Republic of the Philippines
Department of Education
REGION IV-A CALABARZON
CITY SCHOOLS DIVISION OF BIÑAN CITY

MATHiniks:(MATHematics INterventions in Improving basic Knowledge and Skills)

CLARIZA JEAN B. NIETO
Teacher III
Canlalay Elementary School

AIZA N. CASAWAY
Teacher I
Canlalay Elementary School

ABSTRACT

Learning gaps among learners, especially the young ones, became very visible as the classes reopened after pandemic. The assessment test for literacy and numeracy conducted at Canlalay Elementary School where a large number of learners were reported non-literate and non-numerates was alarming given that there is a two years gap due to pandemic. The MATHINIKS project was crafted that assessed and helped the pupils that need remediation in Mathematics. Pupils from Grade 2 with learning difficulties specifically in understanding and showing their numeracy skills. The action research was crafted and conducted because of its goal to increase the numeracy level of learners and to create a different set of intervention activities that lead the learners to love the subject as they eventually learn the process and make it their skill at the end. Grade 2 learners from Grade 2 Mangga and Grade 2 Abokado of Canlalay Elementary School were purposively taken by the researcher to become the respondents of this study. The researcher used a quantitative method in this action research using the Early Grade Mathematics Assessment Toolkit as the main instrument in data gathering. The data collected in this study were organized and classified using the descriptive-comparative research design. The data were recorded and tabulated to facilitate the presentation and interpretation of results using frequency of score, percentage method and descriptive statistics.

Results revealed that the pre-test of the pupils showed that there was a need to develop and increase the numeracy skills prior to the implementation of the action research. The post-test revealed that the numeracy level of the learners had increased as the teacher utilized the used of interactive materials and worksheets in enhancing basic math knowledge and skills. The results implied that the intervention with the use of interactive materials and worksheets was effective.

Based on the results, the researchers recommended that intervention like interactive materials and worksheets must be used often to help the learners achieved the mastery of the basic math knowledge and skills.

Keywords: *Early Grade Mathematics Assessment Toolkit*

INTRODUCTION

Academic year 2022-2023 opened greater opportunity to the learners as face to face classes reopened once again after its closure for more than a year because of pandemic in accordance to DO 034, s. 2022 which had released the guidelines on the School Calendar and Activities for School Year 2022-2023 in accordance with its commitment to the resumption of 5 days of in-person classes.

Students, especially those who should have been in school for the first time, experienced staying at home even after they enrolled in their classes due to the closure of schools. Primary learners who were expected to be excited attending classes, setting up building blocks for their start of learning, getting ready to read, write and being engaged with early math activities were engaged with modules which were actually too vague for them. The education of our primary learners is being neglected especially if their parents are both working and none of their family members can accommodate them in other learning modality wherein teachers can assist them. These were some reasons why learning gaps among learners, especially the young ones, became very visible as the classes reopened.

The assessment test for literacy and numeracy conducted at Canlalay Elementary School where a large number of learners were reported non-literate and non-numerates was alarming given that there is a two years gap due to pandemic. The MATHINIKS project was crafted that assessed and helped the pupils that need remediation in Mathematics. Pupils from Grade 2 with learning difficulties specifically in understanding and showing their numeracy skills benefited from this project conforming to DepEd Order No. 024, s. 2022 which provided a strategic roadmap for the Department to improve the delivery and quality of basic education and the experience of learners in the basic education learning environment and addressed immediate impacts of pandemic on learning and participation, addressing learning loss while depending learning gains; close the remaining access gaps; confront the issue on education quality; and anticipate the future of education and introduce innovations in fostering resiliency and embedding the rights of children and the youth in education.

Numeracy is one of the most essential subjects to learn by our learners. It is very vital that they must understand the basic knowledge and we educators must equip them with a unique and powerful tool of numeracy skills. This serves as a foundation for their future encounter with higher competency in mathematics as they grow up.

When math fact instruction is thoughtful and strategic, it results in more than a student's ability to quickly recall a fact; it cultivates reflective students who have a greater understanding of numbers and a flexibility of thinking that allows them to understand connections between mathematical ideas. Developing students' mathematical understanding requires teachers to adopt an "instructional approach in which students investigate the meaning of facts through hands-on activities and thoughtful discussion, explore strategies to support their understanding of numbers, and then engage in strategic practice to memorize the facts" (O'Connell & San Giovanni, 2011, p. 5).

.

The intervention helped the researchers uplift the spirits of learners and became more confident in engaging themselves with the subject while the researchers continued to develop, craft and create different appealing activities to help the learners who were having difficulty in performing math knowledge and skills.

To increase the numeracy level of learners is not just the goal of this project but to create different set of intervention activity that lead the learners to love the subject as they eventually learn the process and made it their skill at the end is the top most objective of this project. Moreover, researchers made it on trend strategies in teaching basic knowledge and skills in mathematics.

