



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

**PROJECT TIMES: TAPPING INNOVATIVE MATERIALS TO ENHANCE SOLVING
MULTIPLICATION SENTENCE SKILLS OF GRADE FIVE EAGLE
OF SAN FRANCISCO ELEMENTARY SCHOOL
S.Y.2022-2023**



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ABSTRACT

The idea of Project TIMES “Tapping Innovative Materials to Enhance Solving Multiplication Sentence Skills” of Grade V-Eagle of San Francisco Elementary School SY 2022- 2023 is to have an intervention that helps the learners enhance their skills in solving multiplication sentence through using some innovative materials. Despite the overflowing Math interventions and innovations available online, the researcher wants to prove that innovating manipulative materials will surely upskill learners’ ability in Multiplication process and solving number sentences.

Innovation in teaching Multiplication is a way to improve learner’s ability. Hence, using manipulative materials improves the quality of teaching, increases percentage of participation, and makes multiplication more efficient and easier for learners to learn.

Using manipulatives in teaching Mathematics help students to develop a conceptual understanding of procedures when coupled with in depth discussion to ensure students are making



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meaningful connections between what they have created with the manipulatives to the concept they are modeling (Mills, 2019). From this definition, the researcher will innovate to give a game plan in presenting a Math Innovation in Multiplication process.

Based on the results of the post-test administered to the participants, this action research can rest assured that learning basic Multiplication Sentence skills is essential in the class to further enhance Math skills under the Most Essential Learning Competencies. Thus, the researcher highly recommends to Math teachers to use innovative learning materials in giving drills as the preliminary activity in his/her teaching-learning process in Math, to meet the learning gap and achieved the goals in increasing numeracy level.

Furthermore, practicing basic Multiplication Sentence skills can be done not only during the pre-activities but suggested to inculcate on the learners' free time to ensure the best results.

Keywords: Manipulative, innovative , multiplication, numeracy,

INTRODUCTION

Multiplication falls under the realm of number sense and is an important concept to have a deep understanding in order to be successful in higher level Mathematics. The traditional way of teaching multiplication is through the memorization of facts through drills, repetition, practice and timed tests. However, this method of teaching multiplication can be harmful to students as it gives the wrong idea of what Math is really about. It gives the impression that math is about speed and quickly getting correct answers. This idea can turn students away from Math and leave those who take their time believing they are not good at math (Boaler, 2009). Although it is helpful to hold some math facts in memory, focusing on the memorization of such facts is not helpful. Math facts are best learned through interacting with numbers in other meaningful activities such as those that engage students in problem solving and exploration of numbers, patterns and relationships (Boaler, 2009).

Innovative learning materials are learning materials that are more flexible in accordance with the needs of learners.

Flexibility considers and takes into account various aspects that include learner characteristics including intellectual, emotional and spiritual abilities as well as obstacles in learning.

Math Intervention has a great impact in learner's numeracy development and improvement. Four Fundamental operations on the other hand must be mastered with skills and speed by the learners in early stage of their schooling may it be in distance and face to face mode of learning especially the Multiplication process. Math innovation has something to do in the progression of the Math learner's ability to level up and fully-developed in Multiplication area.

Numeracy in a wider sense must be accompanied by the Math Innovation that make learners motivated and develop their skills in Math especially in Multiplication process.

According to some studies, recent research states the importance of moving beyond rote memorization of basic facts and formulas and drills as a form of practice. Rather, the research supports math instruction in which students are given opportunities to explore numbers, patterns and relationships and make connections between mathematical concepts in order to make sense of mathematics (Allsopp et al., 2018).

Therefore, the Project TIMES attests that the innovation using manipulative materials would be in huge help for Math teachers in making teaching Multiplication easier and more effective.

As the Deped Order 47, s.2017, former Deped Order No. 18 s. 2017 states the utilization of the 2017 every child a reader program funds for the early language, literacy, and numeracy program: Professional development component which was used by the researcher as guide that the math innovation will encompasses the improvement of learners. The innovation should always depend on the capability and individuality of each learner.

