THE EFFECTS OF PROJECT **SUM** (**S**CAFFOLD THE PUPILS TO **U**NDERSTAND THE DIFFICULT LESSON IN **M**ATHEMATICS) USING THE TEACHER MADE INSTRUCTIONAL SHORT VIDEOS AS INTERVENTION TO THE RESULT OF 4FOS ASSESSMENT.

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ABSTARCT

The Purpose of this study is to explore how Teacher Made Instructional Short Videos being used in Project SUM an intervention for numeracy and its effectiveness. A quantitative, Quasi-experimental design investigates how teacher made instructional short videos in Project SUM being used to fill in the gap in difficult competency in mathematics in grade 3. The sample consisted of 14 pupils in experimental group and 13 pupils in control group.

Results found that the mastery of the pupils in all competencies given have increased after they took part in Project SUM-using teacher made instructional short videos. The mean shows that 1.57 in pre-test and increased to 2.79 in post-test in the first competency which is, in Orders 4- to 5-digit numbers in increasing or decreasing order. In Adds 3- to 4-digit numbers up to three addends with sums up to 10 000 without and with regrouping, the mean revealed that from 1.21 increased to 2.07. In Solves routine and non-routine problems involving addition of whole numbers with sums up to 10 000 including money using appropriate problem-solving strategies and tools, the mean has shown that 1.07 rose to 1.71. In, subtracts 3-to 4-digit numbers from 3- to 4-digit numbers without and with regrouping the mean is 0.79 to 2.07. Solves routine and nonroutine problems involving subtraction without or with addition of whole numbers including money using appropriate problem-solving strategies and tools, the mean has shown that 1.14 from pre-test and 2.07 to post-test. The Project SUM using teacher made instructional short video has revealed a positive outcome in learning mathematics as results shown in the survey conducted.

Keywords: Project SUM, Teacher Made Instructional Short Videos

INTRODUCTION

One of the most important skills for a pupil to master is numeracy because it is applied in a daily life situation. Nevertheless, it is also known that there are many pupils have been struggled in this area since before until now. Thus, Memorandum No. 161, s. 2021, has been issued and stated, “Needs Assessment for Intervention Programs for Learners at Risk of Dropping Out and Learners with Failing Grades”. In connection to this, teachers use different intervention in the classroom and one of this is instructional video. Instructional video for numeracy has become a phenomenon back then in pandemic time set-up of learning and until now in face-to-face. Educators have employed various forms of instructional videos from YouTube into the classroom. However, the type of video used is sometimes not developmentally appropriate to the level and needs of the pupils. Thus, innovations of crafting instructional video had been designed by the teacher researcher who directly involve with the pupils and this tool called “**Teacher Made Instructional Short Videos”.**

Teacher Made Instructional Short Videos were utilized as a tool to bridge the gap in numeracy skills of the pupils in the school after class hour through Project Sum.

Project SUM stands for Scaffold the pupils to Understand the difficult lesson in Mathematics as an intervention program for an instructional group of pupils that aims to a.) Enhance pupils’ skills in four fundamental operations and solving non-routine and routine mathematical problems. and b.) Perform assistance for difficult competency.

The researcher come up with this study to determine the effect of Project SUM using Teacher Made Instructional Short Videos. This study focuses the Grade 3 Magalang pupils who fall under Instructional in Numeracy Assessment under 4FOs Project in the school year 2022-2023. However, the number of pupils who fall under instructional group in this school year 2022-2023 in grade 3 - Magalang is 47% of the class. When the teacher asked if what tasks were the pupils have failed in the numeracy assessment, she said it is in the task 4-7 where in, it is about the quantity of whole numbers, sequence, application of addition and subtraction and solving word problem.

Hence, this school year 2022-2023 the researcher crafted a Teacher Made Instructional Short Videos that is parallel to the gathered un-mastered Most Essential learning Competency and was utilized as a tool in Project SUM as intervention in developing the numeracy skills of the pupils.

METHODOLOGY

In this study the researchers utilized a quantitative, Quasi-experimental design to evaluate the level of the pupils in Mathematics and to obtain the effect of Project Sum using Instructional Short Videos in Grade III- Section Magalang and Makadiyos in Langkiwa Elementary School.

The sample size consists of 27 students from 2 sections in Grade III who belong in the instructional group in Pre-numeracy Assessment. For ethical issues, the researcher informed and secured the permissions from the parents/guardians of the respondents about the research procedure.

