IMPROVING NUMERACY SKILLS OF GRADE 2 PUPILS OF POLANGUI SOUTH CENTRAL SCHOOL USING THE ONLINE/ OFFLINE LESSON IN TEACHING MATHEMATICS

Llobet, Kristine R.

Completed 2023

ABSTRACT

RESEARCH TITLE	:	**IMPROVING NUMERACY SKILLS OF GRADE 2 PUPILS OF POLANGUI SOUTH CENTRAL SCHOOL USING THE ONLINE / OFFLINE LESSON IN TEACHING MATHEMATICS**
NAME OF RESEARCHER	:	**KRISTINE R. LLOBET** Master Teacher I
DATE OF TA SESSION	:	**MARCH 11, 2022**

SUMMARY :

Difficulties in numeracy skills were manifested by Polangui South Central School Grade 2 learners in the conducted Albay Numeracy Assessment Test (ALNAT) for School Year 2022-2023. Said assessment revealed an overall result of 57.19%, which is falling under the Needs Major Support Skill Level. The researcher took this performance as a great challenge and made efforts to address such gap. Thus, this study was conducted to investigate whether the use of online / offline lessons in appsgeyser apps will improve the numeracy skill level of Grade 2 learners. A single group pretest and posttest design was used to test the effect of modified lessons in appgeyser apps on the performance of the 120 learners that need major support. Set A of ALNAT pretest was given to the participants prior to the utilization of the apps, and set B was given after the implementation. Likewise, a checklist was used to validate the performance of the learners based on the pretest and posttest results.

The study revealed that the MPL of the learners in the activities given in the online/offline lesson using appsgeyser apps is 91%; the skill level of the learners was improved from needs major support to transforming; and there is a significant difference in the performance of the learners between the pretest and posttest. These positive results were affirmed by the participants' responses in the given checklist.

CONCLUSIONS :

1. The MPL of the learners in the activities given in the online/offline lesson using appsgeyser apps is 91%.
2. The skill level of the learners was improved from needs major support to transforming after the implementation of the online / offline lesson using appsgeyser apps.
3. There is a significant difference in the performance of the learners between the pretest and posttest.

RECOMMENDATIONS :

1. For the researcher and other teachers to make additional modified modules in Mathematics for the least learned skills per quarter using appsgeyser apps;
2. Use appsgeyser apps in preparing assessment tests and intervention lessons;

3. Explore other applications similar with appsgeyser apps in improving the performance of the learners.

ACKNOWLEDGMENT

This study would not be possible if there were no people behind in the success to finish the study. With the people behind the success of the study, the research study was successfully done with positive feedback that can be used by future researchers. A big help to make it better, finished, smooth way to conduct the study and to help other researchers to be the bases and gave information that can be used by the next generation in research. A heartfelt thanks of the researcher for those people who guided the study to be fulfilled. These people were recognized in everyday that comes along while doing the research study like:

A special thanks to Mr. Andres B. Basabe who never failed to guide and gave the researcher a smooth sailing working on this study and gave the researcher permission to conduct in the school where he leads the researcher;

To our Public Schools District Supervisor, Mam Sheryl S. Sabando who monitored the researcher development and very hands-on to finished what the researcher have started;

To the EPS in Mathematics of SDO-Albay, Mam Felma Bonito who supported the study to increase the performance of the grade 2 learners in Polangui South Central School and gave the researcher a knowledge to conduct an action research based on the result of ALNAT;

To the Polangui South Central School teachers in grade 2, who supported the researcher to conduct the study and gave the willingness to serve and looking forward to the positive result of the study that will made the teaching learning process very effective using the modified modules applied in an appsgeyser apps;

To the grade 2 learners who are all excited on the study that the learners will use the gadgets in answering the activity given;

To the parents of the learners who are all willing to help to finish the study of the researcher and an open minded to learn new trends in teaching that will be a big help to the teachers and learners;

Those people who are part of the life of the researcher Anikka R. Llobet and Kian R. Llobet who gave strength to pursue to finish the action research and offers this study whom they can lean on in the future to love research study;

Last but not the least, the Almighty God who always protects, guides, helps, supports and never failed to provide strength to the researcher to finished what have been started.

