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RESEARCH ARTICLE

BRIDGING FOUNDATIONAL LITERACY AND NUMERACY GAPS THROUGH PROJECT BEST INTERVENTIONS FRAMEWORK

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ABSTRACT

This pre-implementation action research examined the existing learning gaps in literacy and numeracy at Dr. Juan A. Pastor Integrated National High School during School Year 2023–2024. The study aimed to identify the root causes of these gaps, determine appropriate pre-implementation strategies, and assess teacher readiness under Project BEST (Basic Education Towards Student Transformation). Using mixed methods, data were gathered from diagnostic test results, teacher reflections, and focus group discussions. Findings revealed persistent challenges in reading comprehension, vocabulary development, basic mathematical operations, and problem-solving skills. Contributing factors included post-pandemic learning loss, limited differentiated instruction, and insufficient remediation time. In response, three intervention components—Project READ (Reading Enhancement Action Drive), Project UNO to DOS (Understanding Numbers and Operations to Develop Outstanding Students), and Project ROADS (Remediation for Optimum Academic Development of Students)—were designed to address identified deficiencies. The pre-implementation process emphasized teacher capacity-building, collaborative planning, and

data-driven decision-making. Results underscored the importance of strategic preparation and professional development to ensure effective implementation. Grounded in DepEd's policies and the Philippine Professional Standards for Teachers, this study established a framework for sustainable, inclusive, and evidence-based academic recovery.

Keywords: *Project BEST, Literacy, Numeracy, Remediation, Pre-Implementation, Teacher Capacity-building, DepEd Action Research*

INTRODUCTION

Dr. Juan A. Pastor Integrated National High School identified continuing learning gaps in literacy and numeracy among students during School Year 2023–2024. The lingering effects of the pandemic led to incomplete mastery of essential skills, resulting in poor comprehension, difficulty in problem-solving, and limited student engagement across subject areas.

Reading assessments revealed that many learners, from junior to senior high school, remained at frustration and instructional reading levels in both English and Filipino. Weak comprehension and low fluency prevented students from succeeding in tasks requiring analysis, interpretation, and higher-order thinking.

Similarly, numeracy assessments indicated that a significant portion of learners struggled with fundamental mathematical operations, logical reasoning, and real-life application of math concepts. These deficiencies impeded students' ability to cope with grade-level expectations and affected their performance across subjects.

Teachers also faced difficulties in implementing differentiated instruction and addressing learners' varied needs within limited classroom time. Given these challenges, there was an urgent need for a comprehensive, school-based, and legally grounded intervention that would strengthen foundational literacy and numeracy while promoting professional growth

among teachers.

To respond, the school conceptualized Project BEST (Basic Education Towards Student Transformation), integrating targeted interventions such as Project READ, Project UNO to DOS, and Project ROADS. This pre-implementation action research seeks to assess the 2023–2024 learning gaps to guide the strategic rollout of these interventions in the succeeding school year.

LITERATURE REVIEW

Foundational literacy and numeracy skills are essential components of learner success and serve as the building blocks for higher-order thinking, academic achievement, and lifelong learning. According to Vygotsky (1978), learners develop cognitive abilities through meaningful social interaction, collaboration, and guided support from more knowledgeable individuals. This principle emphasizes the importance of structured interventions and teacher-guided learning experiences in addressing literacy and numeracy deficiencies among struggling learners. The development of foundational skills is particularly critical in contexts where learners experience learning disruptions and gaps in mastery.

In the Philippine educational context, Republic Act No. 10533, otherwise known as the Enhanced Basic Education Act of 2013, underscores the need for learner-centered, inclusive, and developmentally appropriate instruction that addresses the varying needs of learners. The law emphasizes the importance of strengthening foundational competencies and ensuring that learners acquire essential knowledge, skills, and values necessary for lifelong learning. Similarly, Republic Act No. 9155, or the Governance of Basic Education Act of 2001, promotes school-based management and shared accountability in improving educational outcomes through responsive and context-specific interventions.

