

**Effectiveness of the 8-week Learning Recovery Curriculum: Addressing the
After-effects of COVID-19 Pandemic**

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Abstract

This study describes the implemented 8-week learning recovery curriculum and determines its effectiveness as a learning remediation and intervention that centers on teaching numeracy and literacy skills. A non-equivalent pre-experimental group design was used to evaluate how well the 8-week learning recovery curriculum worked and to check the literacy and numeracy levels in Grade 1. Methodological triangulation, which was done by collecting and gathering pre-test and post-test results and interviews with the Grade 1 teachers, was used to achieve the study's objectives. The Wilcoxon signed-rank test was the statistical treatment used to analyze the pre-test and post-test results. Students from Grade 1 are the participants in this study: 125 pupils from five different sections. Teachers in Grade 1 were assessed through group interviews to determine their challenges in facilitating the new 8-week learning recovery curriculum. During the scheduled interview, they identified and explained the challenges faced by the teachers in implementing the 8-week learning recovery curriculum. This study found a significant difference between the pre-test and post-test results, reflecting the t-value (z) of -7.65 in literacy and -7.25 in numeracy. The effective implementation of the literacy and numeracy intervention program is responsible for its improvement. With this, intervention programs like the 8-week learning recovery curriculum should be sustained, and others with similar features that address learning gaps may also be implemented.

Keywords: *8-week learning recovery curriculum, learning loss, literacy skills, numeracy skills*

INTRODUCTION

When COVID-19 hit the Philippines, it affected the country's economic and health status, especially in education. The Philippines is one of the countries that immediately failed to start face-to-face classes after the pandemic. In the Philippines, different modalities were implemented when the classes restarted: modular distance learning, online distance learning, blended instruction, and TV- or radio-based instruction. The Department of Education (DepEd) made a way to continue the learning process for the children. They dwell on the challenges of using technology in different learning strategies. Even though learners were not allowed to go to school, they continued studying in a modular modality. In some areas, they used online classes if the internet connection was excellent and other blended modalities to make learning possible for the pupils. Limited interaction between the teachers and the learners is one of the biggest struggles teachers face regarding how they can teach and meet the needs of their pupils. However, teachers are always teachers; they find ways to catch up with their pupils and deliver the learning they need. To ensure that

the children will not stop learning and are eager to study, teachers transform into a printing machine, and their teaching work changes into the printing of modules and learning activity sheets. The pandemic aggravated it; some learners are now struggling with numeracy skills, which refer to one's ability to identify numbers and understand the fundamental concepts of basic mathematical concepts such as addition, subtraction, multiplication, and division. Literacy skills contain the following: listening, speaking, reading, and writing; they also include the following: alphabet knowledge, phonological awareness, and reading comprehension. These two skills are the foundation of the learning process for children, especially in the early grades.

The Department of Education is eager to develop the learners' skills, especially in literacy and numeracy. According to Vice President and Department of Education Secretary Sara Duterte, the issue is to strengthen the numeracy and literacy programs of the K–12 curriculum to develop the mathematics and reading skills of the pupils. This constant realization gives meaning to the field of education and, in turn, assumes more development and responsiveness in learners. She also

emphasized reducing the number of learning areas in K to 3 from 7 to focus on the foundational skills in numeracy and literacy in the early grades. Thus, the school, as the foundation of education, aims to help the pupils achieve this goal through the persistent effort of the teachers to develop and shape these young people.

According to Herrera (2022), during the 2019 pandemic, the Department of Education revealed low basic literacy skills among elementary school students as they transcended to full implementation of face-to-face classes after two years of distance learning. With this, the Department of Education, Region V, aims to manipulate the learning loss and close the gap between the current skills in numeracy and literacy that would help the Grade 1 to 3 learners to improve their skills. It will start in the early grades because the fundamental subjects affect the academic performance of the learners. Early-grades teachers become more efficient and resilient in amending the 8-week learning recovery curriculum. DepEd Regional Memorandum No.74, s. 2022, accelerated the implementation of the 8-week learning recovery curriculum in early grades for the school year 2022-2023. This is a more detailed version of the K–12 Basic Education Curriculum selecting specific areas in the

mother tongue, Filipino, English, and Mathematics. For the languages, these are letter and sound recognition, word recognition and phonological awareness, vocabulary, reading fluency, and listening with comprehension. For mathematics, these are numeration, addition, subtraction, multiplication, and division.

It aims to provide access to a comprehensive educational program for all learners in Grades 1 to 3 who experience learning loss; provide foundational skills to learners along with literacy and numeracy for them to catch up and be grade-level-ready; and ensure the holistic development of early grade learners by providing them with opportunities that will enable them to acquire foundational and readiness skills in school. The Department of Education, Regional Office No. V, through the Curriculum and Learning Management Division, immediately conducted the training and workshops to assure the coherent implementation of major programs and projects along with Region V's recovery plan in literacy and numeracy. The priority of these projects is for the early grades to be given the learning skills needed for the school year 2022-2023, which demands the implementation of the following projects in

collaboration with ABC+ Advancing Basic Education in the Philippines.

In its first year of implementation, it emphasized the improvement of a contextualized curriculum that is made into a learning remediation and intervention program for teaching numeracy and literacy in the early grades. The Schools Division Offices must support the supervisors, editors, core teacher-writers, and validators in numeracy and literacy. The goal of these activities and training is to create assessment tools in grades 1–3 to identify the pupil's level of numeracy and literacy. The Comprehensive Rapid Literacy Assessment (CRLA) is a reading assessment designed to help teachers quickly determine the reading profiles of their Grades 1–3 learners and develop appropriate reading instructional strategies. The 8-week learning recovery curriculum was attributed to the following: grouping by ability based on the literacy and numeracy results, conducting a pre-test to determine where instruction will start, balancing structured and unstructured activities, and implementing differentiated instruction. All Schools Division Offices (SDOs), through the division training team, will also conduct division orientation training for teachers in Grades 1–3.

Public elementary schools in Sorsogon conducted an orientation to the parents of Grades 1–3 about the implementation of the 8-Week LRC. After the orientation, the teachers conducted a pre-test in numeracy (mathematics) and literacy (mother tongue) during week 1, August 22–26, 2022, of the 8-week learning recovery curriculum implementation to determine the specific macro-skill difficulties. The teacher conducted the pre-test through face-to-face and one one-on-one with the learner. The results were deliberated and analyzed, and some of the early-grade pupils were categorized as full intervention, moderate intervention, light intervention, and grade-ready. From this week on, it will be the start of life and the challenges faced by teachers in the early grades, especially in Grade 1. Weeks 2–9 were the actual implementation of the 8-week learning recovery curriculum, differentiating between unstructured and structured lessons. The unstructured lesson is the activity in the numeracy and literacy corners, while the structured lesson is a lesson proper for the learning ability group. Lesson maps serve as a reference for the teachers in planning a lesson suitable to the needs of the learners (ready-made learner-centered activities and worksheets), which are based on the results of the learning recovery program assessment. It contains the

K-12 competencies (MELC) from Grades 1 to 3. In week 10, the assessment was scheduled to reveal the learners' strengths and weaknesses in literacy and numeracy and serve as a guide for teachers in using lesson maps. It also helps to keep track of learners' progress to learning standards (DepEd Regional Memorandum No. 104, s.2022) in the four main subjects (Mathematics, Mother Tongue, Filipino, and English) to determine the progress in literacy and numeracy skills in the post-test.

