

Learning Difficulties in Numeracy of Grade 3 Learners: Basis for Contextualized Learning Material

JOEL C. TALENTO

Department of Education, Mabini Colleges

Abstract- *This study dealt with the Learning Difficulties in Numeracy of Grade 3 Learners in the Municipality of Daet: Basis for Contextualized Learning Material as its intervention. This study aimed to ascertain the outcomes on the following problems: 1) What are the results of Albay Numeracy Assessment Test (ALNAT) in Grade 3 learners from different public elementary schools in Daet along different categories: Needs Major Support, Anchoring, Developing, Emerging, and Transforming? 2) What are the strategies in trainings, learning materials, and pedagogies of teachers in addressing the difficulties in Math based from the results of ALNAT? 3) Is there a significant agreement of teachers on the strategies used along pedagogy, instructional learning materials and training of teachers in Mathematics? and, 4) What contextualized learning materials can be developed to enhance the numeracy skills of Grade 3 learners? This study employed a quantitative method using the descriptive-inferential to determine the frequency of results in various areas, and, Kendall Coefficient of Concordance W to know the significance of agreement on teachers along strategies used in trainings, learning materials, and pedagogies. The contextualized learning material is a worksheet which can be accessed manually and*

Indexed Terms- *Learning Difficulty, ALNAT, Contextualized Learning Materials*

I. INTRODUCTION

UNESCO's commitment to universal literacy acknowledges the transformative power of reading and comprehension across various media. Despite progress, global illiteracy persists, hindering economic growth and societal well-being. UNESCO continually adapts literacy education to meet evolving digital demands. The Department of Education, in response to the pandemic, initiated the Basic Education

Learning Continuity Plan, ensuring continued education despite challenges. Education's focus on children underscores societal responsibility for their holistic development. The Department emphasizes the significance of early education and the role of formal schooling in nurturing essential skills.

In line with constitutional mandates, the Department prioritizes free, accessible education for all, recognizing parents' rights in their children's upbringing. Efforts to support educators aim to meet diverse learning needs and address gaps exacerbated by the pandemic-induced learning crisis. Numeracy, particularly challenging during the pandemic, receives attention through tools like the Albay Numeracy Assessment Tool, aiding in targeted interventions such as the 8-week learning recovery program. Problem-solving skills, crucial across disciplines, pose challenges, especially at the elementary level.

Research highlights constraints and disparities in education, prompting strategic initiatives to enhance learning environments, curriculum, and teacher training. In Daet, Grade 3 pupils' numeracy difficulties are addressed through assessment and tailored interventions, aiming to inform contextually relevant learning materials.

The study focuses on identifying numeracy learning difficulties among Grade 3 pupils in Daet, providing insights for crafting effective learning materials tailored to their needs.

II. DATA COLLECTION

This study utilized a quantitative approach employing descriptive-inferential research design to assess Grade 3 learners' performance across different elementary schools in Daet municipality. Specifically, it focused on identifying students' needs for major support (NMS), anchoring (A), developing (D), emerging (E),

and transforming (T) in mathematics. Additionally, it investigated teachers' strategies, including trainings, learning materials, and pedagogies, aimed at addressing math difficulties as revealed by the Albay Numeracy Assessment Tool (ALNAT). The study also examined the frequency of utilizing various trainings and learning materials in the teaching and learning process.

Based on the findings, a contextualized learning recovery material was developed to enhance Grade 3 learners' numeracy skills. This resource proved beneficial for teachers, providing appropriate tools for remediation and enhancement exercises tailored to students' needs. The additional teaching tool significantly contributed to addressing math difficulties effectively.

III. FINDINGS

The findings of the study are presented below based from the data gathering used:

A. Results of Albay Numeracy Assessment Test (ALNAT) in Grade 3 learners

The Albay Numeracy Assessment Test (ALNAT) administered to Grade 3 learners across various schools in Daet municipality yielded diverse results. Notably, Bagasbas Elementary School achieved a high rating of 90, indicating a transformative level of performance. This underscores the test's utility in pinpointing students' academic needs, enabling tailored instruction to address individual strengths and weaknesses. Early intervention initiatives, such as the Department of Education's 8-week program, have been crucial in supporting students, particularly amid challenges arising from extended periods of remote learning. Conversely, twelve schools categorized as needing major support based on ALNAT results faced greater challenges, with ratings ranging from 45 to 72.68. These findings reflect the complexity of addressing learning difficulties, exacerbated by transitions between remote and face-to-face instruction. Özalkan (2021) emphasizes the role of assessment-evaluation techniques in gauging learning objectives, while Dossetto (2021) underscores the efficiency of closed-ended inquiry types in assessment procedures. Such insights underscore the importance

of interventions and adaptable best practices tailored to each school's context.

Similarly, Layug et al. (2022) highlights the Philippines' numeracy deficiencies, particularly evident in recent PISA results. Educators have implemented various interventions to aid students struggling with arithmetic, with individualized instruction proving most effective. These studies complement the present research by elucidating learners' mathematical understanding and categorization based on assessment tools. Despite differences in settings and respondent demographics, they collectively emphasize the need for creative interventions to enhance students' numeracy skills and mitigate future consequences of academic challenges.