KRISTINE REPANE-LLOBET

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a. Context and Rationale

"Things may never go back to normal. You may need to create a new normal. And that's okay." Technology has already risen in the 20th century, but still being independent and discovering in learning still attached to learn new things. As the world suffering this pandemic times, education made a new normal in distance learning just to educate by all means the learners. The Phillipines made some distance learning to learners like modular, radio-based instruction, TV-based instruction, blended learning and most of all online learning. Many school in the country use the modular printing because not all places in the country has an active signal for internet connection. Some cannot afford to have a data for an online class and search for the answers to the module given to the learners. Many learners suffered a lot for this distance learning. Upper position in education make the best as they could just not to interrupt the education of every learners to learn. A year has past with this pandemic times, parents and learners adjust themselves to continue the progress of learnings even if it has difficulties in education. The distance learning involves individualized instruction that allows learners to use self-learning modules (SLMs) in print or digital format/electronic copy, whichever is applicable in the context of the learner, and other learning resources like Learner's Materials, textbooks, activity sheets, study guides and other study materials. Learners access electronic copies of learning materials on a computer, tablet PC, or smartphone. CDs, DVDs, USB storage and computer-based applications can all be used to deliver e-

learning materials, including offline E-books. The teacher takes responsibility of monitoring the progress of the learners. The learners may ask assistance from the teacher via e-mail, telephone, text message/instant messaging, etc. Where possible, the teacher shall do home visits to learners needing remediation or assistance. Any member of the family or other stakeholder in the community needs to serve as para-teachers (2021).

Recently, the Department of Education embraced another innovation, the implementation of New Normal Scheme brought by COVID 19 pandemic, which once again tested the ability and competency of the Filipino teachers to provide every student entrusted to their care with quality education. There is a need to implement the modular type, online classes, radio and television based instructions because the country has to come up with a basic education program in a manner that is least disruptive to the current curriculum, most affordable to the government and families, and aligned with international practice (Department of Education, 2010).

With the research made by the researcher it may contribute to address the difficulties of the learners in some least learned skills in Mathematics grade 2. This was given priority by the researcher since this is the grade level that the researcher teaches learners at Polangui South Central School. Quarter 3 was the focus of the researcher in the least learned skill in the competency used in Numeracy Assessment. The study was conducted to have an innovation to improve the numeracy skills of the learners since the result of the grade 2 learners in Polangui South Central School was 57.19%

that result in adjectivial rating in the Numeracy Assessment that needs major support that fall to 74 and below. Since the timeline starts in the third quarter that's why the researcher starts to find the least learned skill in the competency used in Numeracy Assessment. One of the least result competency of the third quarter in the Numeracy Assessment was determining the missing term/s in a given continuous pattern using two attributes (any two of the following: figures, numbers, colors, sizes, and orientations, etc.) e.g. 1, A, 2, B, 3, C, ,. Another basis of the study were the feedbacks of parents from the group chat made by the researcher.

Education is conceived as a powerful agency which is instrumental in bringing about the desired changes in the social and cultural life of a nation. Online class is one of the changes made in teaching skills and concepts in every learning areas. Teachers made some powerpoint presentation for delivering the lessons in every learning areas. Google classroom was made for an online class in which all the works of the teachers and learners were uploaded and downloaded to study and checked all the class works. Teachers and learners has a virtual interaction for learnings. Written works and performance works still manageable and observable through online class in synchronous or asynchronous manner. Internet connection is the mean things for this online class. Modules and activity sheet were made by teachers for them to read and understand the lesson in which the parents cooperation are badly needed for the struggling learners, fast and slow learners. Another is the radio-based instruction as a learning delivery

modality in Polangui in elementary and secondary. The teachers uses powerpoint presentation for the lesson and the script was delivered through a lesson in all learning areas from kinder to grade 12 learners. The comment box is the mean in identifying, concluding, and evaluating the lesson if the lesson was understood by the learners in every learning areas in every grade level.

According to Republic Act 10650 section 3 paragraphs a, e and f provides for the definition of “Distance Education”, “Open Distance Learning” and “Open Learning” as follows: “Section 3 Definition of Terms a.) distance education refers to a mode of learning in which students and teachers are physically separated from each other. It is student centered, guided independently study, making use of well-studied teaching and learning pedagogies to deliver well-designed learning materials in various media. It is also sometimes described as flexible learning and distributed learning; b.) open distance learning (ODL) refers to the merger of two (2) concepts, that of open learning and distance education.it is a system which combines methodology of distance education with the concepts of open learning and flexible learning; c.) open learning refers to a philosophy of learning that is based on flexibility of access for equity in education, an educational system accessible to every individual with minimal restrictions and emphasizing the flexibility of the system to eradicate problems caused by barriers like age, geographical location, time constraints and economic situation.”

With these act mandated by the House of Representatives it is clear that teaching would be flexible on the environment of the learners with easy distribution of learnings in every learners. In such manner the researcher made an instructional material applied in appsgeyser apps, the modified module made in which the activities given can be used from easy to difficult part of activity for slow learners as additional activity in Mathematics grade 2. The aim of the study is to lessen the difficulties of learning in Mathematics since this subject needed much the guidance of teachers for learning skills

in Mathematics. The data of the least learned skills in quarter 3 was the bases of the researcher to arrive in the study. Through the result of Project Numerals of grade 2 in Polangui South Central School given this school year for the learners, feedback in the group chat of the parents and the researcher, and worksheet scores of the learners last school year was one of the bases that the researcher come up of the least learned skill in Mathematics grade 2. The output of the study were used in natural setting of teaching who suffered or have some struggles in the least learned skills in Mathematics. The application used in the study can be used also in other learning areas for easy access of the learners specially those who cannot afford to have an internet connection. Only the QR code will be scan to the gadget of the learners then the learners can answer all the activities given on appsgeyser apps.