This study is a pre-experimental research that hypothesized that there is a significant difference between the pre-test and post-test results of numeracy and literacy in Grade 1. It also focused on the effectiveness of the 8-week learning recovery curriculum during its implementation last school year, 2022-2023, and the challenges met by the teachers as the implementors of the curriculum in one public elementary school in Sorsogon. This study may benefit parents and teachers, especially teachers in the early grades because the 8-week learning recovery curriculum is helpful as a remediation to the learners' gap in numeracy and literacy skills. This can help the teachers design different teaching strategies to deliver lessons, and as parents, this will help them teach their children at home as their follow-

up to the learners' development. The result of this study may serve as a guide for future teachers and researchers, and this may motivate them to explore and do more research about the 8-week learning recovery curriculum to address more interventions in early-grade learners.

The scope of this study was limited to one selected public elementary school in Sorsogon for the school year 2022-2023. The study's respondents are the Grade 1 pupils and their five teachers. Excluded in the study are the other grade teachers who implement the 8-week learning recovery curriculum since the focus of the study is Grade 1, where the researcher can be related to the 8-week learning recovery curriculum. This study may be recommended for future studies where more time is available for research. This study may have limitations in getting other applicable aspects that may influence the 8-week learning recovery curriculum on its implementation, and those may be studied in other research strivings. However, with the efforts in pursuing methodological triangulation of the data, this study determined the significance of the difference in the pre-test and post-test results by collecting the data as an indicator of the effectiveness of the 8-week learning recovery curriculum, as confirmed by the teachers'

insight in the implementation of the curriculum.

Objectives

This study aimed to determine the effectiveness of the 8-Week Learning Recovery Curriculum in a public school in Sorsogon during the School Year 2022-2023. More specifically, the study sought to (1) describe the implemented 8-week learning recovery curriculum, (2) describe the numeracy and literacy level of Grade 1 pupils based on the pre-test and post-test results, (3) describe the effectiveness of the 8-week learning recovery curriculum, and (4) identify the challenges encountered by the teachers in the implementation of the 8-week learning recovery curriculum.

RELATED LITERATURE

Learning Loss

The pandemic has emphasized the increasing opposition to education due to several circumstances. First, there were various regional solutions and restrictions because of COVID-19 (UNESCO, 2022). Second, there have frequently been challenges in digital infrastructure and technical capacities in schools, such as inadequate learning environment at home and unequally distributed resources in home and

school contexts regarding access to facilities and information and communication technology (ICT) devices for distance learning (Huber & Helm, 2022). Third, parents had differential resources for coaching their children during school closure (Van Bakel et al., 2022). Fourth, it has been found that most students have spent less time learning and put less effort into learning tasks (Grewenig et al., 2021; Huber & Helm, 2020). A tendency for the most severe learning losses in reading and math due to the pandemic has been reported, especially among low-achieving students (Schult et al., 2022). Despite the implementation of strategies, the pandemic resulted in deficient performance and skills for the learners. There was a significant increase in the number of non-readers and non-numerates, interpreted as a result of distance learning (Poquita, n.d.). There is serious concern about academic outcomes, including significant losses and increased dropout risks during the COVID-19 pandemic, particularly for vulnerable children. However, there is currently limited evidence on the possible learning losses from different educational contexts, and the findings are contradictory (Hammerstein et al., 2021).

According to the Global Education Evidence Advisory Panel (GEEAP) report

co-hosted by UNICEF and the World Bank, learning losses must be retrieved immediately to prevent a harmful effect on children's welfare and capacity. Thus, the Department of Education improved a learning remediation and intervention plan for the learners to overcome their gaps and losses and recover their fundamental skills in literacy and numeracy so that they can be grade-level-ready. DepEd spokesman said that the current administration plan is attached to the four pillars of the Basic Education Development Plan (BEDP) 2030: access, equity, quality, and resiliency. To ensure quality education, DepEd will concentrate on developing the learning materials and upskilling and improving the teachers through training and workshops to provide them with 21st-century skills. BEDP 2030 started before the termination of the former administration, and DepEd's long-term plan was to develop primary education in the Philippines. It was made to manage the effect of the COVID-19 pandemic on learning, address the gaps in early grades, improve the quality of education, and establish perseverance in all districts.

The World Bank addressed the quick, structured plan for the learning loss crisis. These strategies include keeping children in school, regularly assessing their

learning levels, prioritizing the effectiveness of teaching fundamentals, including catch-up learning, and promoting behavioral and psychosocial health. “To lead to broad, sustained acceleration of learning, these short-term interventions must be implemented at scale, and this implementation must be part of a national strategy of structural reforms over the longer term. And with the urgent implementation of these policies, it is possible to recover and accelerate learning and to build a more effective, equitable, and resilient education system,” said the report.

The 8-week learning recovery curriculum was adopted in Region V as an intervention to the learning loss of the learners and closes the gaps from the current skills to the expected literacy and numeracy skills in Grade 1 to 3 learners. Literacy and numeracy are among the primary 21st-century skills early-grade learners need to develop. Hence, developing numeracy and literacy skills is one of the crucial factors in the 21st-century generation in preparing them to become resilient leaders for the improvement of education. Patriana et al. (2021) and Rakhmawati & Mustadi (2021) explain that one of the essential aspects an elementary school child should have is literacy and numeracy. In addition, numeracy

and literacy are fundamental skills needed to be attained by the learners at the primary grade level to analyze quantitative and qualitative information and take action for decision-making.

Literacy

Encompassing reading, writing, and comprehension skills from the cornerstone of academic achievement and lifelong learning. As emphasized by Adams (1994), proficient literacy skills are not merely a product of rote memorization but rather a complex interplay of phonological awareness, vocabulary development, fluency, and comprehension strategies. Setiawan and Sukamto (2021), Ojose (2011), and Arslantas and Gul (2022) define literacy as the basic skills that a person needs to analyze information critically as well as implement for decision-making in life. According to the National Reading Panel (2000), effective literacy instruction encompasses five essential components: phonemic awareness, phonics, fluency, vocabulary, and comprehension. Mastery of these components is crucial for proficient reading and writing abilities.

A thorough analysis of existing literature is made, and main themes are developed, such as the integration of technology in instruction, emphasis on

complete education strategies, recognition of different approaches, and persistent disparities in student achievement. The review emphasizes the increased use of multimedia resources, digital tools, and educational technology to improve learner participation and personalize learning experiences. Additionally, there is an increasing attention to accommodating diverse student groups through differentiated strategies in instruction, universal design for learning (UDL), and civilized teaching responses. In recent years, technology has spurred innovative approaches to literacy and numeracy instruction. With the proliferation of digital tools, multimedia resources, and adaptive learning platforms, educators are presented with new opportunities to engage students and tailor instruction to individualized needs (Sarama & Clements, 2009).

