teaching strategies as measured by peer teaching learning is “Very High Extent”.

This implies that teachers provide an opportunity for learners to share and discuss diverse perspectives, ideas, and thoughts leading to a more comprehensive understanding of the subject matter. It can also facilitate collaboration and teamwork.

This is in accordance with the study of TeachThought Staff (2019), help from peers increases learning both for the students being helped as well as for those giving the help. For the students being helped, the assistance from their peers enables them to move away from dependence on teachers and gain more opportunities to enhance their learning. For the students giving the help, the cooperative learning groups serve as opportunities to increase their own performance. They have the chance to experience and learn that “teaching is the best teacher”

Table 13 displays the composite table on the extent of utilization of innovative teaching strategies in Public Elementary Schools.

Table 13
Composite Table on the Extent of Utilization of Innovative Teaching Strategies in Public Elementary Schools in the Province of Laguna

Teaching Strategies	Cluster A		Cluster B		Cluster C		Overall	
	Mean	VI	Mean	VI	Mean	VI	Mean	VI
A. Interactive Lessons	4.94	VHE	4.85	VHE	4.87	VHE	4.88	VHE
B. Blended Learning	4.64	VHE	4.63	VHE	4.69	VHE	4.67	VHE
C. Project-Based Learning	4.66	VHE	4.65	VHE	4.68	VHE	4.67	VHE
D. Inquiry-Based Learning	4.76	VHE	4.74	VHE	4.74	VHE	4.75	VHE
E. Peer Teaching	4.63	VHE	4.84	VHE	4.77	VHE	4.76	VHE
Grand	4.73	VHE	4.74	VHE	4.75	VHE	4.74	VHE

Legend: VHE- Very High Extent

Based on the summary or composite table, the extent of utilization of innovative teaching strategies with respect to Interactive Lessons, Blended Learning, Project-Based Learning, Inquiry-Based Learning and Peer Teaching garnered an overall grand mean of 4.74 which is verbally interpreted as “Very High Extent”. Among the extent of utilization of innovative teaching strategies, Interactive lessons ranked the highest with overall mean 4.88 which is verbally interpreted as “Very High Extent”, followed by Peer Teaching with an overall mean of 4.76 which is verbally interpreted as “Very High Extent.” Followed by Inquiry-based learning

with an overall mean of 4.75 which is verbally interpreted as “Very High Extent” and the lowest is Project-based learning and Blended Learning with an overall mean of 4.67 which are verbally interpreted as “Very High Extent respectively. In summary most of the respondents embracing innovative teaching strategies in education.

The result indicates that the extent of utilization of innovative teaching strategies in Public Elementary School is very high extent.

This implies that educators can create more dynamic and effective learning environments that help learners develop the knowledge, skills, and competencies they need to succeed in today's rapidly changing world.

It is supported by the study of Serdyukov (2017) stated that the need for educational innovations has become acute. “It is widely believed that countries’ social and economic well-being will depend to an ever-greater extent on the quality of their citizens’ education: the emergence of the so-called ‘knowledge society’, the transformation of information and the media, and increasing specialization on the part of organizations all call for high skill profiles and levels of knowledge. Today’s education systems are required to be both effective and efficient, or in other words, to reach the goals set for them while making the best use of available resources.

Level of Learners’ Academic Performance in Numeracy and Literacy in Public Elementary Schools in the Province of Laguna

Table 14 shows the level of learners’ academic performance in literacy in public elementary schools in the province of Laguna.