The study was conducted in Polangui South Central School in grade 2 with 120 learners in school year 2021-2022 who failed and got a low score in the pre-test given by the researcher and that is the set a of Numeracy Assessment. In which the grade 2 learners in Polangui South Central School in Stargazer got 72.125, Dahlia got 42.65%, Orchid got 37.52%, Sampaguita learners got 47.83%, Daisy got 62.7%, Gumamela learners got 61.95%, Sunflower learners got 67.95% and lastly Rose got 64.73% and the total percentage level in grade 2 is 57.19%. This is the grade level that the researcher focuses because it is the grade level in which the researcher teaches. In this school was conducted because the researcher teaches also

in this school and it is where the researcher was assigned in this school. The researcher wants to study on how the struggling learners can cope up with the output made by the researcher to adopt and adjust to understand the skill in Mathematics with the least learned skill in quarter 3. Another reason is to know the effectiveness of the online/offline lesson made by the researcher. This school year 2023-2024 is the focus of the study as the result of scores of the learners in Project Numerals, the researcher started since this online/offline lesson is fresh from the learners and learners are used to have a gadget in learning in some delivery modality just like the radio-based instruction. This lesson made by the researcher using appsgeyser apps can be used by teachers as an additional activity for the struggling learners and slow learners for this will give an additional understanding of the skills. This will be used to enable students to monitor the progress of their own learning. Donnelly and Fitzmaurice (as cited in O'Neill, Moore, and McMullin, 2005) "suggest that academic staff can begin the process but by focusing on the module and also how they intend to teach it, rather by focusing on the quality of learning that can be achieved by their students". Creating lessons using apps on online/offline mode takes commitment, time, and a systematics approach, which includes rationale for the lesson, appropriate design and development and an evaluation process, in order to find success in their implementation. Thus, the online/offline lesson made by the researcher makes sense by applying the activities made in the modified module in the apps for easy access of the learner. It still follows the steps in making a

module with the modified module emphasize on the least learned skills in Mathematics grade 2 in quarter 3 with 5-item test only on the pre-test, practice task 1-3, evaluation and assignment. This was modified module applied in the appsgeyser apps in the sense that it was patterned in the innovation made in Mathematics of the district, because in the innovation made that is conducted last school year 2021-2022 in grade 1-3 the post test was 5-item test, then in grade 4-6 was 10-item test in post test and in grade 7-10 it was 15-item test with the basis of this study is the poor result of Project Numerals in grade 2 in Polangui South Central School.

With the recent study, the researcher made the online/offline lesson to lessen the burden of the learners in learning the skill in Mathematics grade 2 in quarter 3 at Polangui South Central School. This was one of the instructional materials in teaching in this phenomenon after the pandemic specially when the teacher is not around for an important matters to attend to like trainings and others. An additional instructional materials for the learners to have better understanding in the skills in determining the missing term/s in a given continuous pattern using two attributes (any two of the following: figures, numbers, colors, sizes, and orientations, etc.) e.g. 1, A, 2, B, 3, C, ,.. The skill given was the least percentage in quarter 3 competencies given in the conduct of project Numerals that has a 52.16% result on the item analysis of the E-tool. The teachers can adjust to the activities given in that modified module applied in the appsgeyser apps by the researcher specially on learners who live in remote areas that the parents cannot help for the educational background of the parents finished and this material is

one of the material used in the innovation of the district in Mathematics but this study focuses only the school that the researcher teaches and the grade level.

b. Innovation, Intervention and Strategy

The study has a new idea that could give teachers an easy way of producing the activities to the learners. A paperless work for teachers in the 21st century skills were developed on the teachers to cope up with the new trend in teaching.

The researcher used appsgeyser app in teaching learners to the least learned skills in Mathematics grade 2. Modified modules were used by the teachers for pupils who got the low score in pre-test ALNAT in grade 2 that was applied in an appsgeyser app. All activities made were presented in the modified modules that was of big help in the teaching- learning process to address the gap during pandemic in this face to face classes. The output was one of the innovations in teaching in which the teacher facilitate and monitors the performance of the learners in the least learned skills in Mathematics with the use of gadgets and the answers were written on a sheet of paper. An innovation that suites the needs of the learners to have an additional learning to improve the numeracy skill of learners. It's not enough to have an internet connection just to search what the learners doesn't understand but an additional activities were given for a better understanding.