Numeracy

Numeracy, the ability to understand and apply mathematical concepts, holds significant implications for students' academic and professional trajectories (Artemio et al., 2024). According to Ginsburg et al. (2008), a strong foundation in numeracy is indispensable for navigating daily tasks, making informed decisions, and pursuing careers in STEM-related fields. Perdana and Suswandari (2021), Chan and

Scalise (2022), and Seitz and Weinert (2022) define numeracy as a basic skill in implementing the concept of numbers and counting operations in everyday life, as well as the ability to interpret quantitative information encountered in the vicinity. Numeracy development involves progression through stages of mathematical thinking, from basic counting skills to complex problem-solving strategies (Fuson, 1988). As articulated by the National Council of Teachers of Mathematics (NCTM), numeracy instruction should emphasize conceptual understanding, procedural fluency, strategic competence, and adaptive reasoning (NCTM, 2020).

8-week Learning Recovery Curriculum

In response to the pressing need to address the learning loss brought by the COVID-19 pandemic, DepEd Regional Office V, through the Curriculum and Learning Management Division, has implemented a contextualized curriculum for Grades 1, 2, and 3 learners to ensure the development of their foundational skills in literacy and numeracy. Regional Memorandum No. 104, s. 2022, the policy guidelines for the implementation of the said curriculum are stated. It is a learning remediation and intervention for Grades 1, 2, and 3 learners to ensure the development of their foundational skills in literacy and

numeracy. This intervention is part of Region V's Learning Recovery Plan. DepEd Order No. 34, s. 2022, entitled School Calendar and Activities for the School Year 2022–2023, stipulates that regional offices are encouraged to ensure that learning gaps are identified and addressed among all learners. They are also encouraged to implement a contextualized set of strategies and interventions as part of the learning process. Hence, teachers and the whole institution must take certain steps to address this challenge in education. Region V responded to this challenge by implementing the 8-Week Learning Recovery Curriculum (Dionglay, Bembo, & Janer, 2023).

Recovery and Continuity Plan

This contextualized curriculum, which is a part of the Learning Recovery Plan of Region V, known as Recovering for Academic Achievement by Improving Instruction through Sustainable Evidence-Based (RAISE), is a product of the hard work of the instructional leaders in the region under the tutelage of the consultants and with the technical support of ABC+: Advancing Basic Education in the Philippines, through a series of workshops that have used authentic data and standard tools for literacy and numeracy. Its completion is driven by the strong desire and conviction that put the learner at the center of this initiative. It is the

hope of the region that all 13 divisions will implement this 8-week learning recovery curriculum and provide the needed mechanisms at their level for a smooth transition to the new normal starting in 2022.

METHODOLOGY

This section presents various methodologies, such as the research design, participants, informants, procedures, and data analysis procedures, that were used in conducting the study. This includes areas such as the study's location. This chapter discusses the informants' data and information. It also provides the process of gathering the data needed to analyze the result using the non-equivalent quasi-experimental group design.

Research Design. This study used the non-equivalent (pre-test and post-test) pre-

experimental group design to analyze the numeracy and literacy results of Grade 1 pupils in one public elementary school in Sorsogon who underwent the 8-week learning recovery curriculum. A quantitative approach was used to determine if there was any significant difference between the pre-test and post-test results of Grade 1 learners. In identifying the challenges of the teachers in the implementation of the 8-week LRC, a qualitative approach was used. The researcher utilized semi-structured interviews with a guide composed of four open-ended questions to gather the needed information from the informants of the study. The researcher took field notes while conducting the interview.

The Participants and Informants. The research was conducted in the public elementary schools in the Schools Division of Sorsogon, Sorsogon Province.

Table 1. a. The Participants

Section	Male	Female	Total
Camia	13	14	27
Dahlia	10	15	25
Rose	14	12	26
Rosal	13	13	26
Santan	10	11	21
Total	60	65	125

The table shows that one hundred twenty-five Grade 1 pupils who underwent the 8-week learning recovery curriculum in numeracy and literacy from five different sections in one public elementary school in Sorsogon. The subjects of this study were the Grade 1 pupils of a public elementary school in Sorsogon: 27 from section Camia, 25 from section Dahlia, 26 from section Rose, 26 from section Rosal, and 21 from section Santan.

The selection of the one hundred twenty-five (125) Grade 1 pupils from a public elementary school in Sorsogon was purposive and anchored on their direct involvement in the implementation of the 8-

Week Learning Recovery Curriculum (LRC) during the School Year 2022–2023. These pupils were the actual recipients of the intervention program, specifically designed to address learning gaps in literacy and numeracy brought about by the disruptions of the COVID-19 pandemic. Each of the five sections—Camia, Dahlia, Rose, Rosal, and Santan—actively participated in the full implementation of the 8-week LRC, making them ideal participants to assess both the effectiveness and challenges of the program. Their inclusion provided a comprehensive representation of the school’s Grade 1 population, allowing for the collection of diverse data across different classroom contexts and teaching strategies.

Table 1. b. The Informants

Pseudonyms	Sex	Civil Status	Age	Length in Service
Jenny	Female	Married	50	24 years in service
Cathy	Female	Married	43	17 years in service
Shiela	Female	Married	42	18 years in service
Marie	Female	Married	41	15 years in service
Jessa	Female	Married	28	Five years in service

The table shows that five teachers in each section were also the study's informants. The researcher used pseudonyms to protect the informants' privacy. These teachers played a vital role in the actual implementation of the 8-Week Learning

Recovery Curriculum and were therefore in the best position to provide firsthand insights into its delivery, effectiveness, and the challenges encountered during the intervention.

The Instrument. The researcher used the 8-week learning recovery curriculum pre-test and post-test results of the Grade 1 pupils, all collected by the teacher of each section, to evaluate the effectiveness of the curriculum implementation. In the pre-test and post-test of literacy (mother tongue), the learners must identify the big and small letters, produce the sound of the letters, and read words. Full intervention is for those who can produce the sounds of the alphabet (1-7 letters) and cannot read any words, while moderate intervention is for those who can sound out and read 8 to 15 letters and words. The light intervention is for those who can sound out and read 16 to 22 letters and words, and grade-ready are those who got scores of 23 and above. They can produce the sounds of the alphabet correctly and read words correctly.

The numeracy pre-test and post-test contain the following: counting forward and backward, reading numbers, writing numbers, matching numbers and sets, ordering numbers, and building and changing numbers. The results are categorized as follows: full intervention (those who cannot read, write, count back and forth, match and order the numbers, or got a 1-54 score); moderate intervention (55–67 score); light intervention (68–80 score); and grade-ready

(81–85 score). An interview schedule was utilized to determine the challenges and problems met by the Grade 1 teachers in implementing the 8-week learning recovery curriculum. The interview questionnaire, composed of four open-ended questions, was drafted and presented first to the Grade Chairperson of the said grade level for checking. After having been checked, the interview was made with the teachers through group discussion.

Data collection procedures. The researchers sent a copy of the request letter to the principal of the target school to ask permission to conduct the research and to have access to the data needed for this study. Then, a letter was sent to the Grade Chairperson of the informants, and a copy of the letter was likewise sent to the public school district supervisor to inform her of the school's involvement in the research. A letter of similar content was also given to the informants.