Table 14
Level of Learners’ Academic Performance in Literacy in Public Elementary Schools in the Province of Laguna

Cluster	Grade	Literacy		
		Mean	Sd.	VI
A	Grade 1	83.43	0.14	S
	Grade 2	84.22	0.62	S
	Grade 3	85.65	0.09	VS
	Grade 4	86.49	1.99	VS
	Grade 5	86.95	1.37	VS
	Grade 6	85.28	0.25	VS
	Average	85.33	0.16	VS
B	Grade 1	84.29	1.36	S
	Grade 2	86.11	0.34	VS
	Grade 3	85.83	1.82	VS
	Grade 4	85.31	0.55	VS
	Grade 5	85.90	0.66	VS
	Grade 6	86.03	2.48	VS
	Average	85.58	0.87	VS
C	Grade 1	84.32	0.66	S
	Grade 2	84.87	1.23	S
	Grade 3	85.21	0.60	VS
	Grade 4	85.41	0.52	VS
	Grade 5	86.30	2.02	VS
	Grade 6	86.92	2.00	VS
	Average	85.51	0.68	VS
Overall	Grade 1	84.13	0.76	S
	Grade 2	84.99	1.15	S
	Grade 3	85.42	0.81	VS
	Grade 4	85.61	0.92	VS
	Grade 5	86.35	1.63	VS
	Grade 6	86.41	1.85	VS
	Average	85.49	0.59	VS

Legend: VS – Very Satisfactory; S - Satisfactory

The result shows that the learners' academic performance from grades 1 to grade 6 in literacy obtained an overall mean of 85.49 with verbal interpretation of "Very Satisfactory." Very Satisfactory learners are those who meet the expectations or requirements for academic performance. In the context of academic grading, learners typically achieve grades that are considered as highly acceptable.

It implies that the level of learners' academic performance in terms of literacy with the description described as "Very Satisfactory" indicate the learners' good grasp of the subject matter that are being taught to them.

The result is reinforced by the study conducted by Akyol et al., (2019) revealing that when suitable methods and techniques are used and one-to-one activities are carried out for remedying reading problems of students with reading difficulties, these students' reading skills can be improved. Moreover, it can be said that the sooner interventions are made for students with reading difficulties, the more effective these will be.

Table 15 on the next page shows the level of learners' academic performance in numeracy in public elementary schools in the province of Laguna.

The result reveals that the learners' academic performance from grades 1 to grade 6 in numeracy garnered an overall mean of 84.98 with verbal interpretation of "Satisfactory." Satisfactory learners are those who meet the minimum expectations or requirements for academic performance. In the context of academic grading, satisfactory learners typically achieve grades that are considered acceptable but may not be exceptional.

It implies that the level of learners' academic performance in numeracy with the description described as "Satisfactory" need to give utmost attention to address the prevailing problems that hinder the learners' academic performance. It is important to note that satisfactory learners may have the potential to improve their academic performance further with targeted support, motivation, and guidance.

Table 15
Level of Learners' Academic Performance in Numeracy in Public Elementary Schools in the Province of Laguna

Cluster	Grade	Numeracy		
		Mean	Sd.	VI
A	Grade 1	84.05	0.44	S
	Grade 2	84.60	0.34	S
	Grade 3	85.20	0.72	VS
	Grade 4	84.68	0.60	S
	Grade 5	85.08	0.46	VS
	Grade 6	85.30	1.70	VS
	Average	84.82	0.36	S
B	Grade 1	84.03	2.33	S
	Grade 2	84.60	0.35	S
	Grade 3	84.96	1.60	S
	Grade 4	87.14	0.00	VS
	Grade 5	85.10	2.61	VS
	Grade 6	86.49	2.83	VS
	Average	85.38	1.50	VS
C	Grade 1	83.22	0.78	S
	Grade 2	84.92	0.71	S
	Grade 3	84.61	0.58	S
	Grade 4	85.07	0.61	VS
	Grade 5	85.23	1.22	VS
	Grade 6	86.33	1.01	VS
	Average	84.89	0.38	S
Overall	Grade 1	83.54	1.07	S
	Grade 2	84.79	0.58	S
	Grade 3	84.80	0.77	S
	Grade 4	85.40	1.06	VS
	Grade 5	85.17	1.27	VS
	Grade 6	86.15	1.41	VS
	Average	84.98	0.63	S