The Pre-Test, Post-test, and Teacher Made Instructional Short Videos were the main instruments of this study. These instruments were validated by the Master teacher prior to the utilization of the respondents.

The Pre-Test and Post-Test were given to both groups of respondents to evaluate their

performance and served as a benchmark for assessing how well the respondents in the experimental group perform before and after the intervention under Project Sum.

The researchers developed 20 multiple-choice questions on the test, based on the learning competency in which the pupils had difficulty during the Pre-Numeracy Assessment. These competencies were found in First Quarter lessons: MELC # 6 - Orders 4- to 5-digit numbers in increasing or decreasing order. MELC #.11, Adds 3- to 4-digit numbers up to three addends with sums up to 10 000 without and with regrouping. MELC #. 15 Solves routine and nonroutine problems involving the addition of whole numbers with sums up to 10 000 including money using appropriate problem-solving strategies and tools. MELC #16- Subtracts 3-to 4-digit numbers from 3- to 4-digit numbers without and with regrouping. MELC #.20 Solves routine and nonroutine problems involving subtraction without or with addition of whole numbers including money using appropriate problem-solving strategies and tools.

Thereafter, the intervention started in the experimental group through Project Sum by using Teacher Made Instructional Short Videos. It is conducted twice a week for an hour each day through watching repeatedly the Teacher Made Instructional Short Videos followed by a follow-up activity to know if pupils have learned what was explained in the video as cited in Insorio A.O.& MacandogD. M. (2022). The respondent took the post-test to measure their knowledge of the competency.

RESULTS

The study tested the significance between the pre-test and post-test and The Effects of Project **Sum** (**S**caffold The Pupils To **U**nderstand The Difficult Lesson In **M**athematics) Using The Teacher Made Instructional Short Videos.

The mean of the pre-test and post-test and survey questionnaires were used in the analysis of the data.

Table 1.1 Level of Pupils in Pre-test and Post-Test in Mathematics in MELC #15: Solves routine and nonroutine problems involving addition of whole numbers with sums up to 10 000 including money using appropriate problem-solving strategies and tools.

ITEM NUMBER	EXPERIMENTAL GROUP (WITH TOOLS)					CONTROL GROUP (WITHOUT TOOLS)				
	NO. OF PUPILS	PRE TEST		POST TEST		NO. OF PUPILS	PRE TEST		POST TEST	
		F	%	F	%		F	%	F	%
5	14	9	64%	12	86%	13	10	77%	10	77%
7	14	6	43%	12	86%	13	6	46%	11	85%
total		15		24			16		21	
mean		1.07		1.71			1.23		1.62	
MPS		36%		57%			41%		54%	

Table 1.1 Disclose the frequency distribution of the Pre-test and post-test of the pupils in experimental group and control group in grade 3. It can be seen from the table that in experimental group in item 5, there are 9 or 64% of pupils mastered the competency during pre-test and increase to 12 or 86%i in the post test. In item no. 7 there are 6 or 43% of pupils mastered the competency in Pre-Test and expand to 12 or 86% in Post-test with the mean of 1.07 in the pre-test and become 1.71 in the post test. While the control group, in item 5 there are 10 or 77% of the pupils mastered the competency during pre-test and it still remain in 10 or 77% in the post test. It signifies that the pupils in experimental group who take part in Project Sum has more mastery than control group. As cited by A. D. Greenberg, et al., 2012) it said that video usage increases and enhances students' learning.

Table 1.2 Level of Pupils in Pre-test and Post-Test in Mathematics in MELC #6: Orders 4- to 5-digit numbers in increasing or decreasing order.

ITEM NUMBER	EXPERIMENTAL GROUP (WITH TOOLS)					CONTROL GROUP (WITHOUT TOOLS)				
	NO. OF PUPILS	PRE-TEST		POST TEST		NO. OF PUPILS	PRE-TEST		POST TEST	
		F	%	F	%		F	%	F	%
1	14	11	79%	14	100%	13	11	85%	12	92%
2	14	4	29%	14	100%	13	4	31%	12	92%
3	14	7	50%	11	79%	13	6	46%	10	77%
total		22		39			21		34	
mean		1.57		2.79			1.62		2.62	
MPS		52%		93%			54%		87%	