Reading proficiency remains a major concern in basic education. Department of

Education (DepEd) has continuously implemented initiatives to enhance reading through DepEd Order No. 44, s. 2015, which institutionalized the National Reading Program. The program recognizes that reading comprehension, vocabulary acquisition, and fluency are essential skills that significantly influence learners' performance across content areas. Research shows that learners who struggle with reading often encounter difficulties in understanding lessons, following instructions, and analyzing information, which consequently limits their academic performance.

Likewise, numeracy development is crucial in enabling learners to perform mathematical operations, solve real-life problems, and make logical decisions. Studies have shown that gaps in basic numeracy competencies negatively affect learners' confidence and achievement in mathematics and other related disciplines. Numeracy interventions that employ differentiated instruction, peer-assisted learning, small-group teaching, and problem-based approaches have demonstrated positive impacts on learner performance and engagement. Such approaches are particularly beneficial for learners who require additional support in mastering foundational mathematical concepts.

The effects of the COVID-19 pandemic further intensified concerns regarding literacy and numeracy learning losses. The Department of Education recognized these challenges through the Learning Continuity Plan and subsequent learning recovery initiatives. Learning disruptions resulted in incomplete mastery of prerequisite competencies, reduced learner engagement, and uneven access to educational resources. Consequently, many learners advanced to higher grade levels without fully developing foundational literacy and numeracy skills, creating significant learning gaps that require immediate and systematic intervention.

Teacher effectiveness plays a central role in addressing learning deficiencies. The Philippine Professional Standards for Teachers (PPST) under DepEd Order No. 42, s. 2017 emphasizes professional growth, reflective practice, assessment literacy, and differentiated instruction as key competencies of effective teachers. Capacity-building initiatives that

strengthen teachers' ability to diagnose learning gaps, design targeted interventions, and monitor learner progress contribute significantly to improved educational outcomes. Teachers who are equipped with appropriate pedagogical skills are more capable of implementing responsive instructional strategies that address diverse learner needs.

Furthermore, Bandura's Social Cognitive Theory (1986) provides a theoretical basis for understanding learner performance and behavior. The theory posits that learning occurs through the interaction of personal, behavioral, and environmental factors. In the context of literacy and numeracy interventions, learner motivation, self-efficacy, teacher support, and the learning environment collectively influence academic achievement. Effective interventions therefore require holistic strategies that address both instructional and psychosocial dimensions of learning.

The literature also highlights the importance of remediation and academic recovery programs in bridging learning gaps. School-based interventions that integrate assessment data, targeted instruction, progress monitoring, and stakeholder involvement have been shown to improve learner outcomes. Such programs are most effective when they are systematic, evidence-based, and aligned with learners' identified needs. The use of data-driven decision-making allows schools to design intervention programs that are responsive, sustainable, and capable of producing meaningful improvements in learner performance.

RESEARCH QUESTIONS

To plan and implement Project BEST effectively, it is important to understand the academic challenges noted in School Year 2023–2024. The research questions aim to identify the causes of learning gaps in literacy and numeracy, determine suitable pre-implementation strategies, and assess teacher readiness. These questions will guide data gathering to ensure that Project BEST interventions are evidence-based and responsive to the needs of both learners and teachers.

Specifically, it sought answers to the following questions:

1. What specific learning gaps in literacy and numeracy were identified among students during SY 2023–2024?
2. What factors contributed to these learning gaps?
3. What pre-implementation strategies can effectively address these gaps under Project BEST?
4. How can teacher capacity-building support effective program implementation?
5. What proposed Action Plan under Project BEST will address the identified literacy and numeracy gaps among learners during SY 2023–2024?

