

Volume 3-Number 1-2021-8

## ENHANCING LEARNING IN MATHEMATICS 6 THROUGH THE USE OF EXPLICIT INSTRUCTION

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### Abstract

This study focused on the use of explicit instruction to enhance learning in Mathematics among Grade 6 pupils of Concepcion Integrated School. The researcher has proven the effectiveness of guided or explicit instruction in teaching Mathematics, specifically lessons on third grading about solid figures and explored the teaching and learning process, as well as, the effects of intervention.

The participants of the study were the Grade 6 pupils, section Faith who served as experimental group and Grade 6, section Joy who acted as the control group. Each section was composed of 39 pupils but only 25 from each section were the participants in the study. In the control group, Grade 6-Joy used the traditional method, while the experimental group, Grade 6-Faith utilized the explicit instruction. The research instruments used in this study were the pre-test, post-test, survey questionnaire, and interview guide questions prepared by the researcher and validated by the experts. T-test was the statistical tool that was utilized to show the difference before and after the use of explicit approach.

From the second quarter grades of experimental group, it has been revealed that majority of them were from the bracket of 75-79 with 64 percent of the total population. It showed that 16 pupils out of 25 had an academic achievement level to *fairly satisfactory*. Upon administering the pretest to both control and experimental group, their mean percentage scores were both categorized as *beginning* based on the interpretation of grading system of K to 12 curriculums.

On the other hand, posttest was also administered after the utilization of explicit instruction in experimental group. The mean description has improved to *"developing"*. It was proven that the application of explicit instruction enhanced their learning in Mathematics. The posttest results of control group was still categorized as *"beginning"* because the increase was not that convincing to show that the learners have acquired sufficient knowledge.

As to learning needs, the learners showed that they *often* showed interest during the execution of the explicit instructions as reflected by the overall mean. With respect to the execution of teaching, all indicators got verbal description of *always*. As per the experimental learners' responses, the implementation of the explicit instruction on the classroom setting has positive

perception as reflected from the overall mean which is described as *always*. Generally, as to the effectiveness of the explicit instruction, the learners *agreed* that it had affected their performances as revealed by the overall mean. The group who has undergone or exposed to explicit instruction performed better than the group who did not receive the treatment.

In addition, learners' answers to their interview proved that explicit instruction improved their performances and it showed support to the teacher in developing pupils' mastery of the lesson. The curriculum implementers may use findings of the study to provide insight about enhancing learning in Mathematics grade through the use of explicit instruction. Mathematics teachers also can use the findings of the study to upgrade their methods or strategies in teaching Mathematics.

## Introduction

Mathematics as a school subject, must be learned comprehensively and with much depth (Department of Education, 2013). It plays a predominant role in our everyday life. Its concept and application help us to give exact interpretation of ideas and conclusion to become more productive in our daily living.

It also serves as access to prosperity because Filipino learners who have strong mathematical knowledge are the ones who have the tendency to venture in business industry that would strongly help the nation to be uplifted from poverty. Tablit (2019). It can provide a strong foundation that prepares the youth to pursue higher education and become part of the country's technologically-oriented work force in the future. Teaching children the fundamental ideas of numbers and number concept is therefore necessary. This will become helpful for them to be more proficient in computing and problem-solving.

Just as every individual has strengths and weaknesses, Mathematics teachers have their problems in teaching Mathematics, too in terms of the learning process, instructional materials, curriculum, teacher training, teaching strategies, methods, and the learners' performance. Different reports and articles cited the poor performance of the learners.

It is shown in the result of the National Achievement Test (NAT) in the Philippines 2013 that those schools with inadequate computer facilities only have 79.3% MPS while those having sufficient Mathematics books only have 73 % MPS. On the other hand, those schools where teachers only discuss using the chalk-talk method got 67.7% while schools that are only giving quizzes quizzes regularly got 68.4% MPS. The Grade 6 National Average of NAT is 66.8%. This evidence shows that Grade Six pupils have low academic performance in Mathematics because it is not within or at least 75% level.

Deped Order No.42, s. 2016 states the Policy Guidelines on Daily Lesson Preparation for the K12 Basic Education Program. In this program, the teachers are required to use instructional models, strategies and methods in teaching. Teachers should use different strategies of teaching to match the objectives of teaching and the different learning styles and personalities of students. The different teaching strategies or methods that can be used by teachers considering the 21st century learners are Cooperative Learning, Inquiry-based, think-pair-share, H- higher Order T-thinking S- skills (HOT) Questions, flash cards, games, song, models and visuals, internet/videos, graphic organizer, peer-teaching, brainstorming, jigsaw, differentiated instruction, implicit instruction, as well as, explicit instruction.