Legend: VS – Very Satisfactory; S – Satisfactory

This is supported by the study AL-Muslimawi and Hamid (2019) examine factors influencing academic performance of students. The measured factors have been divided into: External Factors (Extracurricular Activities, Family Problems, Work and Financial, Social and other Problems) and Internal

Factors (Students' Competence and Aptitude, Class: Schedule, Size, Environment, Text Books and exam systems, learning Facilities and Technology) The results of the study reveal that students are suffering from outdated text books and routine exam systems align with family problems. The test also shows that most students have a great zeal towards the systematic application of knowledge in classroom through technological facilities, males are more eager in this aspect. A deeper analysis displays that the age between 20-23 is more acceptable of this application than the others.

Relationship between the Extent of Implementation of School-Based Intervention Programs' and the Level of Learners' Academic Performance in Public Elementary Schools

Table 16 presents the significant relationship between the extent of implementation of school-based literacy program and the level of academic performance in public elementary schools.

Table 16

Significant Relationship between the Extent of Implementation of Literacy-related School-Based Intervention Programs and the Level of Learners' Academic Performance in Public Elementary Schools

Literacy-related Intervention Programs	r	p-value	Ho	VI
Project 3Bs - Bawat Bata Bumabasa	.018	.753	FR	NS
Project Reach - Reading Empowerment Asserting Connection at Home	.124	.032	R	S
Project Dear - Drop Everything and Read	.135	.019	R	S
Overall	.129	.025	R	S

The result highlights the significant relationship between the implementation of Project Reach-Reading Empowerment Asserting Connection at Home and the performance in literacy program with a p-value of .032 which is less than 0.05, therefore establishing a significant relationship between the variables.

Another significant finding highlights the relationship between the implementation of Project DEAR (Drop Everything and Read) and the learners' academic performance with a p-value of .019, thus yielding a significant relationship between the variables.

Overall, the implementation of the school-based intervention program in literacy in public elementary schools established a significant relationship with the learners' academic performance.

This implies that the school-based intervention programs in literacy are very helpful for underperforming readers to improve their skills through targeted teaching practices, strategies and support.

Based on the result, it relates to the study of Asio et.al., (2020) stating that remediation and intervention have a significant impact on the academic performance of pupils. This is so since there is a significant difference in the scores between the independent group and the experimental group after the intervention as reflected in their performance through various quizzes. Thus, it is safe to end that remediation interventions can effectively improve pupils' academic performance.

Table 17 presents the significant relationship between the extent of implementation of school-based in numeracy program and the level of academic performance in public elementary schools.

Table 17

Significant Relationship between the Extent of Implementation of Numeracy-related School-Based

Intervention Programs and the Level of Learners' Academic Performance in Public Elementary Schools

Numeracy-related Intervention Programs	r	p-value	H ₀	VI
Early Language Literacy and Numeracy Program	-.023	.686	FR	NS
National Learning Recovery Program	-.007	.901	FR	NS
National Learning Camp	-.023	.697	FR	NS
Overall	-.030	.608	FR	NS

A scrutiny on the table reveals that the p-value that exceeds 0.05 fails to reject the null hypothesis indicating that the variables failed to establish a significant relationship between the extent of implementation of school-based intervention program in numeracy and the level of learners' academic performance in public elementary schools. The overall implementation of the program for Early language Literacy and Numeracy program (ELLN), National Learning Recovery program (NLRP) and National Learning Camp (NLC) did not yield significant relationship with the academic performance in public elementary schools.

This implies that teachers implement the school-based intervention program; however, it did not establish significant relationship with the academic performance because of the many factors like learners' engagement and motivation, time and duration and complexity of academic performance. For instance, learners may struggle to excel academically when they are not engaged and motivated to learn. Improvement in numeracy skills often requires sustained effort over time, therefore, short-term interventions may not be sufficient to yield measurable changes in academic performance. Lastly, the academic performance is influenced by multiple factors beyond numeracy alone.