METHODOLOGY

The present study used the qualitative-descriptive method of research. The conceptual framework of the study is hereunder specified:

Design

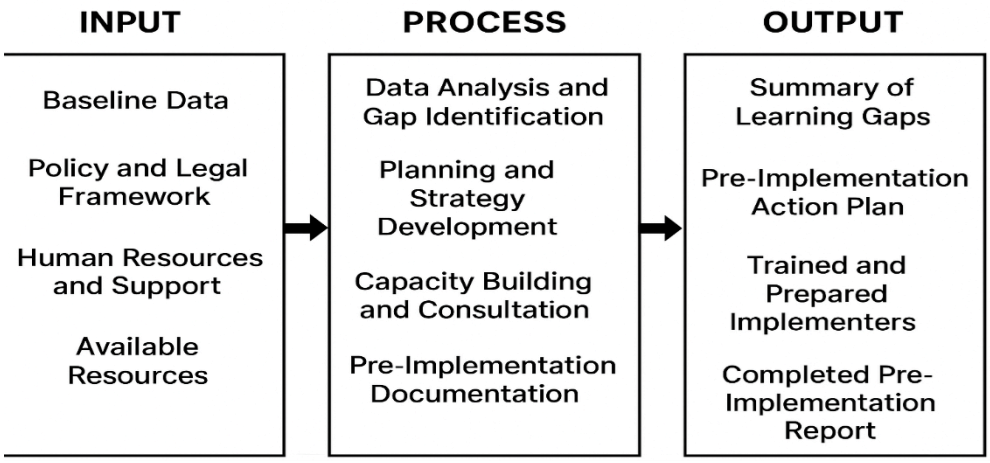


Figure 1. Conceptual Framework on Bridging Foundational Literacy and Numeracy Gaps through Project BEST Interventions Framework

Participants and Data Source

Participants:

- Selected learners from Grades 7–12 identified as struggling readers or non-numerates based on 2023–2024 assessment results.
- Subject teachers handling English, Filipino, Mathematics, and other core areas.
- Program implementers and Department Heads involved in Project BEST planning.

Data Sources:

- 2023–2024 diagnostic and classroom assessment records.
- Teacher interviews and reflection logs.
- School monitoring and evaluation reports related to literacy and numeracy initiatives.

Data Gathering Procedure

The research will utilize descriptive and qualitative methods, focusing on 2023–2024 baseline data:

- Review of learners' diagnostic results and performance reports to establish academic gaps.
- Focus group discussions and teacher interviews to identify instructional challenges.
- Thematic analysis of teacher reflections to determine pre-implementation needs and readiness.

Data Analysis Plan

Quantitative data from diagnostic results will be summarized through frequency and percentage distribution to show the extent of literacy and numeracy gaps. Qualitative data from interviews and reflections will undergo thematic coding to identify recurring issues, needs, and proposed solutions. Findings will inform the refinement of Project BEST's implementation plan.

FINDINGS

The actual study data, as compiled from the formal and unstructured interviews, are presented in this part. This examines the data and interprets the research's conclusions.

What specific learning gaps in literacy and numeracy were identified among students during SY 2023–2024?

The analysis of student performance during School Year 2023–2024 revealed persistent learning gaps in both literacy and numeracy. Based on the school's diagnostic and classroom assessment records, a significant number of learners remained at the frustration and instructional levels in both English and Filipino reading proficiency. Students demonstrated difficulty with comprehension, vocabulary acquisition, and critical analysis of texts, while others lacked the fluency and confidence needed to read independently.

Similarly, results in Mathematics showed that many students struggled with mastery of basic operations, problem-solving, and logical reasoning. Learners' inability to perform fundamental mathematical computations indicated gaps in conceptual understanding and skill transfer. These findings reflected the residual impact of pandemic-related learning disruptions, which weakened students' foundational literacy and numeracy skills (Department of Education [DepEd], 2021).