Table 1.2 Reveals the frequency distribution of the Pre-test and post-test of the pupils in the experimental group and in the control group in grade 3. It can be seen from the table that in the experimental group in item no. 1, there are 11 or 79% of the pupils mastered the competency during the pre-test and it increases to 14 or 100% of the pupils in the post-test. In item no. 2 there are 4 or 29% of the pupils mastered the competency in the Pre-Test and increased to 14 or 100% in the post-test. In item no. 3, there are 7 or 50% of the pupils have mastered the competency in the Pre-test and become 11 or 79% in the post-test. With a mean of 1.57 in the pre-test and become 2.79 in the post-test. While the control group, in item number 1 there are 11 or 85% of the pupils mastered the competency during the pre-test and it became 10 or 77% in the post-test. In item no. 2 there are 4 or 31% mastered the competency during the pre-test and become 12 or 92% in the post-test. In item number 3, there are 6 or 46% of the pupils mastered the competency. With a mean of 1.62 in the pre-test and become 2.62 in the post-test. It implies that the pupils in experimental group who engage in project sum has greater mastery than the control group. As cited by Mendoza et al.(2015) that the effectiveness of using video presentations for students' learning is highly effective.

Table 1.3 Level of Pupils in Pre-test and Post-Test in Mathematics in MELC #16: Subtracts 3-to 4-digit numbers from 3- to 4-digit numbers without and with regrouping.

ITEM NUMBER	EXPERIMENTAL GROUP (WITH TOOLS)					CONTROL GROUP (WITHOUT TOOLS)				
	NO. OF PUPILS	PRE-TEST		POST TEST		NO. OF PUPILS	PRE-TEST		POST TEST	
		F	%	F	%		F	%	F	%
4	14	7	50%	11	79%	13	6	46%	9	69%
13	14	3	21%	8	57%	13	0	0%	5	38%
14	14	4	29%	10	71%	13	2	15%	9	69%
16	14	3	21%	8	57%	13	1	8%	4	31%
19	14	2	14%	13	93%	13	2	15%	2	15%
20	14	6	43%	8	57%	13	1	8%	2	15%
total		25		58			12		31	
mean		1.79		4.14			0.92		2.38	
MPS		30%		69%			15%		40%	

Table 1.3 Declare the frequency distribution of pre-rest and post-test of the pupils in experimental group and control group in grade 3. It can be noticed from the table that in the experimental group in item no. 4, there are 7 or 50% of pupils mastered the competency during pre-test and increase to 11 or 79% in the post-test. in pre-test and expand 10 or 71% in the post-test. In item no. 16 there 3 or 21% of pupils mastered the competency in pre-test and expand to 8 or 57% in the post test. In item no. 19 there are 2 or 14% in the pre-test and become 13 or 93% in the post-test. In item 20, 6 or 43% in the pre-test and become 8 or 57% in the post-test. With the mean of 1.79 in the pre-test and become 4.14 in the post test. While the control group, in item 4 there are 6 or 46% of the pupil mastered competency during pre-test and become competency in the pre-test and expand to 9 or 69% in the post-test. In item no. 16 there are 1 or 8% of pupils mastered competency in pre-test and expand to 4 or 32% in the post test. In item no. 19 competency in pre-test and expand to 2

or 15% in the post-test. With the mean of 0.92 in the pre-test and became 2.38 in post-test It signifies that, the pupils in experimental group who engage in Project Sum has more mastery than control group. As cited by (A. D. Greenberg, et al., 2012) video-based materials boost student creativity and cooperation.

Table 1.4 Level of Pupils in Pre-test and Post-Test in Mathematics in MELC #11: Adds 3- to 4-digit numbers up to three addends with sums up to 10 000 without and with regrouping.

ITEM NUMBER	EXPERIMENTAL GROUP (WITH TOOLS)					CONTROL GROUP (WITHOUT TOOLS)				
	NO. OF PUPILS	PRE-TEST		POST TEST		NO. OF PUPILS	PRE-TEST		POST TEST	
		F	%	F	%		F	%	F	%
6	14	7	50%	12	86%	13	4	31%	10	77%
8	14	9	64%	11	79%	13	9	69%	8	62%
9	14	1	7%	6	43%	13	3	23%	4	31%
total		17		29			16		22	
mean		1.21		2.07			1.23		1.69	
MPS		40%		69%			41%		56%	