This further implies that the implementation of the school-based intervention programs focusing on numeracy must be enhanced considering the factors that may affect the learners in achieving and improving their academic performance.

Thus, Educational intervention as explained by Del Mar (2023) is a set of action items that a teacher or administrator can take to improve a child's academic progress. Typically, an intervention population in a K–12 environment refers to students who are performing below grade level, with intensive intervention being for students who are performing two or more years below grade level. There are various types of intervention strategies, such as enhancing personal interactions to understand your students' interests and experiences, setting up your classroom space to minimize distractions, finding what motivates your students, among others.

Relationship between the Innovative Teaching Strategies and the Level of Learners' Academic Performance in Public Elementary Schools

Table 18 presents the relationship between the innovative teaching strategies and the learners' academic performance in literacy in public elementary schools.

Table 18
Significant Relationship between the Innovative Teaching Strategies and the Level of Learners' Academic Performance in Literacy in Public Elementary Schools

Teaching Strategies	r	p-value	H ₀	VI
A. Interactive Lessons	-.029	.617	FR	NS
B. Blended Learning	-.051	.377	FR	NS
C. Project-Based Learning	-.067	.250	FR	NS
D. Inquiry-Based Learning	.057	.329	FR	NS
E. Peer Teaching	.073	.207	FR	NS
Grand	-.004	.949	FR	NS

The result reveals that there is no significant relationship between the innovative teaching strategies and learners' academic performance in literacy in public elementary schools as revealed with the computed p-values which exceeds 0.05. Therefore, failing to reject the null hypothesis that there is no significant relationship between the variables as revealed in the overall results.

This implies that although teachers are dedicated to employing innovative teaching strategies in the implementation of the school-based intervention programs in literacy, learners' academic performance remains an area of improvement. Factors such as implementation challenge, time and adaptation, variability in learner responses to innovative teaching strategies utilized by the teachers in the implementation of the school-based intervention programs were recognized.

For instance, implementation challenges may result from the difficulties in in effective implementation due to the resistance from educators or lack of necessary resources and support. Thus, if not implemented well, their potential benefits may not materialize. The same is true with time and adaptation. Often, it takes time for new teaching strategies to and integrated into existing educational practices. Thus, limited implementation periods may not capture the full potential impact of innovative teaching strategies in the academic performance. Lastly, learners vary in their response to innovative teaching strategies. Factors such as learning styles, background knowledge and individual differences may impact how learners' academic performance may be affected by the innovative teaching strategies.

This further implies that the application of innovative teaching strategies focusing on literacy must consider its appropriateness and differentiated instructions to cater all types of learners with varying response when it comes to the use of innovative teaching strategies.

According to McMillan (2021) that innovation in education can lead to better overall outcomes in the school environment. Innovative classrooms are filled with students who are developing stronger communication skills and building engagement capacity among their peers. Personalized learning and differentiated opportunities for students due to innovative practices in education are key components to preparing students for a global, competitive workforce in the 21st century. In this digital age, students learning in innovative classrooms can potentially retain more information and process at a deeper level of understanding.

Table 19 presents the relationship between the innovative teaching strategies and the learners' academic performance in numeracy in public elementary schools.

Table 19
Significant Relationship between the Innovative Teaching Strategies and the Level of Learners' Academic Performance in Numeracy in Public Elementary Schools

Innovative Teaching Strategies	r	p-value	H ₀	VI
A. Interactive Lessons	.023	.697	FR	NS
B. Blended Learning	-.074	.199	FR	NS
C. Project-Based Learning	-.080	.166	FR	NS
D. Inquiry-Based Learning	.038	.507	FR	NS
E. Peer Teaching	.092	.111	FR	NS
Grand	-.004	.951	FR	NS

The result reveals that there is no significant relationship between the innovative teaching strategies and learners' academic performance in numeracy in public elementary schools as shown with the computed p-values which exceeds 0.05. Therefore, failing to reject the null hypothesis that there is no significant relationship exist between them.