The action taken in this study is that the researcher used an application to give the activities in grade 2 learners of Polangui South Central School. The output was one of the teachers challenges on how to use the modified module applied in appsgeyser apps in teaching. With this, the teacher used the appsgeyser apps so that the learners will be well - motivated and free to answer the questions in each activity in face to face classes independently using the gadget. The lesson discussed was determining the missing term/s in a given continuous pattern using two attributes (any two of the following: figures, numbers, colors, sizes, and orientations, etc.) e.g. 1, A, 2, B, 3, C, , in quarter 3 and these lesson were based on the Most Essential Learning Competencies (MELC). The modified module made by the researcher were used as one of the interventions to address the difficulties in teaching Mathematics. An intervention for the learners who failed to understand the lesson that need support for additional activities suited to the performance level of the learners. For the performance of grade 2 pupils of Polangui South Central School in the least learned skills in Mathematics after the implementation of the online/offline lesson using appsgeyser apps as instructional materials, the set b of ALNAT were given to monitor the performance of the learners. The result of pre-test and post test of the study were the bases of the significant difference on the performance of the respondents after the implementation of the online/offline lesson using the appsgeyser apps as instructional materials. Checklist were given also to the teachers and learners to have a more meaningful result of the study.

The overall aim of the study is to lessen the task of a teacher in giving an additional activity to the learner and made an activity using an application that will get the interest of the learners. Using appsgeyser apps and modified modules were strategies in teaching that were introduced for the present situation as facilitator only to the learners that the learners worked independently. Though it's quite difficult in part of the teachers for not having enough time to make the modified modules in appsgeyser apps the suggested activities suited for every learners need. The researcher prepared the modified module applied in appsgeyser apps with the least learned skills that the learners acquired in school year 2022-2023. A new strategy in teaching that the modified module used an application in offline mode answered by learners through the use of technology. It made the learners used to it by using technology nowadays just like playing in some mobile games. The activities given in the appsgeyser apps was just the same of other application in technology that have a learning in teaching process. The lessons given in the apps were the least learned skills that made the instructional materials for teaching.

c. Action Research Questions

The primary objective of the research is to determine the effectiveness of the intervention on the least learned skill of grade 2 learners in the online/offline lesson in Mathematics using appsgeyser apps. It sought to answer the following questions:

- What is the performance of Grade 2 pupils of Polangui South Central School in the activities given in the online/offline lesson using appsgeyser apps as instructional materials?
- What is the performance of Grade 2 pupils, of Polangui South Central School, in the least learned skills in Mathematics after the implementation of the online/offline lesson using appsgeyser apps as instructional materials?
- Is there a significant difference on the performances of the respondents after the implementation of the online/offline lesson using the appsgeyser apps as instructional materials?

d. Action Research Methods

1. Participants and/or other Sources of Data and Information

The respondents in this research are the learners of grade 2 learners in Polangui South Central School with 120 learners that needs major support. The grade 2 respondents composed of male and female. The respondents were those learners who got the adjectival rate in assessment tool of ALNAT that needs major support. The total number of pupils that has been tested in Polangui South Central School were 120 pupils in which there are 66 male and 54 female in Polangui South Central School. The learning areas given to the pupils was Mathematics in which the grade 2 level got 57.19% in ALNAT result during the pre-test on school year 2022-2023 as basis in getting the least learned skills. Pre-test and post-test were given to the learners to test the effectiveness of the use of modified modules

using the appsgeyser apps. The researcher gave the post test to determine the level of understanding of the learners to the activities were given in appsgeyser app. The focus of the study was in the 3rd quarter of school year 2023-2024 with the least learned skills.

For additional information, the researcher used other reading materials, books, internet, and journal that needed as basis for the activities of the action research. The appsgeyser apps were downloaded in the gadget for the researcher to upload the modified modules, set A of ALNAT as pre-test and set B of ALNAT as post test. After, uploading the activities and follows the steps in uploading the files the QR code or the link was provided by the appsgeyser apps when it was done uploading in the apps. The QR code or the link of the apps were used by the respondents while the study was conducted.

2. Data Gathering Methods

The study adopts a single group pretest and post test design to test effectiveness of the online/offline lesson made as an instructional materials of the researcher. The learning areas that will be given to the pupils was Mathematics as one of the waterloo in all learning areas with the lowest grade attained by the pupils in Project Numerals this school year 2022-2023 with the rating of 57.19% of the grade 2 learners in Polangui South Central School. The modified module applied in an appsgeyser app will be the bases of the performance of grade 2 pupils of Polangui South Central

School in the activities given in the online/offline lesson. The researcher gave the post test to determine the performance of the respondents of Polangui South Central School in the least learned skills in Mathematics after the implementation of the online/offline lesson using appsgeyser apps as instructional materials. To get the significant diffence on the performance of the respondents after the implementation of the online/offline lesson using the appsgeyser app as instructional materials, the result of the pre-test and post test using the set a and b of ALNAT applied also in an appsgeyser app will be the bases of the study. T-test paired dependent sample was used in finding the significant difference of the study. Checklist were likewise used to the teachers and pupils perspective that will support the level of understanding of the learners to the activity that applied to the apps installed in the gadgets and the perspective of the teachers on the application used wherein the additional activity were installed.