Of all the strategies, the most effective teaching strategy for teaching Mathematics is the Explicit Instruction because it is a direct process of instructional design and practice in which students are guided through the learning process with a series of supports and scaffolds and student mastery is supported by practice and feedback (Archer and Hughes, 2011).

According to Wegenkie (2015), explicit instruction learners are apprentices being guided by the teacher as they walk and talk through the steps to solve a problem. Explicit instruction effectiveness summarized the word “I do, We do and You do”.

It is along this vein, why the researcher planned to use the explicit instruction as strategy in teaching Mathematics, specifically the lessons about solid figures in the 3rd quarter of the S.Y. 2019-2020 to determine its effects on the learning acquisition of Grade 6 pupils.

## **Research Problem**

The general problem of this study is: How does explicit instruction promote learning among Grade 6 pupils in Mathematics.?

Specifically, it sought answers to the following questions:

- 1.What is the level of learning in Mathematics by Grade 6 pupils as reflected in their academic performance?
2. How may the learning needs of Grade 6 pupils in Mathematics be evaluated in terms of
  - 2.1. Learner’s Interest
  - 2.2. Execution of Teaching
3. How may the explicit instruction approach as applied in the classroom setting be described?
4. Is there a significant difference between the pre-test and post-test of control and experimental

group?

5. Is there a significant difference between the post-test of control and experimental group?
6. What is the learner's insight on the application of explicit instruction?

## **Integrated Review of Related Literature**

This section presents some literatures as bases of acquisition in learning Mathematics. It includes

### **Explicit Instruction known as I Do, We Do, You Do**

Manalac (2017) It is one of the effective strategies that involves guiding the learner's attention toward a specific learning competency and objective is highly structured. Lessons or topics are taught in a logical order and directed by the teacher. Generally, it is also known as *I do, We do, You do*, teaching strategy.

When the teacher delivers the lesson and shows model to the pupils; that is, '*I do*' phase. When pupils acquired knowledge and processes new information from the lesson and from the teacher with active engagement and participation that is, '*You do*' phase. Finally, when pupils do listening attentively and build the concept partner with teacher or classmates as a product of learning, this is "*We do*", phase. This strategy is a gradual release of responsibility that combines a different approach to product, content, and process over the lesson or topic.

In K12 curriculum today, explicit teaching complements spiral progression. Teachers are encouraged to use explicit teaching to make clear connections to curriculum content. This focuses on the gradual and progressive steps that lead to learners' development and independent application of knowledge, understanding and skills.

Thus, "*I Do, We Do, You Do*" are simple methods; yet, efficient way to teach new concepts to pupils. It allows greater depth of perceptive and gain confidence as they independently apply the concepts to the assigned task or activities to them when practiced consistently.

## **Elements of Explicit Mathematics Instruction**

According to the study of Doabler and Fine (2013), explicit Mathematics instruction involves a series of teaching behaviors that include (a) the teacher modeling a new concept or skill, (b) the teacher providing guided practice opportunities, (c) the teacher checking for student understanding, (d) the teacher providing academic feedback, and (e) the students engaging in independent practice.

Clear Teacher Model. It is the first element of explicit instruction wherein teacher model has clear demonstrations and precise explanations which include think- alouds (Coyne et al., 2011). An effective teacher shows students a model exactly what Mathematics content they will learn and how they will apply it. Teacher can model a variety of Mathematics content through the use of explicit teaching

Guided Practice. Being the second element of explicit Mathematics instruction, it resembles the support that one would provide when teaching a child to ride a bicycle. Instead of putting a child on a bike for the first time and saying, “pedal, pedal, pedal” one would install training wheels until the child learns how to balance and pedal. This is the same with guided practice in the classroom that supports the pupils during early stages of Mathematics learning. Such support is systematically withdrawn as pupils become more proficient with a particular Mathematics concept.

Academic Feedback. This is the third element of explicit Mathematics instruction used to affirm, and if necessary, correct pupils’ responses (Hudson & Miller 2006). Teacher should give timely feedback since mistakes are easier to repair the earlier, they are acknowledging (Stein et al., 2006). When teacher correct pupils’ errors, they must use words which are positive in nature. They should elaborate the correct answer and give them opportunity to answer it again. In general, consistent academic feedback reduces the potential for misunderstanding and helps deepen pupils’ understanding of Mathematics skills and concepts.