A public elementary school in Sorsogon conducted the pre-assessment (pre-test) on the first week of school opening, August 24-26, 2022, after the orientation to the parents of Grade 1 to determine specific difficulties and grouping abilities of the learners. The post-assessment (post-test) was done after the 8-week learning recovery

curriculum implementation; it was held on October 24-28, 2022. Subjected to this assessment were the early-grade learners who underwent the 88-week learning recovery curriculum as an intervention for numeracy and literacy skills. Teachers in the early grades administered the assessment by classroom or section. The school calendar of Grades 1 to 3 was adjusted to the new schedule of their quarterly examinations. After the pre and post-test of the 8-week learning recovery curriculum, the researcher sought permission from the school principal to have a copy of the data and apply both descriptive and inferential statistics to identify if there is a significant difference in the pre and post-test of numeracy and literacy

of the Grade 1 pupils and analyze whether the 8-week learning recovery curriculum is effective as an intervention in improving both the learners' numeracy and literacy skills. The researcher scheduled an appointment with the informants to administer the interview and gather all the information through face-to-face interviews. In the data being asked, the researcher ensured the anonymity of the pupils, and no names were included in the given data.

Data Analysis. The study analyzed the pre-test and post-test results of Grade 1 pupils in numeracy and literacy using the legend below.

Legend: Numeracy Number of Items

Skill Ability Grouping	Scores
Full Intervention	1-54 scores
Moderate Intervention	55-67 scores
Light Intervention	68-80 scores
Grade Ready	81-85 scores

Literacy Number of Items

Skill Ability Grouping	Scores
Full Intervention	Can sound out 1-7 letters
Moderate Intervention	Can sound out 8-15 letters
Light Intervention	Can sound out 16-22 letters
Grade Ready	23 and above

The Wilcoxon Signed-Rank Test, a nonparametric test procedure for analyzing matched-pair data based on differences or for a single sample (Woolson, 2008), was used to describe the numeracy and literacy level of Grade 1 pupils based on the pre-test and post-test results. This nonparametric test was deemed appropriate since it is specifically designed to analyze matched or paired data, such as test scores taken from the same group of participants before and after an intervention. Moreover, the Wilcoxon Signed-Rank Test allows for a quantitative evaluation of program effectiveness while accommodating the nature of educational data from early-grade learners, which may often be ordinal or skewed due to varied levels of foundational skills. Therefore, the use of the Wilcoxon Signed-Rank Test ensured that the statistical analysis of the pre-

test and post-test results was both methodologically sound and sensitive to the characteristics of the data, ultimately supporting the study's aim of assessing the effectiveness of the 8-week curriculum intervention.

To quantitatively evaluate the effectiveness of the 8-week learning recovery curriculum, the pre-test and post-test results of 125 Grade 1 pupils were collected through the adviser of each section. In addition, the qualitative method was utilized in this research to identify the challenges of the teachers in the implementation of the 8-week learning recovery curriculum. The data gathered from the semi-structured interview was analyzed and used to support the findings of the study.

RESULTS AND DISCUSSION

Implementation of the 8-week learning recovery curriculum

DepEd Regional Memorandum No. 104, s. 2022, states the policy guidelines in the implementation of the said curriculum. It is a learning remediation and intervention for Grades 1, 2, and 3 learners to ensure the development of their foundational skills in

literacy and numeracy. One of the objectives of this contextualized curriculum was to ensure the holistic development of early-grade learners by providing them with opportunities that will enable them to acquire foundational and readiness skills in school. The target domains in Languages were alphabet knowledge / phonological awareness, word recognition and phonics,

reading comprehension and fluency, listening comprehension, and vocabulary (Dionglay, Bembo, & Janer, 2023).

The 8-week learning recovery curriculum is made for early Grades 1–3 learners who experience learning loss because of the absence of physical classes or modular learning modality in the last two years because of the pandemic. Lack of interest in academic and health issues is the reason behind these learning gaps. So, DepEd Region V required the 8-week learning recovery curriculum implementation in the Bicol region as the intervention process for the learning loss of the learners. This is done

via face-to-face classes, where there should be interaction and meaningful engagement between the teachers and the learners inside the classroom. This intervention is a part of Region V’s Learning Recovery Plan, which focuses on learners' initiative.

The Numeracy and Literacy Level of Grade 1 pupils based on the Pre-test and Post-test Results

Table 2.1 below shows the number of students who fall in their proficiency level per section according to the pre-test and post-test results in numeracy.

Table 2.1. Proficiency Level of Students Based on the Result of Pre-test and Post-test in Numeracy

Section	Full Intervention						Moderate Intervention						Light Intervention						Grade Ready													
	Pre-test			Post-test			Pre-test			Post-test			Pre-test			Post-test			Pre-test			Post-test										
	F	M	L	G	F	M	L	G	F	M	L	G	F	M	L	G	F	M	L	G	F	M	L	G	F	M	L	G				
Camia	5	0	0	0	3	2	0	0	0	8	0	0	0	4	4	0	0	0	9	0	0	0	6	3	0	0	0	5	0	0	0	5
Dahlia	5	0	0	0	4	1	0	0	0	10	0	0	0	5	5	0	0	0	7	0	0	1	1	5	0	0	0	3	0	0	0	3
Rose	7	0	0	0	5	2	0	0	0	8	0	0	0	1	7	0	0	0	9	0	0	1	0	8	0	0	0	2	0	0	0	2
Rosal	6	0	0	0	4	2	0	0	0	7	0	0	3	2	2	0	0	0	8	0	1	0	4	3	0	0	0	5	0	0	0	5
Santan	7	0	0	0	5	2	0	0	0	5	0	0	0	1	4	0	0	0	7	0	1	0	0	6	0	0	0	2	0	0	0	2
Total	30	0	0	0	21	9	0	0	0	38	0	0	3	13	22	0	0	0	40	0	2	2	11	25	0	0	0	17	0	0	0	17

N.B.: F- Full Intervention, M - Moderate Intervention, Light Intervention, G - Grade Ready

One of the public elementary schools in Sorsogon Division in Region V reprimands this curriculum in its first year of implementation. The Grade 1 learners started

to adopt this during the second week (August 29, 2022) of the school year 2022-2023, and it ended on October 21, 2022. The main targets of this curriculum are for learners in

Grades 1–3 to enhance their literacy and numeracy skills. Through the result of the pre-test, the teachers identified the learning needs of each pupil so they could make differentiated activities for every pupil based on the lesson maps. Every pupil has their learner profile so that they can monitor the improvement of the learners in numeracy and literacy skills.

The pre-test result concerning numeracy skills showed that out of 125 pupils, 30 fell into the full intervention, 38 into the moderate intervention, 40 into the light intervention, and only 17 were grade-ready. This indicates that most learners were not yet grade-ready in terms of numeracy. The results suggest that learners did not obtain the expected foundational numeracy skills, largely attributed to the modular distance learning approach implemented during the COVID-19 pandemic. This finding is consistent with Pecjo (2022), who concluded that factors such as poor internet connection, poor study habits, and the distance learning modality negatively affected the academic performance of learners in Mathematics.

Similar findings were reported in a study by Asencio and Casupanan (2024), which explored the challenges of teaching numeracy in a distance learning setup in

Olongapo City. They found that teachers struggled to address learning gaps due to limited resources and inadequate learner support at home. These constraints contributed to significant numeracy learning losses, confirming the result that Grade 1 pupils in the current study had poorly developed numeracy skills at the start of the 8-week learning recovery curriculum.