Table 1.4 Reveals the frequency distribution of the Pre-test and post-test of the pupils in experimental group and in control group in grade 3. It has shown in the table that in experimental group in item no. 6, there are 7 or 50% of the pupils mastered the competency during pre-test and it increases to 12 or 86% of the pupils in the pos-test. In item no. 8 there are 9 or 64% of the pupils mastered the competency in Pre-Test and increased to 11 or 79% in the post-test. In item no. 9, there are 1 or 7% of the pupils have mastered the competency in Pre-test and become 6 or 43% in the post-test. With the mean of 1.21 in the pre-test and become 2.07 in the post-test. While the control group, in item number 6 there are 4 or 31% of the pupils mastered the competency during pre-test and it became to 10 or 77% in the post-test. In item no. 8 there are 9 or 69% mastered the competency during pre-test and become 8 or 62% in the post-test. In item number 9, there are 3 or 23% of the pupils mastered the competency that it increased to 4 or 31% in the post test. With the mean of 1.23 in the pre-test and become 1.69 in the post-test. It implies that the pupils in the experimental group who engaged in Project Sum has greater mastery than the control group. As cited by Edsurge.(2022) stated that Visual cues combined with audio play a huge role in the comprehension and retention of new material. Forrester Research analyst James McQuivey claims one minute of video equals approximately 1.8 million written words. Thus, when video is used in the classroom, students are forced to think critically when introduced to complex content.

Table 1.5 Level of Pupils in Pre-test and Post-Test in Mathematics in MELC # 20: Solves routine and nonroutine problems involving subtraction without or with addition of whole numbers including money using appropriate problem-solving strategies and tools.

ITEM NUMBER	EXPERIMENTAL GROUP (WITH TOOLS)					CONTROL GROUP (WITHOUT TOOLS)				
	NO. OF PUPILS	PRE TEST		POST TEST		NO. OF PUPILS	PRE TEST		POST TEST	
		F	%	F	%		F	%	F	%
10	14	7	50%	12	86%	13	9	69%	8	62%
11	14	6	43%	8	57%	13	2	15%	5	38%
12	14	3	21%	9	64%	13	4	31%	8	62%
15	14	4	29%	12	86%	13	0	0%	6	46%
17	14	5	36%	8	57%	13	0	0%	4	31%
18	14	2	14%	7	50%	13	1	8%	2	15%
total		27		56			16		33	
mean		1.93		4.00			1.23		2.54	
MPS		32%		67%			21%		42%	

The frequency distribution of the pre-test and post-test results for students in the experimental group and control group in grade 3 is displayed in Table 1.5. The Experimental group, in item number 10, there are 7 or 50% have mastered the competency during pretest and 12 or 86% in post-test. In item number 11, 6 or 43% of the pupils show mastery of the competency in pre-test and became 8 or 57% in the post-test. For item number 12 In Pre-Test there are 3 or 21% of the pupils in the experimental group, had mastered the competency. On the post-test, this percentage rose

to 9 or 64%. Item number 15, there are 4 or 29% of the pupils have mastered the competency and it rises up to 12 or 86% in post-test. Item number 17, 5 pupils or 36% show mastery and became 8 or 57% of the pupils on post-test. There are 2 or 14% of the pupils show mastery in item number 18, during pre-test and it increased to 7 or 50% of the pupils in post-test, with the mean of 1.93 in the pre-test and increased to 4.00 in the post-test.

While in the control group, 9 or 69% of the pupils mastered the competency in the pre-test, and that figure rose to 8 or 62% on the post-test. On the pre-test pupils' results for item number 11 is 2 or 15% and increased to 5 or 38% on the post-test. There are 4 or 31% of pupils during the pre-test and 8 or 62% in the post-test that show mastery in item number 12, with the mean of 1.23 on the pre-test and the post-test increased to 2.54.

Table 2.1: Through Watching the Teacher Made Instructional Short Videos… I'm become more confident to answer the math drills on the board during our math subject.