Face to face classes reopened once again after its closure for more than a year because of pandemic in accordance to DO 034, s. 2022 which had released the guidelines on the School Calendar and Activities for School Year 2022-2023 in accordance with its commitment to the resumption of 5 days of in-person classes. This also opened greater opportunity for learners to receive quality education and to eventually rehabilitate the learning gaps in education.

METHODOLOGY

The methodologies used in order to assess the learner's numeracy skill is quantitative and often consist in the administration of different intervention and worksheets. The ability of the learners to accomplish the Early Grade Mathematics Assessment Toolkit during pre-test became the basis and main instrument in data gathering and how learners learned and responded to the different versions of manipulative, interactive and enjoyable tasks along the process of the study was being observed and monitored that helped the learners adapt and learned the numeracy skills. The post-test which is the same Early Grade Mathematics Assessment Toolkit became the instrument for the researchers to

The procedure for data collection were summarized below:

Phase I. Preparation Stage. Preparation and consultative meetings of the research team on the agenda as well as objectives of the study. Crafting of all different tools and instruments to be utilized in the study. Checking and validation of the instruments.

Phase II. Data Gathering Stage. Identification of probable respondents of the study. Assignment of field researchers were assigned to gather data from the identified respondents. The researchers used EGMA Toolkit for the data gathering procedure, and FGD to teachers. Daily intervention using the materials prepared by the teachers. Weekly evaluation using the materials prepared by the teachers.

Phase III. Data Analysis Stage. Retrieval of all gathered data from the respondents. Monitoring and checking of the progress of the pupils.

Phase IV. Summary and Interpretation Stage. Crafting of research summary through major domains of the study.

Phase V. Reporting. Crafting the final paper including the results and recommendations of the study. Present the result of the study.

RESULTS

This study concluded that the teachers successfully utilized the use of intervention like interactive materials and worksheets in Mathematics as reinforcement increases their enhanced basic math knowledge and skills. Moreover, it implied that the intervention with the use of interactive materials and worksheets was effective.

Question 1. What is the numeracy level of Grade 2 during pre-test?

- 16% or 12 learners were numerates, 45% or 34 learners were instructional and 39% or 29 of them were Non-numerates using EGMA Toolkit.

Question 2. What is the numeracy level of Grade 2 during post-test?

- 75% or 56 learners were numerates, 25% or 19 learners were instructional and none of them were Non-numerates using EGMA Toolkit.
-

Question 3. Did the number of non-numerates become lesser after intervention as reflected to the result of post-test? In what percentage did the numeracy level increases?

- Yes, it shows that from 16% in Pre-test it became 75% in Post Test which increased by 59%.

DISCUSSION

Primary level serves as the foundation for the success of each learners as it opens more opportunities and positive outlook in life if we educators were able to instill the knowledge they needed as they ignite their experiences together with their learnings and goals. To able to fire-up their motivation we must provide them engaging experiences and activities that will lead them to be excited for more, wanting for more and achieving more.

Numeracy is one of the most essential subjects to learn by our learners. It is very vital that they must understand the basic knowledge and we educators must equip them with a unique and powerful tool of numeracy skills. This will serve as a foundation for their future encounter with higher competency in mathematics as they grow up.

Intervention like interactive materials and worksheets must be used often to help the learners achieved the mastery of the basic math skills. Through habitual practices learners were able to adopt the concept of the lesson and the process gave retention that made them mastered the skills. The results of this study may be used as a reference of future researcher with similar study.

Through the study teachers were able to cultivate learners' love of learning by engaging them with meaningful, entertaining and interactive activities that help them reached the mastery level of learning basic knowledge and skills in mathematics.

ACKNOWLEDGEMENTS

The researchers extend their gratitude to the City Schools Division of Biñan City and the Local Government Unit of Biñan City for the support on the conduct of the study.

Likewise, the result of the study is offered to the Division to serve as basis for educational plans and further improvement of the delivery of quality education in the Division.

REFERENCES

Duncan, G. J., Claessens, A., Huston, A. C., Pagani, L. S., Engel, M., Sexton, H., . . . Japel, C. (2007). School readiness and later achievement. Developmental Psychology, 43(6), 1428–1446.

DO 034, s. 2022 School Calendar and Activities for School Year 2022-2023 in accordance with its commitment to the resumption of 5 days of in-person classes. https://www.deped.gov.ph/2022/07/12/deped-releases-guidelines-for-school-year-2022-2023/

DepEd Order No. 024, s. 2022 https://www.deped.gov.ph/wp-content/uploads/2022/05/DO_s2022_024.pdf

Romano, E., Babchishin, L., Pagani, L. S., & Kohen, D. (2010). School readiness and later acheivement: Replication and extension using a nationwide Canadian survey. Developmental Psychology, 46(5), 995-1007. doi: 10.1037/a0018880

Susan O'Connell and John SanGiovanni (2011) Facts in Addition and Subtraction Strategies, Activities & Interventions to Move Students Beyond Memorization https://studylib.net/doc/7941856/mastering-the-basic-math-facts-in-addition-and-subtraction