However, the post-test results demonstrated a notable improvement. The number of pupils in full intervention, moderate intervention, and light intervention was reduced, and more pupils shifted to higher levels of performance. Specifically, the number of pupils categorized as grade-ready increased from 17 to 42. This progress suggests that the 8-week Learning Recovery Curriculum had a positive impact on learners' numeracy skills.

This outcome supports the findings of Munda, Endrinal, and Nequinto (2024), who studied the effectiveness of Project COUNTS, a numeracy intervention for Grades 8 and 9. Their research revealed that students significantly improved their numeracy levels through targeted and active learning strategies using manipulative materials—similar to the individualized and group-based lessons delivered in this study. Likewise, Quiambao, Montenegro, and

Crispe (2024) reported in their Project BOOST study that after a focused numeracy intervention, 89.1% of Grade 7 learners reached an independent level, proving the success of recovery-focused programs when implemented with teacher dedication and structured support.

The present study’s post-test improvement can also be attributed to the intensified lesson delivery, individualized instruction, hands-on activities, and consistent follow-up by teachers, even for pupils with attendance issues. As Sekiwu (2020) emphasized, there is a positive relationship between school attendance and

academic performance, and while irregular attendance posed challenges, teacher dedication helped mitigate its effects.

Overall, the comparison between pre- and post-test results validates the need for and effectiveness of the 8-week Learning Recovery Curriculum in numeracy. The findings reflect the importance of face-to-face, structured interventions over remote modular instruction in developing essential foundational skills, particularly in the early grades. Table 2.2 shows the number of students who fall in their proficiency level per section according to the literacy pre-test and post-test results.

Table 2.2. Proficiency Level of Students Based on the Result of Pre-test and Post-test in Literacy

Section	Full Intervention				Moderate Intervention				Light Intervention				Grade Ready																				
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test																		
	F	M	L	G	F	M	L	G	F	M	L	G	F	M	L	G																	
Camia	7	0	0	0	3	3	1	0	0	0	10	0	0	0	2	8	0	0	0	5	0	0	0	2	3	0	0	0	5	0	0	0	5
Dahlia	6	0	0	0	5	1	0	0	0	8	0	0	0	3	5	0	0	0	7	0	0	0	4	3	0	0	0	4	0	0	0	4	
Rose	8	0	0	0	4	2	2	0	0	10	0	0	0	3	7	0	0	0	7	0	0	0	1	6	0	0	0	1	0	0	0	1	
Rosal	6	0	0	0	4	2	0	0	0	10	0	0	0	1	9	0	0	0	9	0	0	0	1	8	0	0	0	1	0	0	0	1	
Santan	4	0	0	0	4	0	0	0	0	8	0	0	2	4	1	1	0	0	9	0	0	0	6	3	0	0	0	0	0	0	0	0	
Total	31	0	0	0	20	8	3	0	0	46	0	0	2	13	30	1	0	0	37	0	0	0	14	23	0	0	0	11	0	0	0	11	

N.B.: F- Full Intervention, M - Moderate Intervention, Light Intervention, G - Grade Ready

The pre-test results of literacy showed that out of 125 Grade 1 pupils, 31 fell into full intervention, 46 into moderate

intervention, 37 into light intervention, and only 11 were grade-ready. This indicates that many first-grade pupils lacked foundational

literacy skills and were not yet prepared for Grade 1-level instruction. The majority of the pupils requiring moderate to full intervention suggests that their performance in the Mother Tongue language was very poor, likely due to limited opportunities for oral language development and early reading during the pandemic years. This result mirrors the findings of Lobaton (2022), who emphasized that word recognition and reading attitude problems must be addressed first before learners can develop reading comprehension. He noted that struggling readers benefit most from early, targeted, and consistent interventions in foundational literacy areas. Similarly, Capuno and Gutierrez (2023) found that Grade 1 pupils under modular learning lacked phonological awareness and decoding skills, making it difficult for them to transition smoothly into formal reading tasks when face-to-face classes resumed. However, the post-test results revealed a clear improvement in learners' literacy levels. The number of pupils in the grade-ready category increased significantly from 11 to 35, while several pupils also moved from moderate to light intervention, and from light intervention to grade-ready. This outcome suggests that the 8-week Learning Recovery Curriculum helped fill the gaps in literacy by providing systematic,

differentiated, and intensive reading instruction, especially in the Mother Tongue.

Supporting this, Darsow (2022) highlighted that a strong implementation plan is key to the success of any intervention program, especially in early grade literacy. The planning and structure of the learning recovery curriculum likely contributed to the gradual improvement in learners' reading performance. Moreover, the use of activities that targeted phonological awareness, alphabet knowledge, and phonemic awareness during the intervention helped lay a solid foundation for later reading success, not just in the Mother Tongue, but also in Filipino and English. Further, De Guzman and Barroga (2023) reported that Grade 1 learners exposed to intensive reading programs using leveled texts and phonics-based strategies showed marked gains in oral reading fluency and comprehension within a short period. Their findings support the effectiveness of time-bound but focused literacy interventions like the 8-week learning recovery model. In contrast, however, Mendoza (2022) found that reading interventions were less effective in schools with large class sizes and insufficient reading materials. This points to the importance of contextual support, such as teacher-pupil ratio, availability of resources, and parental involvement, all of which can significantly

affect intervention outcomes. Despite these challenges, the results of this study underscore the effectiveness of structured literacy intervention. The growth in the number of grade-ready pupils from 11 to 35 shows that with proper implementation, even short-term recovery efforts can lead to meaningful improvement in literacy—especially when learners are grouped

according to ability, and the instruction is intentional and aligned with their learning needs.

The Effectiveness of the 8-Week Learning Recovery Curriculum

Table 3 shows the test of significant difference between the pre-test and post-test results in both literacy and numeracy skills.

Table 3. Difference between the Pre-test and Post-test

Statistical Bases	Statistical Analysis	
	Literacy	Numeracy
Level of Significance	0.05	0.05
Critical Value	-1.96	-1.96
Test value (z)	-7.65	-7.25
Decision on Ho	Reject	Reject
Conclusion	Significant	Significant

The Wilcoxon Signed-Rank Test was used to determine the significant difference between the pre-test and post-test scores of the respondents. The computed t-values for literacy (-7.65) and numeracy (-7.25) fall within the critical region at the 0.05 level of significance, leading to the rejection of the null hypothesis. This indicates a significant difference between the learners’ pre-test and post-test results in both literacy and numeracy. This result confirms that the 8-week learning recovery curriculum was

effective in improving the literacy and numeracy skills of Grade 1 learners. This improvement can be attributed to the carefully designed interventions and differentiated activities that were implemented during the curriculum, which aimed to address gaps created by the disruption of education during the COVID-19 pandemic. These interventions included focused instruction on phonics, reading comprehension, and numeracy fundamentals.

The improvement in the learners' performance is supported by the findings of DepEd-5 Director Gilbert Sadsad, who shared that the initial post-assessment results indicated noticeable progress in the foundational skills of students in both numeracy and literacy after the curriculum's implementation. These results were further corroborated by the DepEd Region 5 education program supervisor, who noted a significant increase in the number of students considered grade-ready, as well as a decrease in those requiring full intervention. These findings echo those of Sekiwu (2020), who found that intensive learning interventions can significantly improve academic outcomes, particularly when these interventions are focused and sustained. Further aligning with the results of this study, Darsow (2022) emphasized that well-structured intervention programs positively affect students' proficiency in foundational skills. These results also corroborate the findings of Gonzales et al. (2021), who observed that targeted recovery programs for elementary students—particularly in numeracy and literacy—could bridge learning gaps that were exacerbated by the disruptions caused by the pandemic. Their study revealed that students receiving targeted intervention showed marked

improvements in their academic performance within a short timeframe.