The researcher distributed letter of consent to the parents of the target respondenst prior to the start of data gathering and also to the advisers of the respondents, principal, public schools district supervisor and lastly the research committee of SDO-Albay. After ensuring the parents' consent, pre-test was given to establish the baseline data. Set A of the numeracy assessment tool on Project Numerals was used and on the post test the set B of numeracy assessment. Researcher gave a Pre-test to the learners to test the prior knowledge of the skills using the set A of numeracy assessment tool of Project Numerals. The focus of the study was the least

mastered skill in quarter 3 in grade 2 in Mathematics based from the result of Project Numerals that has 57.19% in the item analysis for this school year 2022-2023. The skills with the least learned skill that was introduced in the study was determining the missing term/s in a given continuous pattern using two attributes (any two of the following:figures, numbers, colors, sizes, and orientations, etc.) e.g. 1, A, 2, B, 3, C, ___, , in quarter 3 as the start of the timeline of the study.

From the result of the study, the information gathered were analyzed based on the checklist that were distributed to the teachers and some guide questions to the focus group discussion to the pupils that was listed on checklist of the study to the pupils interest. Post-test were given by the researcher to determine the level of understanding of the pupils to the activities prepared by the researcher with the modified modules using appsgeyser apps.

The score that the pupils attained were the basis of the research on how effective is the output prepared by the researcher. Finding the mean and T-test paired dependent sample is the only way to find the effectiveness of the study in the pre-test and post test result. With that result, the researcher determined the effectiveness of the output of the researcher. The answers of the study in the checklist and the scores of the pupils in the modified module gave an interpretation by the researcher to show the effectiveness of the output of the understanding of the lesson specially these are the least

learned skills in Mathematics in grade 2. This was discovered by the researcher on how effective to have an additional activity for the pupils or just an additional burden to have another one. The data that being gathered by the researcher were listed based on the responses of the respondents.

To know the readiness, skills and effectiveness of technology using the modified module in the lesson prepared by the researcher, some steps were done to have the needed data in the study. The researcher gathered the answers of the respondent in the checklist and score of the pre-test and post test of the study. With these data gathered in the respondents the researcher gave interpretation and information to the responses of the respondents. Respondents responses served as the basis in analyzing the data. Researcher analyzed the data based on the scores given by the learners and responses in the checklist. Weighted mean was used to find the difference between pre-test and post-test and checklist responses as well. The mean used in the research study shows the following formula:

WF = weighted frequency;

= Total no. of respondents x no. of weight

TWF = total weighted frequency

= sum of all the weighted frequency

WM = weighted mean

$$= \frac{\text{Total Weighted Frequency}}{\text{Total No. of Respondents}}$$

The total data gathered can be seen in appendices that helped the researcher analyzed and interpreted the data. The software used in statistics of the study was the miscrosoft excel.

e. Discussion of Results and Reflection

Based on the data gathered from the activities, checklist, pre-test and post-test, the researcher discovered the following:

Table 1. Performance Level in the Activities Given in the Online/Offline Lesson Using Appsgeyser Apps:

TASK	**PL**
1	90
2	90
3	93
MEAN	91

The table shows that the mean performance level of the learners was the tasks covered by the activities was 91%. This means that of the 120 learners, 90% of the learners mastered task 1, 90% mastered on task 2, and

93% mastered on task 3. As a whole, the mean of the learners mastered the given tasks.

As the learners performed the tasks, the following were observed; a) Activities were answered easily, b) Silence while working were observed in the study, c) Pupils worked independently, d) Easily reads and scan the activity in the gadget, e) Understand easily the instruction and the lesson presented, and last but not the least f) An engaging and happy working the activities given in the study.

This implies that the performance of the learners was improved using the modified modules applied in an appsgeyser apps. Giving additional activities as an intervention to the least mastered skills in Mathematics helped improved and developed the skills.