B. Strategies in Trainings, learning materials and pedagogies of teachers

Trainings. The indicator assessing regular evaluation of pupils' performance received significant attention from respondents, with a weighted mean of 4.56. This underscores its critical role as a tool for educators to assess the effectiveness of their instructional activities and strategies. By systematically evaluating student progress, teachers gain valuable insights into teaching methods' impact on learning outcomes. Ongoing assessment allows for tailored instruction to address individual needs, timely feedback for students, and continuous improvement in teaching practices. Conversely, the indicator facilitating training on mathematical updates to fellow teachers ranked lower, with a weighted mean of 4.16. While essential for fostering a cohesive approach to addressing learners' evolving needs, its effectiveness may be hindered by factors such as scheduling conflicts and limited resources for professional development. Nevertheless, ongoing professional development remains vital for mathematics teachers to enhance instructional practices, stay updated on developments in the field, and create engaging learning environments.

This aligns with Kelly's (2020) emphasis on a teacher's organizational skills as critical for success in education. Effective organization of lessons, classrooms, and resources is essential for both instructors and students in facilitating effective teaching and learning processes.

Learning Materials. The indicator focusing on regular evaluation of pupils' performance received high attention, with a weighted mean of 4.70. Through systematic assessment, teachers gain insights into the effectiveness of their instructional methods and learning materials, allowing for tailored instruction to address individual needs and optimize teaching practices. Monitoring student performance facilitates alignment between learning objectives and outcomes, ensuring meaningful learning experiences for all students. The indicator emphasizing lesson summarization through tangible materials received a lower weighted mean of 4.47. While teachers strive to provide such materials despite resource constraints, there may be room for improvement. Tangible materials enhance student interaction with lesson content, promoting deeper comprehension and active participation. Integration of these materials into assessments facilitates evaluation of conceptual understanding and application. These findings align with Kurmaniak (2021), indicating that as students' progress in education, they develop expertise in areas such as numerical fluency and critical thinking, enabling them to effectively use mathematics to solve problems and make informed decisions.

Pedagogies. The implementation of various pedagogies by teachers plays a crucial role in ensuring effective teaching and learning processes for Grade 3 students in mathematics. All indicators associated with pedagogies received a Strongly Agree interpretation, indicating widespread practice among teachers. Notably, the indicator regarding the development and maintenance of professional relationships received the highest weighted mean of 4.64. This underscores the importance of fostering supportive and collaborative educational environments through positive relationships with colleagues, school administrators, parents, and students. These relationships facilitate effective communication, teamwork, and mutual support within the school community, ultimately enhancing student learning outcomes. Furthermore, teachers' awareness of how their personality and inclinations influence student learning processes, with a weighted mean of 4.56, is also crucial. Teachers' personalities, communication styles, and instructional approaches significantly impact student engagement and comprehension of mathematical concepts. By reflecting on their own traits and teaching practices,

educators can adapt their approach to better meet the diverse needs and learning styles of their students, thereby enhancing the quality and effectiveness of mathematics instruction.

In conclusion, the pedagogies employed by teachers in teaching numeracy concepts are essential for creating a positive and effective learning environment for Grade 3 students. These pedagogies make mathematics more accessible, enjoyable, and relevant, laying a solid foundation for understanding mathematical concepts. This aligns with the findings of Rono et al. (2020), who identified a positive relationship between teaching strategies and students' acquisition of early mathematics competencies. Therefore, ongoing professional development and training are essential for educators to stay current with effective instructional strategies and enhance student learning outcomes.

C. Test of the significance of agreement on the Strategies along Trainings, Learning Materials and Pedagogies of teachers

Teachers' consensus on strategies, encompassing trainings, learning materials, and pedagogies, was assessed using Kendall's coefficient of concordance (W) among 73 respondents. Results indicated that if the p-value associated with Kendall's W exceeds 0.05, the agreement among respondents is considered insignificant. Therefore, it was concluded that in the realm of Mathematics instruction, differences in training, learning materials, and pedagogical approaches generally lack significance.

D. Proposed contextualized learning materials to enhance the numeracy skills of Grade 3 learners

The study's findings highlight the importance of contextualized learning materials, which consist of worksheets covering fundamental to advanced mathematical problems. These materials serve a pivotal role in the teaching and learning of mathematics by bridging theoretical concepts with real-world applications. By grounding mathematical principles in practical contexts, students can better grasp their significance and relevance in everyday life. This approach fosters deeper comprehension and critical thinking skills, essential for problem-solving beyond mathematics. Utilizing contextualized materials not only enhances students' motivation by

demonstrating the practical utility of mathematics but also allows for personalized instruction to cater to diverse learning needs. Students can access these materials online, completing activities and progressing only upon achieving a mastery level of at least 75%. This interactive format promotes active engagement and ensures comprehension before advancing to more complex concepts.

Moreover, contextualized learning materials facilitate interdisciplinary connections, illustrating how mathematics intersects with various fields such as science, economics, and engineering. This integrated approach fosters a holistic understanding of knowledge and encourages students to explore the interconnectedness of different subject areas. Ultimately, contextualized materials empower students to apply mathematical concepts confidently in real-world scenarios, nurturing essential skills for lifelong learning and problem-solving.

CONCLUSION

Therefore, it is concluded that there is an urgent need to enhance the support interventions offered by teachers to Grade 3 learners, with the goal of substantially reducing, if not entirely eliminating, the large number of learners classified as requiring significant assistance. Additionally, there is a necessity to strengthen the instructional strategies employed by teachers during the teaching and learning process. Teachers should prioritize professional development, particularly in the field of mathematics, to ensure they remain updated, enhance their teaching methods, deepen their subject knowledge, and ultimately facilitate student learning and success.

Although not statistically significant in factors related to pedagogies and teaching strategies, the contextualized learning worksheets provided may prove beneficial to Grade 3 learners as part of their at-home or in-school activities aimed at self-improvement or remediation. Furthermore, teachers can utilize these worksheets as supplementary resources in their classroom instruction.

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