The findings reinforced that literacy and numeracy are not merely subject-specific challenges but are critical competencies underpinning overall academic success. The 2023–2024 data provided a strong baseline for designing targeted interventions under Project BEST. As DepEd (2015) emphasized, learning continuity programs must be data-informed to effectively bridge gaps and sustain learners' academic growth. Teachers acknowledged that accurate identification of learning deficiencies is essential for differentiated instruction and contextualized intervention.

What factors contributed to these learning gaps?

Teacher interviews and focus group discussions revealed several interrelated factors that contributed to the persistence of learning gaps. The primary cause was the prolonged learning disruption caused by the COVID-19 pandemic, which led to limited face-to-face interactions, inconsistent learning engagement, and uneven access to resources. Many students transitioned between grade levels without fully mastering prerequisite competencies, particularly in reading and numeracy (DepEd, 2020).

Other factors included time constraints, which prevented teachers from conducting regular remediation, and insufficient differentiated instruction, resulting from heavy teaching loads and rigid curriculum pacing. Furthermore, learners' low motivation and weak study habits were observed, especially among those lacking parental support or home learning reinforcement. These findings align with Bandura's (1986) Social Cognitive Theory, which highlights the interaction of personal, environmental, and behavioral factors in learning.

The reflection process highlighted that learning gaps cannot be resolved through classroom instruction alone; they require comprehensive approaches involving teacher collaboration, community partnership, and parental engagement. This finding affirms DepEd Order No. 42, s. 2017, which emphasizes teacher professional standards as a foundation for improving instruction and learner outcomes (DepEd, 2017). Teachers recognized that addressing root causes, rather than symptoms, is key to sustainable learning recovery.

What pre-implementation strategies can effectively address these gaps under Project BEST?

To address the identified literacy and numeracy gaps, three pre-implementation strategies were outlined under Project BEST:

1. Project READ (Reading Enhancement Action Drive): Designed to improve reading fluency and comprehension through guided reading, contextualized literacy activities, and peer-assisted learning.

2. Project UNO to DOS (Understanding Numbers and Operations to Develop Outstanding Students): Focused on building numeracy through diagnostic grouping, peer tutoring, and problem-based tasks.

3. Project ROADS (Remediation for Optimum Academic Development of Students): Concentrated on academic remediation and study skills development to support learners struggling across subjects.

These initiatives were conceptualized based on the legal frameworks of Republic Act 10533 (Enhanced Basic Education Act of 2013) and Republic Act 9155 (Governance of Basic Education Act of 2001), which both promote inclusive, learner-centered, and context-specific instruction. Each program was grounded in DepEd's goal to foster equitable and quality education through strategic school-based management (DepEd, 2012).

Teachers reflected that the pre-implementation planning strengthened alignment between learner needs and intervention design. Collaborative workshops enhanced teachers' sense of ownership and readiness to implement the initiatives. The process underscored that effective interventions must be data-driven, learner-centered, and anchored on legal and policy frameworks (DepEd, 2013). As a result, Project BEST emerged not merely as a set of programs but as a unified framework for transforming teaching and learning.

How can teacher capacity-building support effective program implementation?

Teacher competence was identified as a vital component of Project BEST's success. During the pre-implementation stage, teachers underwent mentoring and collaborative planning sessions focused on differentiated instruction, assessment literacy, and remediation strategies. These sessions aligned with the Philippine Professional Standards for Teachers (PPST) under DepEd Order No. 42, s. 2017, emphasizing continuous professional growth and reflective practice (DepEd, 2017).

Capacity-building activities helped teachers analyze student data more effectively, plan individualized interventions, and integrate literacy and numeracy development into everyday instruction. The professional dialogue among teachers also encouraged peer learning and shared accountability. According to Vygotsky's Social Development Theory, learning occurs most effectively in collaborative environments where knowledge is constructed through guided interaction (Vygotsky, 1978).

The pre-implementation reflection revealed that empowered teachers are key agents of educational transformation. By investing in capacity-building, the school ensured not only technical readiness but also a sense of shared purpose and pedagogical innovation. This affirmed the importance of continuous teacher learning as a central pillar of Project BEST's sustainability.