Table 2. PreTest Result

LEARNER	PRETEST SCORE	LEARNER	PRETEST SCORE	LEARNER	PRETEST SCORE	LEARNER	PRETEST SCORE
1	15	31	19	61	15	91	15
2	19	32	19	62	15	92	16
3	15	33	19	63	19	93	15
4	19	34	19	64	19	94	16
5	15	35	19	65	19	95	16
6	16	36	19	66	19	96	16
7	16	37	20	67	19	97	16
8	16	38	20	68	15	98	15
9	16	39	20	69	15	99	15
10	16	40	20	70	15	100	15
11	16	41	20	71	17	101	15
12	18	42	20	72	17	102	15
13	16	43	20	73	17	103	15
14	18	44	16	74	17	104	16
15	18	45	20	75	19	105	15
16	17	46	16	76	17	106	15
17	17	47	20	77	17	107	15
18	17	48	20	78	17	108	15
19	17	49	20	79	17	109	15
20	17	50	16	80	17	110	15
21	18	51	20	81	15	111	15
22	18	52	20	82	15	112	16
23	18	53	20	83	15	113	16
24	18	54	16	84	15	114	16
25	18	55	20	85	15	115	16
26	16	56	20	86	16	116	16
27	16	57	20	87	16	117	20
28	16	58	19	88	16	118	20
29	18	59	17	89	16	119	20
30	18	60	19	90	16	120	20
						x =	**17.16**

Table 3. Post Test Result:

POST TEST RESULT					
STUDENT	SCORE	STUDENT	SCORE	STUDENT	SCORE
1	26	41	28	81	26
2	26	42	28	82	26
3	26	43	28	83	26
4	26	44	28	84	26
5	26	45	28	85	26
6	26	46	26	86	26
7	26	47	26	87	26
8	26	48	26	88	26
9	26	49	26	89	26
10	26	50	26	90	26
11	27	51	26	91	26
12	28	52	26	92	26
13	28	53	26	93	26
14	28	54	26	94	26
15	28	55	26	95	26
16	26	56	28	96	26
17	26	57	28	97	26
18	26	58	28	98	26
19	26	59	27	99	26
20	26	60	27	100	26
21	26	61	26	101	27
22	26	62	26	102	26
23	26	63	26	103	28
24	26	64	26	104	28
25	26	65	26	105	27
26	27	66	26	106	28
27	27	67	26	107	27
28	27	68	26	108	27
27	27	69	26	109	28
30	27	70	26	110	28
31	26	71	30	111	28
32	26	72	30	112	28
33	26	73	30	113	28
34	26	74	30	114	28
35	26	75	30	115	29
36	26	76	30	116	29
37	26	77	30	117	29
38	26	78	30	118	29
39	26	79	30	119	29

40	26	80	30	120	29
MEAN SCORE					26.93
MPS					89.78

The performance of Grade 2 pupils of Polangui South Central School in the least learned skills in Mathematics after the implementation of the online/offline lesson using appsgeyser apps was shown in table 2 the pretest result. The table shows that the mean score of the post test was 17.16% with the mean percentage score was 57.2%. On table 3 the post test result shows the mean of 26.93% with the mean percentage score is 89.78%.

With the result shows on table 3, it was observed in the study that there is an increase in the study after the implementation of the online/offline lesson using appsgeyser apps. The mean percentage score of the learners in the least learned competency falls under transforming skill level. It means that the performance of the learners was improved. As the study was conducted, an eagerness to have another skills to be developed using appsgeyser apps. Silence was still practiced after answering the activities and that shows the leaners concentrates to answer the activities given.

Table 4. t-Test: Paired Two Sample for Means

	PRE-TEST	*POST TEST*
Mean	17.15833333	26.9333333
Variance	3.378081232	1.72661064
Observations	120	120
Pearson Correlation	0.053120849	
Hypothesized Mean Differenc	0	
df	119	
t Stat	-48.63189474	
P(T<=t) one-tail	1.13656E-80	
t Critical one-tail	1.657759285	
P(T<=t) two-tail	2.27312E-80	
t Critical two-tail	1.980099876	

The computed p-value for the two-tailed form of the t-test (P(T<=t) two-tail) shows 2.27312E-80. This value is very much lower than the standard significance level of 0.05. Thus, the null hypothesis is rejected. This means that there was a significant difference between the pretest and posttest performance of the learners. This likewise reveals that the intervention was effective.

With the result shown on table 4, it was observed in the study that the learners were guided while doing the activities by the teachers. It was also observed in the study that the learners can work independently in the activities that shows in the t-test paired dependent sample using an application in answering the activities. Teacher identifies the improvement of the performance of the learners since the null hypothesis was rejected and the significant difference was shown in the t-test paired dependent sample table. Renewing to the act of learning in developing the skills in Mathematics. Keeping up new strategy in teaching boost learners interest to learn more.

Hesitation to the difficulties in skills in Mathematics were solved with the use of some application to deliver the skills.

Another table shown below were the result of the checklist of the study.

Table 5. **CHECKLIST RESULTS**

(Note: This checklist is bases by the researcher for the study and all information that was filled-out are confidential. We are hoping for your full support and trust in this study.)