In contrast, Hernandez (2021) noted that similar interventions in other regions yielded mixed results, with some schools experiencing limited success due to factors such as lack of resources and inconsistent attendance. This highlights the importance of contextualizing interventions and ensuring the availability of adequate resources to sustain improvements in student performance. However, the post-test results from this study indicate a positive trend in both numeracy and literacy, showing that the number of grade-ready learners increased, while the number of those requiring full intervention decreased significantly compared to the pre-test results. Specifically, Grade 1 learners who had struggled with basic literacy skills, such as letter-sound recognition and word reading, improved notably, moving toward becoming grade-ready by the end of the intervention period.

Learning corners and differentiated activities also contributed to the improvement. As observed, learners engaged in hands-on activities that were designed to improve not only their academic skills but also their social interaction and collaborative learning. This is consistent with the findings of De Guzman and Barroga (2023), who

noted that interactive, learner-centered activities significantly enhance student engagement and achievement, particularly in early-grade interventions. The study also corroborates the assertions of Lobaton (2022), who emphasized the importance of multimodal learning approaches, particularly in reading and numeracy, to meet the diverse needs of early learners.

In numeracy, the focus on the four fundamental skills (addition, subtraction, multiplication, and division) allowed learners to gradually build confidence and competence. The targeted practice and grouped lessons facilitated learners' understanding of basic mathematical concepts. This aligns with Capuno and Gutierrez (2023), who found that structured numeracy interventions for young learners, particularly in addition and subtraction, can significantly improve students' mathematical fluency within a short timeframe.

Overall, the 8-week learning recovery curriculum had a substantial impact on both the literacy and numeracy levels of Grade 1 learners, especially for those who were significantly behind due to the disruptions caused by the pandemic. The improvement in grade readiness, as well as the decrease in full intervention, underscores the effectiveness of this curriculum in

addressing the learning gaps in early education. Various activities, such as game-based learning and the use of manipulative learning materials in the learning center with the provision of the teachers, made the learning process smooth for both the learners and the teachers. The lesson map and ready-made activities were very helpful to teachers during the curriculum implementation. The skills and competencies that need to be improved for every key stage were present in the activities, starting from the letter sound recognition down to the reading comprehension skills in the mother tongue. In contrast, numeracy begins with writing the numbers and counting down to addition and subtraction.

CHALLENGES ENCOUNTERED BY THE TEACHERS IN THE IMPLEMENTATION OF THE 8-WEEK LEARNING RECOVERY CURRICULUM

The implementation of the 8-week learning recovery curriculum posed challenges for teachers but also offered valuable learning experiences. The process required significant adjustments, as many aspects were new, and teachers had to adapt quickly. Effective teaching, supported by quality instructional resources, is essential for achieving lesson objectives (Barber et al.,

2015; Ferguson et al., 2019; Christ et al., 2019; Bus et al., 2019; Arante et al., 2020). Teachers used educational technologies to foster skills like innovation, leadership, emotional intelligence, critical thinking, and problem-solving in a participatory learning environment. They also underwent multiple trainings on how to implement the curriculum, manage classrooms, and engage students with appropriate activities.

A key feature of this curriculum is its focus on numeracy and literacy, the foundational skills essential for students to succeed in other learning areas. After the training for Grades 1-3, teachers conducted orientations for parents, ensuring they understood the curriculum's goals. Learners were grouped into four categories (full intervention, moderate intervention, light intervention, and grade-ready) based on pre-test results. The classroom featured four learning centers where students could engage in hands-on activities, games, and other learning tasks.

Initially, teachers struggled to assess students' abilities, prepare materials, and manage time effectively. They also faced challenges in setting up the learning centers and adapting materials for different learning levels. Despite these difficulties, teachers remained resourceful, innovating to ensure

that students had access to engaging activities that supported their learning. According to Reantaso and Digo (2022) and Mostera and Digo (2023), creating innovative instructional strategies and tools is crucial for overcoming learning obstacles.

Interviews with teachers revealed that the 8-week curriculum required them to be highly adaptable and creative. Teachers worked long hours, balancing lesson delivery with preparing materials and creating learning centers. As one teacher noted, "I needed to double my time to give the learners quality learning," while another shared, "I teach the pupils while printing the materials and activity sheets at the same time." These challenges were compounded by the need for constant innovation to keep students engaged. The positive impact of instructional leadership on teacher competence and student outcomes has been well-documented (Ahmad & Ali, 2021; Mora-Ruano et al., 2021; Liu & Gümüs, 2021; Tremont & Templeton, 2019). One advantage of the curriculum was that the region provided ready-to-print learning materials, which helped the implementation run smoothly as teachers became more familiar with the strategies. Over time, teachers were able to better understand their students' individual needs and offer differentiated learning

activities. Though there was initial negative feedback, it became clear that the curriculum positively impacted learners' performance. As Patterson and Xu (2020) emphasized, engaging in academic conversations and exploring pedagogical strategies strengthens students' problem-solving and learning abilities.

After the curriculum's implementation, a post-test was administered to assess its effectiveness. Teachers suggested that the curriculum should extend beyond 8 weeks, emphasizing the importance of foundational literacy and numeracy instruction in the early grades. As one teacher remarked, "The 8-week curriculum should not be just eight weeks; it should be a year-long curriculum." With the support of dedicated teachers and a well-structured curriculum, students can achieve significant progress in foundational skills, setting the stage for future learning success.

CONCLUSIONS

The implementation of the 8-week learning recovery curriculum was designed to address the learning gaps in numeracy and literacy skills among Grade 1 pupils, which were exacerbated by the two years of modular learning. This curriculum focused on the foundational skills of reading and counting,

using a combination of structured and unstructured activities, as well as learning centers tailored to different skill levels. The goal was to improve students' proficiency in both numeracy and literacy by providing differentiated learning opportunities that could meet the needs of all learners.

Based on the pre-test and post-test results, it was evident that there were significant improvements in the numeracy and literacy levels of the Grade 1 pupils. The pre-test results showed a limited number of grade-ready students, indicating that many learners had yet to acquire the necessary skills for their grade level. However, the post-test results revealed a marked increase in the number of grade-ready pupils, with most students showing enhanced proficiency in both numeracy and literacy. This demonstrated the effectiveness of the curriculum in addressing the identified learning gaps and advancing students' foundational skills.

The effectiveness of the 8-week learning recovery curriculum was confirmed by the significant difference observed between the pre-test and post-test scores, with t-values of -7.65 for numeracy and -7.25 for literacy, both falling in the critical region at a 0.05 significance level. These results underscored the success of the curriculum in

improving the learners' academic performance. Teachers, too, recognized the positive impact of the curriculum, noting its ability to support students' development through various interactive and engaging learning activities.

Despite the curriculum's success, teachers faced several challenges during its implementation. One of the primary difficulties was the limited time for preparation, which required teachers to create and adapt materials quickly. Additionally, teachers had to balance the demands of managing multiple learning levels in a single classroom, requiring effective time management and multitasking skills. Teachers also noted the challenges of contextualizing materials and ensuring that all learners, regardless of their initial proficiency, had the necessary resources to succeed.