The result discloses that there is no significant relationship between the innovative teaching strategies and learners' academic performance in numeracy in public elementary schools as presented with the computed p-values which exceeds 0.05. Therefore, failed to reject the null hypothesis which means that there

is no significant relationship between the variables as revealed in the overall results. This null result, however, does not necessarily equate to a lack of effect, but rather highlights the need for a more nuanced interpretation considering several potential factors.

The findings suggest a need to critically re-evaluate the effectiveness of the specific innovative teaching strategies for numeracy employed focusing on areas where they may be lacking or exploring alternative strategies altogether. Considering what aspect of strategies might have been ineffective and how they could be improved.

This implies that while teachers are utilizing innovative teaching strategies in the implementation of the school-based intervention programs in numeracy, learners' academic performance remains an area of improvement. Factors such, learning motivation, interest and study habits, interesting and innovative instructional strategies, methods and learning resources were recognized. This denotes several challenges including students' resistance to change or anxiety towards new approaches.

The result harmonized the study of Miller (2018) revealing that small gains in mathematics achievement and high levels of engagement suggest that using interactive technology in the kindergarten classroom enhances learning of mathematics. Factors influencing the use of interactive technology included the quality of the app such that creative and fun apps promoted children's engagement in learning mathematics. The level of difficulty of an app was a second factor influencing children's use of interactive technology. If the difficulty level was too challenging, children became disengaged with the app.

Proposed Optimized Intervention Framework in Literacy and Numeracy Skills Enhancement

The Optimized Intervention Framework in Literacy and Numeracy Skills Enhancement depicts the varied innovative teaching strategies applying various activities needed to improve both literacy and numeracy skills.

The first component is the interactive lessons learning for literacy skills, including multimedia and games to enhance reading and comprehension utilizing interactive lessons, narrated slideshow presentations, online narrated animations, educational computer games, and the like. Concerning numeracy skills, multimedia and games are also being applied that makes learning Mathematics more innovative and fun.

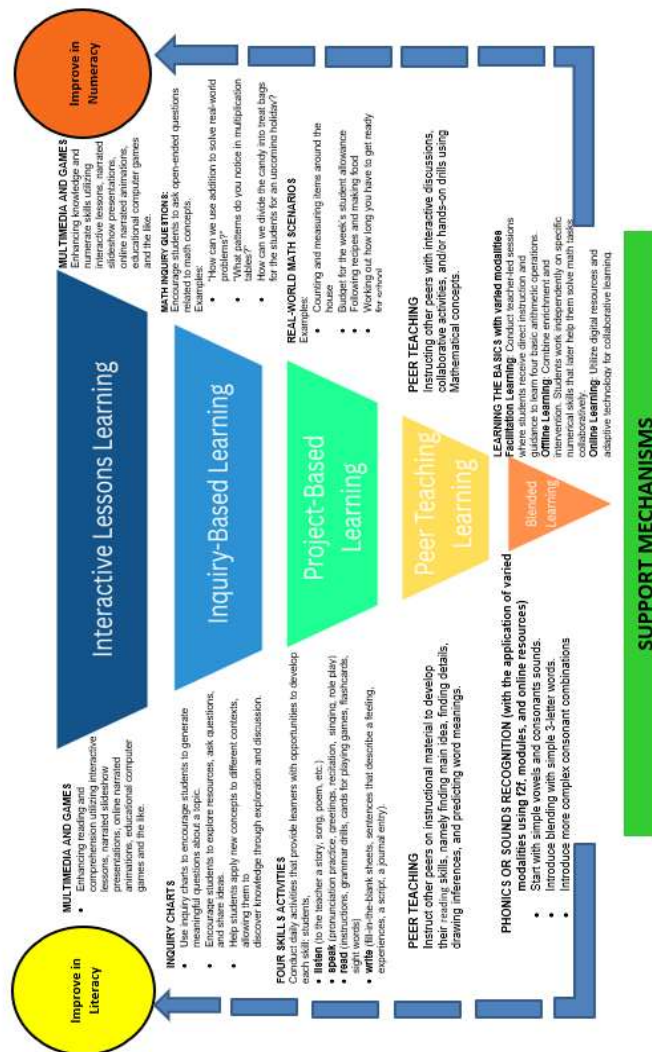
The second component is the inquiry-based learning for literacy program that uses inquiry charts to encourage learners to generate meaningful questions about a topic. Inspire learners to explore resources, ask questions, and share ideas. Help them apply new concepts to different contexts, allowing them to discover knowledge through exploration and discussions. In terms of numeracy skills, there is an augmentation of Math inquiry questions that encourage them to ask open-ended questions related to Math concepts.