METHODOLOGY

This research was a school-based and Grade 5-Eagle learners of San Francisco Elementary School SY 2022-2023 participated in the Project TIMES: Tapping Innovative Materials to Enhance Solving Multiplication Sentence Skills of Grade V-Eagle of San Francisco Elementary School SY 2022- 2023. There were 48 Grade 5-Eagle of San Francisco Elementary School SY 2022-2023 who were the respondents in this research. All Grade 5- Eagle from San Francisco Elementary School SY 2022-2023 were participated in this project.

The total enrolments of Grade 5- Eagle of San Francisco Elementary School SY 2022-2023 were the respondents for this research.

The researcher asked the permission to the School principal and parents of the learners to conduct the study. The researcher together with School Math teachers did the strategic Math Innovation and Intervention in Multiplication Sentence Skills.

The researcher asked validation from the School Master Teacher and School Math Coordinator and School LRDMs coordinator to verified the content of the materials used in the study.

Data Collection instruments on the respondents' level of satisfaction to the school procedures of the unit before and after the study; on the tracking of the start and end line of every procedure; and on the effectiveness of the process employed in this research.

- a. *Standardized Tests.* This included questions that would describe the non-numerates pupils in Mathematics.
- b. *Observation Records.* This included the observation behavior and analytical thinking of those who are non-numerates.
- c. *Questionnaires.* This included statement about pupils' personal feeling about their mathematical abilities.
- d. *Focus Group Discussion.* This was a group discussion of teachers on the use of effective strategies for non-numerates.

Respondents interviewed to verify their responses in these data collection instruments.

The data collection through questionnaires / test / observation and group discussion done in (3) months by asking concerned school principal and low mastery pupils in division skill to answered the mentioned instruments as they transacted with the unit within the time of study. As soon as all instruments were accomplished by the selected respondents, consolidations of results were done. These results disseminated to the office clientele.

The data that collected in this study organized and classified based on the research design and the problems formulated. The data encoded, tallied and tabulated to facilitate the presentation and interpretation of results using the following:

Percentage Method- used in determining the percent or part of a variable. It followed the formula;

Descriptive statistics: Total Weighted Average (mean) was used to answer the problem

Weighted Mean (WM) – since the response to the questionnaires were chosen from options, weighted points were assigned for each item for qualitative analysis. WM was used to measure the typicality of the responses. It has the formula;

RESULTS

Grade Five –Eagle Pre Test and Post Test

Grade Five-Eagle Learners	Pre Test	Post Test
<i>Student A</i>	8	16
<i>B</i>	6	6
<i>C</i>	15	14
<i>D</i>	17	20
<i>E</i>	10	14
<i>F</i>	18	20
<i>G</i>	7	8
<i>H</i>	14	18
<i>I</i>	18	20
<i>J</i>	16	19
<i>K</i>	13	19
<i>L</i>	14	16
<i>M</i>	15	18

<i>O</i>	16	19
<i>P</i>	14	15
<i>Q</i>	14	16
<i>R</i>	11	13
<i>S</i>	12	12
<i>T</i>	14	18
<i>U</i>	17	19
<i>V</i>	15	17
<i>W</i>	12	9
<i>X</i>	14	10

Grade Five-Eagle Learners	Pre Test	Post Test
<i>Student Aa</i>	18	16
<i>Bb</i>	19	17
<i>Cc</i>	18	19
<i>Dd</i>	16	18
<i>Ee</i>	15	18
<i>Ff</i>	16	16
<i>Gg</i>	17	18
<i>Hh</i>	16	15
<i>Ii</i>	10	17
<i>Jj</i>	14	18
<i>Kk</i>	15	18
<i>Ll</i>	15	13
<i>Mm</i>	15	18
<i>Nn</i>	10	15
<i>Oo</i>	15	16
<i>Pp</i>	13	15
<i>Qq</i>	11	16
<i>Rr</i>	17	18

<i>N</i>	12	11
<i>Ss</i>	17	15
<i>Tt</i>	17	18
<i>Uu</i>	9	11
<i>Vv</i>	16	19
<i>Ww</i>	19	19
<i>Xx</i>	16	18

The Table 1 was the results of pre and post-test of the respondents appeared ascending scores in Grade Five-Eagle learners. The post-test has a great leap in terms of scores. The learners improved with innovative teaching materials that they had and occupied a great increased in almost all the respondents.