Overall, the 8-week learning recovery curriculum effectively addressed the numeracy and literacy learning gaps among Grade 1 pupils, as evidenced by significant improvements in pre-test and post-test scores. The curriculum's success was attributed to its structured approach, the use of learning centers, and the dedication of the teachers. However, the challenges faced by teachers in terms of time constraints and

resource preparation highlighted the need for continued support and professional development to ensure the sustainability and success of similar initiatives in the future.

RECOMMENDATIONS

Based on the findings, the researcher recommends that a numeracy and literacy intervention program with similar features to the 8-week learning recovery curriculum be sustained and further developed. The success of the program highlighted its effectiveness in addressing the learning gaps and improving the numeracy and literacy skills of Grade One pupils. To further enrich and enhance the intervention program, the following recommendations are proposed:

1. The learning corners, which provided students with opportunities to engage in hands-on, interactive learning activities, were a significant factor in the success of the 8-week curriculum. It is recommended that the presence of these learning centers be maintained and expanded in future interventions. These corners should be equipped with materials that allow for differentiated instruction, catering to varying levels of student ability in numeracy and literacy. Moreover, the learning corners should be regularly updated to incorporate new

- activities that align with current educational trends and students' evolving needs.
2. The quality of learning materials directly impacts students' engagement and learning outcomes. To build on the success of the program, it is essential to enhance the learning materials, particularly manipulative and game-based activities, that cater to the different numeracy and literacy skill levels of the students. Manipulatives help make abstract concepts more tangible and should be diversified to cover various mathematical and reading skills. Game-based activities, which encourage active participation, problem-solving, and peer collaboration, should also be designed to cater to different learning styles and foster a fun and effective learning environment. By continuously refining and diversifying these materials, students can have more opportunities to engage meaningfully in the learning process.
 3. The importance of ongoing assessment cannot be overstated. It is recommended that the learning progress of pupils be consistently monitored through regular formative and summative assessments. These assessments will help identify areas where students need additional support and ensure that learning goals are being met. Furthermore, it is vital to maintain open lines of communication with parents to keep them informed about their children's progress. Regular updates, through parent-teacher conferences or progress reports, will allow parents to support their child's learning at home, ensuring a collaborative effort in the child's academic development. Involving parents in this way fosters a community-oriented approach to learning and reinforces the importance of parental involvement in education.
 4. To ensure that the intervention program is implemented effectively, it is crucial to provide teachers with adequate training and professional development. Teachers should be thoroughly prepared for the demands of the numeracy and literacy intervention program, which includes familiarizing them with the curriculum, understanding the use of learning materials, and developing skills in managing differentiated instruction in the classroom. Regular workshops and training sessions should be organized to equip teachers with the knowledge and tools necessary to deliver high-quality instruction. Additionally, providing teachers with continuous support and

opportunities for collaboration will help them stay motivated, improve their teaching practices, and better serve their students' needs.

References

- Ahmad, N., Ali, Z., & Sewani, R. (2021). Secondary school teachers' perceptions of their head teachers' instructional leadership and its effect on teachers' professional development in Karachi, Pakistan. *Journal of Development and Social Sciences*, 2(3), 362-377. [http://doi.org/10.47205/jdss.2021\(2-III\)31](http://doi.org/10.47205/jdss.2021(2-III)31)
- Arslantas, T. K., & Gul, A. (2022). Digital literacy skills of university students with visual impairment: A mixed method analysis. *Education and Information Technologies*, 27(4), 5605-5625. <https://doi.org/10.1007/s10639-021-10860-1>
- Asencio, G. B., & Casupanan, I. H. (2024). Perceived challenges, interventions, and numeracy learning gaps and losses in distance learning in District III of Olongapo City, Philippines: A basis for intervention programs. *International Journal of Recent Advances in Multidisciplinary Topics*, 5(2), 70-76. <https://doi.org/10.5281/zenodo.10778145>
- Barber, W., Buchanan, S., & King, S., (2015). Authentic assessment in online learning: Moving beyond text to celebrate multimodal measures of student achievement. *The Electronic Journal of e-Learning*, 13(2), 59-67. <https://files.eric.ed.gov/fulltext/EJ1060176.pdf>
- Capuno, C. L., & Gutierrez, R. M. (2023). Bridging literacy gaps in early grades: Lessons from modular learning. *Journal of Language and Literacy Education*, 15(2), 45-59. <https://doi.org/10.13140/RG.2.2.31487.97441>
- Chan, J. Y. C., & Scalise, N. R. (2022). Numeracy skills mediate the relation between executive function and mathematics achievement in early childhood. *Cognitive Development*, 62, 101154. <https://doi.org/10.1016/j.cogdev.2022.101154>
- Coiro, J., & Dobler, E. (2007). Exploring the comprehension strategies used by sixth-grade skilled readers as they search for and locate information on the Internet. *Reading Research Quarterly*, 42, 214-257. <http://dx.doi.org/10.1598/RRQ.42.2.2>
- Darsow, D. (2022). *Best practices for implementing a math intervention program*. <https://www.nassp.org/2022/06/24/best-practices-for-implementing-a-k-12-math-intervention-program/>

- De Guzman, L. M., & Barroga, A. D. (2023). Improving early literacy through structured phonics-based intervention among Grade 1 pupils. *Philippine Journal of Basic Education*, 12(3), 70–84. doi/pdf/10.1002/j.2379-3988.2008.tb00054.x
- DepEd. (2022). Regional Memorandum No.104, s.2022: Policy guidelines on the implementation of the 8-week learning recovery curriculum in Region V. August 4, 2022
- Dionglay, E., Bembo, A. M. L., & Janer, S. S. (2023). Effectiveness of 8-week learning recovery curriculum in improving the reading performance of pupils. *Jurnal Pendidikan Progresif*, 13,(3), 971-978. <https://doi.org/10.23960/jpp.v13.i3.202306>
- Dishon, G., & Gilead, T. (2020). Adaptability and its discontents: 21st-century Skills and the preparation for an unpredictable future. *British Journal of Educational Studies*, 69(4),393-413. <https://doi.org/10.1080/00071005.2020.1829545>
- Fuson, K. C. (1988). *Children's counting and concepts of numbers*. Springer Verlag. <https://doi.org/10.1007/1978-1-4612-J7S4-9>
- Ginsburg, H. P., Lee, J. S., & Boyd, J. S. (2008). Mathematics education for young children: What it is and how to promote it. *Society for Research in Child Development*. 22(1). <https://srcd.onlinelibrary.wiley.com/>
- Gonzales, P. R., Sumangil, M. M., & Cortez, R. D. (2021). Effectiveness of targeted learning Interventions for struggling learners in the Philippines: Bridging the learning gaps post-pandemic. *International Journal of Education and Development*, 10(1), 52–60.
- Grewenig, E., Lergetporer, P., Werner, K., Woessmann, L., & Zierow, L. (2021). COVID-19 and educational inequality: How school closures affect low-and high-achieving students. *European Economic Review*, 140, 103920. <https://doi.org/10.1016/j.euroecorev.2021.103920>
- Hammerstein, S., König, C., Dreisoerner, T., & Frey, A. (2021). Effects of COVID-19-related school closures on student achievement—a systematic review. *Frontiers in Psychology*, 12, 4020. <https://doi.org/10.3389/fpsyg.2021.746289>
- Hernandez, V. P. (2021). Assessing the effectiveness of learning recovery programs in Metro Manila schools. *Journal of Educational Policy and Practice*, 14(2), 38–44.
- Herrera, J. N. E., (2022). Pandemic stalls students' literacy skills, DepEd-6 says. *Daily Guardian*, - <https://dailyguardian.com.ph/pandemic-stalls-students-literacy-skills-deped-6-says/>