NAME: _____ (OPTIONAL)

SIGNIFICANT DIFFERENCE ON THE PERFORMANCES OF THE RESPONDENTS AFTER THE IMPLEMENTATION OF THE ONLINE/OFFLINE LESSON USING THE APPSGEYSER APPS AS INSTRUCTIONAL MATERIALS:

Direction: Put a check (√) on the corresponding answer in the box, whereas
(5 – Strongly Agree, 4 - Agree, 3 – No Comment, 2 – Disagree, 1 – Strongly Disagree).

A. Pupil's Interest	**5**	**4**	**3**	**2**	**1**
1. Pupil's are happy in the activities given in the appsgeyser apps as an instructional materials.	100	0	0	0	0
2. Interested in the given activities given by the teacher.	63.33	46.67	0	0	0
3. Eager to answer the activities in the appsgeyser apps.	100	0	0	0	0
4. Amazed on the given activities that is different from the printed modules, and in the traditional way of teaching.	63.33	36.67	0	0	0
5. Follow the instructions correctly using the appsgeyser apps in teaching Mathematics as an instructional materials.	100	0	0	0	0
6. Understand the lesson well with the help of the modified module	100	0	0	0	0

applied in the appsgeyser apps by the researcher.					
7. Answer the activities correctly.	66.67	33.33	0	0	0
8. Pupil's are enthusiast to answer the questions in the activities.	100	0	0	0	0
9. Read the questions in the activities carefully.	100	0	0	0	0
TOTAL	88.15	11.85	0	0	0

B. Teacher's Perspective	**5**	**4**	**3**	**2**	**1**
1. Easy to answer the questions in the activities	100	0	0	0	0
2. Easy choices were given in the activities.	100	0	0	0	0
3. Understand the activities given to the pupils.	100	0	0	0	0
4. Amazed on the activities given.	100	0	0	0	0
5. Follow easily the instructions.	100	0	0	0	0
6. Happy to have the additional activities given for the better understanding of the lesson.	100	0	0	0	0
7. Finish the activities given by the teacher in the modified module applied in the appsgeyser apps made as an instructional materials.	100	0	0	0	0
8. Answer the activities easily given in the modified module applied using the appsgeyser apps made as an instructional materials.	100	0	0	0	0
TOTAL	100	0	0	0	0

The table shown in the checklist that 88.15% strongly agree the significant difference on the performance of the respondents after the implementation of the online/offline lesson using the appsgeyser apps as instructional materials on pupil's interest. And a total of 11.85% agree on the significant difference on the performance of the respondents after the implementation of the

study. It was merely shown in the study that the interest of the pupils were observed during the conduct of the study. Activities given in the modified modules, emotional aspect while conducting the study, performance of the learners and the challenges encountered gave a positive result based on the table shown on the checklist.

On the teachers' perspective a 100% total of respondents strongly agree to the use of an application in the study conducted. A positive feedback on the teachers were given while the study was conducted. It simply shows that giving additional activities using an application gave a big help in teaching to developed a least learned skills in Mathematics.

Based on the study, the researcher concluded the following recommendations: the MPL of the learners in the activities given in the online/offline lesson using appsgeyser apps is 91%; the skill level of the learners was improved from needs major support to transforming after the implementation of the online / offline lesson using appsgeyser apps; and there is a significant difference in the performance of the learners between the pretest and posttest.

Below are the documentation while conducting the study in grade 2 of Polangui South Central School.

f. Advocacy, Utilization and Dissemination

The researcher laid down this plan of activities to undertake so that the results of the study will be disseminated and utilized. The table below summarized how this plan will be implemented:

Table 6. Advocacy, Utilization and Dissemination

Activities	Persons Involved	Timeline
Face – to – face Conference on the Dissemination of Results	Researcher, Teachers, School Head	May 16, 2023
Preparation of Modified Module in Appsgeyser apps Incorporating the Feedback and Observation from the Modules used in the Study	Researcher	August 2023
Conduct a Quality Assurance of Modified Modules in Appsgeyser apps	Researcher, Master Teacher, Principal	September 2023
Dissemination of the Quality Assured Modified Modules in Appsgeyser Apps	Researcher, Teachers, Parents, Learners	October 2023

For the utilization of the study, the table shows the plan activities, persons involved and the timeline on when it will be conducted. This was done by the researcher to show the effect of technology used in teaching learning process and giving an additional activity for better understanding to the least learned skills in Mathematics in grade 2.

Using technology in teaching and having an additional activity on face to face classes, has a need to plan, workout and information dissemination to the learners.

g. References

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h. Financial Report

ACTIVITY	CASHOUT	BALANCE
BASIC EDUCATION RESEARCH FUND (BERF) FACILITY GRANT	Php15,000.00	
Preparation of Research Proposal	Php 3 010. 00	Php11,990.00
Research Approval	Php 1 000.00	Php10,990.00
Preparation and Evaluation of Online/Off;ine Lesson in Mathematics and Crafted Pre-test and Post test	Php 2 720.00	Php8,270.00
Research Implementation	Php 2 835. 00	Php5,435.00
Research Results Finalization	Php 765.00	Php4,670.00
Research Completion	Php 3 670. 00	Php1,000.00
Research Completed submission	Php 1 000. 00	Php0
		0.00

ANNEXES

GUIDE FOR CHECKING MODIFIED MODULES

Direction: Tick off (/) your answers when options are given; when there is none fill-out the spaces with the needed information.