CONCLUSIONS

The findings of the study revealed that significant literacy and numeracy gaps persisted among learners during School Year 2023–2024. A considerable number of students remained at the frustration and instructional levels in reading, demonstrating difficulties in comprehension, vocabulary development, fluency, and critical analysis. Likewise, learners experienced challenges in basic mathematical operations, problem-solving, and logical reasoning, indicating weaknesses in foundational numeracy competencies. These learning deficits were largely attributed to the effects of pandemic-related learning disruptions,

inadequate remediation opportunities, limited differentiated instruction, and low learner motivation.

The study further established that learning gaps are multifaceted concerns influenced by academic, personal, and environmental factors. The results highlighted that effective learning recovery requires the collaboration of teachers, parents, school leaders, and community stakeholders. Addressing literacy and numeracy deficiencies demands more than routine classroom instruction; it requires systematic, targeted, and learner-centered intervention programs designed to respond to the specific needs of struggling learners.

The pre-implementation phase of Project BEST (Basic Education Towards Student Transformation) demonstrated the value of data-driven planning and collaborative decision-making. The development of Project READ, Project UNO to DOS, and Project ROADS provided a structured intervention framework aimed at addressing identified literacy and numeracy challenges. These initiatives were aligned with existing educational policies and grounded on the principles of inclusive, equitable, and quality education.

Moreover, the study emphasized that teacher capacity-building plays a crucial role in the successful implementation of intervention programs. Teachers who are equipped with skills in differentiated instruction, assessment literacy, remediation strategies, and data analysis are better positioned to facilitate meaningful learning experiences and support learner recovery. Ultimately, the findings affirmed that sustainable improvement in literacy and numeracy outcomes can be achieved through strategic interventions, continuous professional development, and collective commitment toward educational transformation.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are proposed:

Implement Project BEST comprehensively across all grade levels to systematically address identified literacy and numeracy gaps through the coordinated implementation of Project READ, Project UNO to DOS, and Project ROADS.

Strengthen reading intervention programs by providing regular guided reading sessions, differentiated literacy activities, peer-assisted reading strategies, and continuous monitoring of learners' reading progress to improve comprehension, fluency, and vocabulary development.

Enhance numeracy intervention initiatives through diagnostic assessment, ability grouping, peer tutoring, remediation classes, and problem-based learning activities that strengthen learners' mastery of fundamental mathematical concepts and operations.

Institutionalize continuous teacher capacity-building programs focused on differentiated instruction, assessment literacy, remediation strategies, instructional innovation, and data-driven decision-making to improve instructional effectiveness and learner outcomes.

Establish a robust monitoring and evaluation system that regularly tracks learner progress, assesses intervention effectiveness, and provides timely feedback to teachers, learners, and stakeholders for continuous program improvement.

Strengthen parental and community involvement in literacy and numeracy development by conducting orientation programs, learning support activities, and collaborative initiatives that encourage active participation in learners' academic recovery.

Promote a culture of collaborative learning among teachers through Learning Action Cells (LAC), mentoring programs, professional learning communities, and sharing of best practices to sustain innovation and continuous improvement.

Provide adequate resources and instructional materials that support literacy and numeracy development, including contextualized learning materials, intervention modules, assessment tools, and technology-assisted learning resources.

Conduct follow-up action research and impact assessments to measure the effectiveness of Project BEST interventions and generate evidence-based recommendations for future program enhancements.

Sustain the implementation of Project BEST as a long-term learning recovery framework by integrating intervention activities into the School Improvement Plan (SIP), Annual Implementation Plan (AIP), and other school development initiatives to ensure continuity and sustainability.

These recommendations are expected to contribute to improved literacy and numeracy outcomes, enhanced teacher effectiveness, strengthened stakeholder engagement, and the successful realization of quality, inclusive, and learner-centered education.

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