	Agree	Percentage	Disagree	Percentage
Through Watching the Teacher Made Instructional Short Videos… (Dahil sa panonood ng video sa remedial ay…)	F	%	F	%
I'm become more confident to answer the math drills on the board during our math subject. (Hindi na po ako hahihiyang sumagot sa pisara pag math time na namin kasi may alam na po ako.)	13	93%	1	7%

The table 2.1 has presented that 13 or 93 % of the pupils have agreed and 1 or 3% of the pupils have disagreed in survey questioner that, I'm become more confident to answer the math drills on the board during our math subject. It implies that the Project SUM-using Teacher Made Instructional Short Videos has positive outcome to the pupils not only academic but also it motivates and boost the confident of the pupils. As cited by EdSurdge (2022) stated that video learning has positive outcomes on multiple levels, including increased motivation and deeper learning, and can specifically impact students' ability to facilitate discussions and identify problems.

Table 2.2: Through Watching the Teacher Made Instructional Short Videos… the addition and subtraction lesson are no longer difficult to me.

	Agree	Percentage	Disagree	Percentage
Through Watching the Teacher Made Instructional Short Videos… … (Dahil sa panonood ng video sa remedial ay…)	F	%	F	%
the addition and subtraction lesson are no longer difficult to me. (ang addition at subtraction ay hindi na mahirap para sa akin.)	14	100%	0	0%

The table 2.2 has shown that 14 or 100 % of the pupils have agreed and 0 or 0% of the pupils dis-agreed in the survey questioner that the addition and subtraction lesson are no longer difficult to me. It implies that the pupils who took part the Project Sum-using Teacher Made Instructional Short Videos mastered the basic addition and subtraction processes. As EdSurdge (2022) said in his article that Students can rewatch a video multiple times in order to gain and retain learning material.

Table 2.3: Through Watching the Teacher Made Instructional Short Videos… I was able to finish my math activities on time

	Agree	Percentage	Disagree	Percentage
Through Watching the Teacher Made Instructional Short Videos… (Dahil sa panonood ng video sa remedial ay…)	F	%	F	%
I was able to finish my math activities on time. (Natatapos ko po ang mga Gawain sa klase sa tamang oras.)	13	93%	1	7%

It can be shown in the table 2.3 that 13 or 93 % of the pupils have agreed and 1 or 3% of the pupils have disagreed in survey questioner that I was able to finish my math activities on time. It entails that the

Project SUM-using Teacher Made Instructional Short Videos, lead the learners' performance in mathematics increase as a result of depth understanding of the topic through remedial, like as cited by Samosa et al. (2021) revealed that the students who took part in the study liked using videos and applying more effectively, helps them understand the lesson.

Table 2.4: Through Watching the Teacher Made Instructional Short Videos… I can do the Math activities without asking my seatmate often.

	Agree	Percentage	Disagree	Percentage
Through Watching the Teacher Made Instructional Short Videos… (Dahil sa panonood ng video sa remedial ay…)	F	%	F	%
I can do the Math activities without asking my seatmate often. (Hindi na po ako laging nagtatanong sa katabi kung ano ang gagawin kapag math time na namin.)	10	71%	4	29%

It can be gleaned in table 2.4 that 10 or 71 % of the pupils have agreed and 1 or 3% of the pupils have disagreed in the survey questionnaire that I can do the Math activities without asking my seatmate often. It means that the learners who engaged in Project SUM using Teacher Made Instructional Short Videos have mastered the lesson that they have studied in remedial. As cited by Samosa et al. (2021) revealed that the students who took part in the study liked using videos and applying more effectively, which helps them understand the lesson.

DISCUSSION

The teacher researchers collected and analyzed the data. They used a quantitative, Quasi-experimental design. The data gathered was through Pre-test and Post-test, and a survey questionnaire developed by the teacher researchers. Both groups of participants took the Pre-test and Post-test to determine the level of pupils' performance in Mathematics before and after an intervention. However, only the experimental group answered the survey questionnaire to find out the effects of Project Sum using Teacher Made Instructional Short Video.

In the preparation phase, the teacher researcher identified the pupils who belong instructional group in Pre-Numeracy Assessment and investigate what task or competency those groups failed. Based on the identified unmastered competency the researcher crafted a test and validated it by Master Teacher. This test is to be given as a Pre-test and post-test that would be served as a baseline for this study. The researchers also crafted a survey questionnaire to determine the effects of project SUM using Teacher Made Instructional Short Videos.

In the implementation phase, the consent would be distributed to the parents about asking permission that their children would have Numeracy Remedial under Project SUM. The remedial was conducted twice a week.

Post-implementation phase, after the conclusion and recommendation the teacher researchers proposed an action plan for the technical assistance to develop what is needed for this study

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