1. Where are modified module developed?
   _____ division
   _____ district
   _____ clusters
   _____ schools
   _____ others Please specify _____

2. What format was followed for the modified module?
_____ format suggested by the region (RM 86 s. 2020)
_____ format suggested by the region but with some modifications
_____ format designed at the division level
_____ format designed at the district level
_____ format designed by the teachers

3. If any, what major modifications were made in the regional format? What unique component was included? What part was included?

INSTRUCTIONAL DESIGN AND ORGANIZATION

INDICATOR	EVIDENT	NOT EVIDENT	REMARKS
1. Learning objective are anchored on the MELC.			
2. Learning objective are appropriately sub-tasked for the lesson.			
3. The modified module provides andappropriate introduction on what learners are expected to do and learn in the lesson.			
4. The modified module provides an activity, task or complementary material that will enhance the learner's understanding of concepts.			
5. Activities in the modified module are logically-sequenced and arranged from simple to complex.			
6. The number of activities in the modified module are "just enough" and appropriate to meet the individual learning needs of learners.			

7. The modified module provides varied andinteresting activities.			
8. Questions and tasks allow for development of higher order thinking skills.			
9. The directions for activities are simple and clear to guide learners or home learning facilitators.			
10. The modified module provided assessment strategies that are aligned with the lesson objectives.			
11. A rubric is provided for assessment strategies that require for it.			
12. Sources references, supplementary and complementary materials including images and graphics used in the modified module are cited.			

Signature of Evaluator: _____

LANGUAGE/CONTENT/FORMAT

INDICATOR	EVIDENT	NOT EVIDENT	REMARKS
1. The modified module uses vocabulary that are within the learner's level of competence in the language used.			
2. The length and structure of sentence are appropriate to the learners.			
3. The modified module is free from grammatical, factual, and computational errors.			
4. Modified module is free from violations of social content guidelines.			
5. The total number of pages of the modified module is sufficient to carry out the intended lesson.			
6. The ready-to-print modified module is properly encoded and laid-out according to required specifications for the grade level.			
7. The electronic modified module is formatted to be accessible and usable in any electronic device i.e. computer, tablet, android phone etc.			

How else can the modified module be improved? What are your suggestions/recommendations?

_____
_____
_____
_____
_____

Signature of Evaluator: _____

Signature over printed name
Position/Designation

Note: This should be accomplished by the SH/Principal In-Charge

CHECKLIST

(Note: This checklist is bases by the researcher for the study and all information that was filled-out are confidential. We are hoping for your full support and trust in this study.)

NAME: _____ (OPTIONAL)

SIGNIFICANT DIFFERENCE ON THE PERFORMANCES OF THE RESPONDENTS AFTER THE IMPLEMENTATION OF THE ONLINE/OFFLINE LESSON USING THE APPSGEYSER APPS AS INSTRUCTIONAL MATERIALS:

Direction: Put a check (√) on the corresponding answer in the box, whereas
(5 – Strongly Agree, 4 - Agree, 3 – No Comment, 2 – Disagree, 1 – Strongly Disagree).

A. Pupil's Interest	**5**	**4**	**3**	**2**	**1**
1. Pupil's are happy in the activities given in the appsgeyser apps as an instructional materials.					
2. Interested in the given activities given by the teacher.					
3. Eager to answer the activities in the appsgeyser apps.					
4. Amazed on the given activities that is different from the printed modules, and in the traditional way of teaching.					
5. Follow the instructions correctly using the appsgeyser apps in teaching Mathematics as an instructional materials.					
6. Understand the lesson well with the help of the modified module applied in the appsgeyser apps by the researcher.					
.7. Answer the activities correctly.					
.8. Pupil's are enthusiast to answer the questions in the activities.					
9. Read the questions in the activities carefully.					
TOTAL					

Direction: Put a check (√) on the corresponding answer in the box, whereas (5 – Strongly Agree, 4 - Agree, 3 – No Comment, 2 – Disagree, 1 – Strongly Disagree).

B. Teacher's Perspective	**5**	**4**	**3**	**2**	**1**
1. Easy to answer the questions in the activities					
2. Easy choices were given in the activities.					
3. Understand the activities given to the pupils.					
4. Amazed on the activities given.					
5. Follow easily the instructions.					
6. Happy to have the additional activities given for the better understanding of the lesson.					
7. Finish the activities given by the teacher in the modified module applied in the appsgeyser apps made as an instructional materials.					
TOTAL					