The third component is the project-based learning for literacy and numeracy program. Project-Based Inquiry combines these two approaches to create a learning environment where learners engage in meaningful projects that also involve deep inquiry into the subject matter. It encourages them to ask questions, investigate answers, and apply their findings in the context of a larger project. This approach fosters critical thinking, problem-solving skills, and a deeper understanding of concepts, while also promoting creativity and collaboration among them.

The fourth component is the peer teaching learning for literacy and numeracy program. For literacy skills, instruct other peers on instructional materials to develop their reading skills namely finding main idea, finding details, drawing inferences, and predicting word. For numeracy skills, instructing other peers with interactive discussions, collaborative activities, and/or hands-on drills using mathematical concepts.

The last component is blended learning for literacy skills, integrating phonics or sounds recognition with the application of different modalities using f2f, modules, and online resources. For numeracy skills, there is a necessity to learn the basics using facilitation, offline, and online learning.

OPTIMIZED INTERVENTION FRAMEWORK IN LITERACY AND NUMERACY



The Proposed Optimized Intervention Framework in Literacy and Numeracy Skills Enhancement represents a transformative approach to enhancing academic outcomes among elementary school learners. This framework is designed to address the critical need for targeted support in developing foundational skills in literacy and numeracy, paving the way for a future where all learners could excel academically. This intervention framework lies a commitment to innovation and effectiveness in teaching and learning practices. By leveraging interactive lesson learning, differentiated instruction, and the integration of technology and multimedia resources, inquiry-based learning, project based learning and blended learning. The framework aims to create a dynamic and engaging learning environment that caters to the diverse needs of learners. Through a focus on hands-on experiences, peer collaboration, and real-world applications, learners are empowered to actively participate in their learning journey and deepen their understanding of key concepts. The implementation of the Optimized Intervention Framework in Literacy and Numeracy Skills Enhancement is a collaborative effort that involves educators, learners, parents, and the wider school community. By fostering a culture of continuous improvement and feedback, stakeholders work together to ensure that the

framework is responsive to the evolving needs of learners and remains aligned with the goals of academic excellence. The framework sets a new standard for educational practices that prioritize the holistic development and academic success of all learners.

4. Summary of Findings, Conclusions, and Recommendations

This chapter presented the summary of the research work undertaken, the conclusions drawn, and the recommendations made as an outgrowth of this study. It shows the overall summary, findings, and conclusions of the study. After this are the implications of the study followed by recommendations for application and future research.