- Huber, S. G., & Helm, C. (2020). COVID-19 and schooling: Evaluation, assessment and accountability in times of crises—Reacting quickly to explore key issues for policy, practice and research with the school barometer. *Educational Assessment, Evaluation and Accountability*, 32, 237–270.
<https://doi.org/10.1007/s11092-020-09322-0>
- Langenberg, D. N., & Members of the National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. National Institute of Child Health and Human Development.
<https://www.nichd.nih.gov/sites/default/files/publications/pubs/nrp/Documents/report.pdf>
- Liu, B. & Gümüs, S. (2021). The effect of instructional leadership and distributed leadership on teacher self-efficacy and job satisfaction: Mediating roles of supportive school culture and teacher collaboration. *Educational Management Administration & Leadership*, 49(3), 430-453.
<https://doi.org/10.1177/1741143220910438>
- Lobaton, A.M. (2022). Bilingualism: Its influence on the reading comprehension of college students. *International Research Journal of Science, Technology, Education, and Management*, 2(2), 187-203.
<https://doi.org/10.5281/zenodo.6975655>
- Mendoza, R. T. (2022). Barriers to effective reading remediation in Philippine public schools. *Journal of Educational Strategies and Interventions*, 10(1), 49–57.
- Mora-Ruano, J. G. Schurig, M. & Wittmann, E. (2021). Instructional leadership as a vehicle for teacher collaboration and student achievement. What the German PISA 2015 sample tells us. *Leadership in Education*,
<https://www.frontiersin.org/articles/10.3389/feduc.2021.582773/full>. 2023
- Mostera, M. J., & Digo, G. S. (2023). Teachers’ profile and the implementation of kindergarten profile during pandemic. *Jurnal Pendidikan Progresif*, 13(1), 119-132
https://scholar.google.com/citations?view_op=view_citation&hl=en&user=b2c-cCUAAAAJ&citation_for_view=b2c-cCUAAAAJ:SeFeTyx0c_EC
- Munda, N. P., Endrinal, J. R. H., & Nequinto, M. C. (2024). Effectiveness of Project COUNTS in improving students’ numeracy skills. *International Journal of Academic Multidisciplinary Research*, 4(1).
<https://doi.org/10.53378/353038>
- Ojose, B., (2011). Mathematics literacy: Are we able to put the mathematics we

- learn into everyday use? *Journal of Mathematics Education*, 4(1), 89-100. -
https://educationforatoz.com/images/8.Bobby_Ojose_-_Mathematics_Literacy_Are_We_Able_To_Put_The_Mathematics_We_Learn_Into_Everyday_Use.pdf
- Patriana, W. D., Sutama, S., & Wulandari, M. D. (2021). Pembudayaan literasi numerasi untuk asesmen kompetensi minimum dalam kegiatan Kurikuler pada Sekolah Dasar Muhammadiyah. *Jurnal Basicedu*, 5(5), 3413–3430.
- Patterson, L. & Xu, Y. (2020). Enhancing teachers' competence in building students' numeracy in Grades K-3. *Frontiers in Education*, 5(31). <https://doi.org/10.3389/educ.2020.00031>
- Pecjo, R. F. (2022). The effect of Covid-19 on the academic performance in Mathematics of the students at Tugatog National High School in the City Division of Malabon. *AIDE Interdisciplinary Research Journal*, 2, 255–293. <https://orcid.org/0000-0003-1990-5961>
- Perdana, R., & Suswandari, M. (2021). Literasi numerasi dalam pembelajaran tematik siswa kelas atas sekolah dasar absis: *Mathematics Education Journal*, 3(1), 9. <https://doi.org/10.32585/absis.v3i1.1385>
- Poquita, R. N. (n.d.). 8 week curriculum: Its impact to grade 1-3 learners. *Bicol Mail (Bicolandia's Only Regional Newspaper)*, https://www.bicolmail.net/single-post/8-week-curriculum-its-impact-to-grade-1-3-learners#google_vignette
- Quiambao, C., Montenegro, I. D., & Crispe, N. P. V. (2024). Bridging the gap: Improving learner's numeracy skills through Project BOOST. *International Journal of Research and Innovation in Social Science*, 8(4). <https://doi.org/10.13140/RG.2.2.20420.64648>
- Rakhmawati, Y., & Mustadi, A. (2021). Examining the necessity of reflective module: Literacy numeracy skill of students elementary school. *AL-ISHLAH: Jurnal Pendidikan*, 13(1), 597–609. <https://doi.org/10.35445/alishlah.v13i1.534>
- Reantaso, L. M., & Digo, G. S. (2022). Teachers' roles, needs, and best practices in modular distance learning modality. *ASEAN Journal of Open and Distance Learning*, 14(1), 24-37.- https://scholar.google.com/citations?view_op=view_citation&hl=en&user=b2c-cCUAAAAJ&citation_for_view=b2c-cCUAAAAJ:4OULZ7Gr8RgC
- Sarama, J., & Clements, D. H. (2009). *Early childhood mathematics education research: Learning trajectories for*

- young children.* Taylor and Francis Group.
- Seitz, M. & Weinert, S. (2022). Numeracy skills in young children as predictors of mathematical competence. *British Journal Developmental Psychology*, 40(2), 224-241. <https://doi.org/10.1111/bjdp.12408>
- Sekiwu, D. et al (2020). Investigating the relationship between school attendance and academic performance in universal primary education: The case of Uganda. *African Educational Research Journal*, 8(2),152-160. <https://doi.org/10.30918/AERJ.82.20.017>
- Setiawan, F., & Sukamto, S. (2021). Implementasi Kampus Mengajar Perintis (KMP) sebagai Cikal Bakal Penggerak Pembelajaran Literasi dan Numerasi di Sekolah Dasar. Primary: *Jurnal Pendidikan Guru Sekolah Dasar*, 10(2), 339–345. <https://doi.org/10.33578/jpkip.v10i2.8251>
- Schult, J., Mahler, N., Fauth, B., & Lindner, M. A. (2022). Long-term consequences of repeated school closures during the COVID-19 pandemic for reading and mathematics competencies. *Frontiers in Education*, 13, 867316. <https://doi.org/10.3389/feduc.2022.867316>
- Tremont, J. W., & Templeton, N. R. (2019). Principals as instructional leaders: An embedded descriptive case study of one rural school's effort to improve student outcomes through reading plus. *School Leadership Review*, 14(2)(3). <https://scholarworks.sfasu.edu/slr/vol14/iss2/3>. 2023
- Woolson, R. F. (2008). *Wilcoxon Signed-Rank Test*. Wiley Online Library. <https://doi.org/10.1002/9780471462422.eoct979>