Table 2: Results of Pre-test Mean Percentage Score (MPS) and Post-test (MPS)

School ID	Grade Level	Cases		MPS (Mean Percentage Score)	
				PRE	POST
108228	V	Male	27	68%	78%
		Female	21	73%	83%
		TOTAL	48	71%	80%

Table 2 was a summary of the results of pre-test and post-test taken by the Grade Five -Eagle learners. It is noted that post-test in Male increased by almost 10% as well the female. The overall MPS of the Grade 5-Eagle has significant increased by 9% from the pre-test to post test.

DISCUSSION

To sum up the action taken to improve the math or numeracy skills of learners, results by number was not to be done overnight, it must be done regularly and religiously to see the improvement and further developed the genuine love for numbers and be able to master the Multiplication Sentence Skills.

Project **TIMES** played an important role in a Math life of Grade Five-Eagle learners. It helped a lot and able to meet the learning gap brought by the new normal education. It helped the Math teacher to identify which among the multiplication facts skills are needed to focus and everyday drill must be done before the Math lesson. This is how we might say that learning at home is not a hinder to promote quality education.

Innovation in teaching Multiplication facts is an upskilling and a way to improve the learner's ability

The researcher showed that Project TIMES benefitted learners from their Math class by achieving good post test results. Hence, this is to conclude that learning the basic Multiplication facts is essential by using innovative learning materials called Project TIMES. This strategy had proven that in Math class, learning is a task that needs to continue; religiously practice and regular drill in a class must be a teacher's asset before proceeding to a new lesson by using of innovative learning materials to had fun, enjoyed, engaged and actively participated in the class. This is also to conclude that this innovation helped more learners and improves participation, making multiplication more efficient and easier for learners to learn.

The objective of the researcher to maximize the skills of Grade Five-Eagle learners in San Francisco Elementary School is quite challenging. Learning in a virtual world due to pandemic creates some conflict in meeting the learning gap. Based on the observation of the researcher the Grade Five-Eagle learners when it comes to Multiplication Sentence skills hinder their best performance in a reason basic or fundamental operations has not been mastered in a mere fact during the pre-test they can't able to solve and answer some test items.

In this time of learning we need innovative learning materials in Math that will help the learners to master the basic

with the use of Project TIMES.

Project TIMES is the best innovative learning materials that fits the learning needs of the learners. It is suggested to continue using the innovative learning materials every Math class. It is manifested that learners mastered the basic and enacted to further increase mastery in a wide range of Math competencies.

Time allotment must last for only five minute every day. A learner who gave much effort was awarded which boost confidence and allow them to be proud for their achievements. Project TIMES: Tapping Innovative Materials to Enhance Solving Multiplication Sentence Skills of Grade V-Eagle of San Francisco Elementary School SY 2022- 2023 signified that learning must not stop and education must continue be it in virtual or face to face classes.

Transferring of learning to the learners may be considered as one of the hard part of being a teacher or as public school teacher. It is reflected to the teacher's action on how he/she would be able to handle the scenario of having a class after years of pandemic. But with this action, learning is fun and engaging through the gamified PowerPoint and some math board games intended for the innovative learning materials that had a strategy to deploy multiplication sentence skills

The action research entitled Project **TIMES: Tapping Innovative Materials to Enhance Solving Multiplication Sentence Skills of Grade V-Eagle of San Francisco Elementary School SY 2022- 2023** showed significant impact to the Math learners in learning multiplication skills. It also helped to develop learner's confidence and hoping that these basic skills would not be neglected and duty of teachers must inculcate that to win the quality learning is to make the foundation reliable and strong. It also had an impact to the learners to motivate others that learning Mathematics especially Multiplication Facts is fun and engaging through the help of innovative learning materials like gamified power point, math board games and others.

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