Summary of Findings

The following findings were presented based on the sequence of the specific problems outlined in Chapter 1:

1. **Extent of Implementation of the Common Literacy-Related and Numeracy-Related School-Based Intervention Programs in the Public Elementary Schools in the Province of Laguna**
 In the analysis of three (3) literacy intervention programs; Project 3Bs and Project REACH obtained the highest mean. Whereas, in numeracy intervention programs NLR Program obtained the highest mean. The overall findings revealed that public elementary schools in the province of Laguna highly implemented the literacy and numeracy intervention programs. They strictly adhere to the DepEd mandated programs which address learning gaps and provide targeted interventions for the learners.
2. **Extent of Utilization of Innovative Teaching Strategies in Public Elementary Schools in the Province of Laguna with Respect to Interactive Lessons, Blended Learning, Project-Based Learning, Inquiry-Based Learning, and Peer Teaching**
 The teachers utilized the innovative teaching strategies such as interactive lessons, blended learning, project-based learning, inquiry-based learning, and peer teaching in a very high extent that promote greater learners' engagement and motivation.
3. **Level of Learners' Academic Performance in Numeracy and Literacy in the Public Elementary Schools in the Province of Laguna**
 The level of the learners' academic performance in the public elementary schools from grades 1 to 6 in literacy was "Very Satisfactory;" whereas, in numeracy was "Satisfactory."
4. **Relationship between the Extent of Implementation of School-Based Intervention Program and the Level of Learners' Academic Performance in Public Elementary Schools**
 The result highlights the significant relationship between the learners' academic performance in literacy and the implementation of the programs. In connection with Project REACH - Reading Empowerment Asserting Connection at Home; parents and guardians were empowered in assisting their children to read at a regularly scheduled time;" and "brings the learning resources closer to the learners' homes or locality." Another significant finding highlights the relationship between the implementation of Project DEAR (Drop Everything and Read) that "provides learners with the opportunity to engage in independent silent reading of their preferred materials;" and "enhances learners' knowledge and skills in and appreciation of reading, values, health, and peace education."
 On the other hand, in terms of numeracy all the variables failed to establish significant relationship between the extent of implementation of school-based intervention program and the level of learners' academic performance in public elementary schools.
5. **Relationship between the Innovative Teaching Strategies and the Level of Learners' Academic Performance in Public Elementary Schools**

The results indicate that there is no significant relationship between the innovative teaching strategies and learners' academic performance in public elementary schools. This finding suggests that, although teachers' dedication to integrating innovative teaching strategies into school-based intervention programs, these strategies have not demonstrated a measurable impact on learners' achievement. Consequently, it is crucial to evaluate these strategies more thoroughly to refine their implementation and ensure they effectively address the needs of learners, thereby enhancing their relevance and potential to improve learners' academic performance.

6. Optimized Intervention Framework in Literacy and Numeracy Skills Enhancement

The results emphasized the necessity of customized strategies that helps students address academic challenges. The proposed optimized intervention framework can be used to help students who are struggling in numeracy and literacy.

Conclusions

Based on the foregoing findings and hypotheses in this study, the following conclusions are derived:

1. School-based intervention programs in literacy skills are very helpful for underperforming readers to improve their skills through targeted teaching practices, strategies and support.
2. Numeracy programs were not fully brought into focus the time, duration, and the learners' engagement and motivation that may affect them in achieving and improving their academic performance in numeracy skills.
3. The study's findings provide evidence that the school-based intervention program has a significant positive impact on learners' literacy skills. This suggests that the program effectively enhances learners' literacy, writing, and language comprehension abilities. Conversely, the program did not demonstrate a significant effect on learners' numeracy performance. These results highlight the programs potential to improve literacy skills but suggest further investigation is needed to determine its effectiveness in enhancing numeracy skills.
4. The innovative teaching strategies in the implementation of the school-based intervention programs in literacy and numeracy remain an area of improvement.

Recommendations

In the light of the findings and conclusions arrived at, the researcher respectfully recommends the following:

1. It is highly recommended that the schools may employ systematic planning and strategic actions for effective implementation of school-based intervention programs for literacy and numeracy.
2. Provide an on-going professional development for teachers that focus on effective literacy and numeracy practices.
3. Utilize an effective tool for remediation and intervention in literacy and numeracy through "Mastery Approach"
4. The researcher recommends a proposed optimized intervention framework for literacy and numeracy skills enhancement.
6. Future researchers are recommended to have parallel studies in different localities and other settings.

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