It briefly summarizes the instructional sequence with the following: elaborate clear objectives at the start of instruction, begins instruction with a relatively easy instructional example, minimize the number of instructional examples, uses coherent wording throughout the activities, gives easily understood demonstrations and step-by-step explanations, provides frequent practice opportunities, use Mathematics manipulatives to develop abstract understanding, offers continuous academic feedback and provides aggressive review at the end of the activity.

## **Six Function of Explicit Instruction**

Rosenshine (2012) stated in his study that explicit teaching is an organized method for showing material in small steps, pausing to check for pupils understanding, obtaining active and successful participation from all pupils. This study was conducted to elementary and junior high school; the results are applicable to any “well-structured” (Simon 2013), The purpose is to teach the mastery of a body of knowledge or the performance skills. It is more applicable to computations and teaching mathematical procedures, as well as science facts and concepts.

Considering the information-processing research, it is effective to pertain these three areas: the importance of practice, the limits of working memory, and the significance of continuing until pupils are fluent. Other findings of this study is to process new materials in order to convey it from a working memory to a long-term memory. Thus, there is a need to elaborate, review, rehearse, summarize and enhance the material (lesson). It is important for the teacher to provide “instructional support” for the pupils when teaching new material (lesson). The results of these study was divided into six functions: (1) Review, (2) Presentation, (3) Guided practice, (4) Correction and Feedback, (5) Independent practice and (6) Weekly/Monthly Reviews

The first function of explicit instruction is Review. Pupils must review first their homework or previous learning to make sure that they possess the prerequisites skills for the lesson of the day. Daily review is needed for teaching new material that will be used in subsequent learning. The successful experimental study in elementary Mathematics, daily review plays an important part. (Good and Grouws 1979). In this study, the teachers who had been trained to conduct review and check homework; 80 percent of the days were observed. This suggests that review is generally recognized as important and it is not a common a practice as what we have thought.

The second is Presentation. Research have shown that effective teachers of Mathematics spend more time on presenting new lesson and guided practice than to fewer effective teachers (Leinwand, 2014). The first step in effective presentation is to focus learner’s attention. Then, presenting clearly one point at a time using examples. The examples provide the concrete learning and elaboration. Teachers also stop to check for understanding by posing questions, asking pupils whether to summarize the presentation, to repeat directions or procedures, and give the generalization.

The third function of explicit instruction is Guided practice. A major purpose of this activity is to supervise students’ initial practice on a skill and provide the active practice, enhancement, and elaboration necessary to move new learning from working memory into a long-term memory. Students must have a good deal of practice when learning new material (lesson), and effective teachers find ways to provide it. Effective teachers try to ensure a high rate of success of student responses to their frequent questions (Fisher et. 2012). Therefore, pupils need to actively practice to obtain high success in learning.

The fourth function is Corrections and Feedback. Process or feedback is a term developed by Good and Grouws (1979). This refers to the teacher saying, “ Yes, that’s right, because...” and then proceeding to re-explain the process one goes through to get the correct answer. Re-teaching or process feedback gives learners the additional explanation which is sometimes needed when they are still unsure. The important point of this part is that errors would not go uncorrected; it is inappropriate simply to provide the right answer then move on to the succeeding part.

The fifth function is Independent practice. This part provides the additional practice that pupils need to become fluent in a skill, and to enable them to work without the cues given during guided practice. It allows students to practice using new acquired information on their own. Students are also given chances to help each other (group activity).

Finally, is the Weekly and monthly review. At the beginning of each week, a teacher should review the previous week's lesson and at the end of the month review what pupils have learned during the last four weeks. It is necessary to review the class before they begin the new lesson.

## Methods

The study used an experimental mixed methods design of research that attempted to use a qualitative strand to explain initial quantitative findings. The rationale for combining quantitative and qualitative is to allow more complete analysis and findings of this study.

In quantitative research, the researcher relies on numerical data to determine the second quarter grade of grade 6 pupils, pre-test and post-test results of control and experimental group, learning needs of grade 6 pupils in terms of their performance, execution of teaching, and application on classroom setting, and also to determine the effectiveness of explicit instruction in terms of learner's performance based on the level of significant.

A pre-test and post-test design was conducted to both experimental and control group to determine the significant difference between two groups. This was done to evaluate the effectiveness of intervention in enhancing the learning in mathematics through the use of explicit instruction.

Likewise in qualitative research, the researcher relies on data collected from the interview about the learner's insight on the use of explicit instruction. This helps the researcher to develop ideas or hypothesis of the problem.

It is quasi-mixed methods wherein before the implementation of the intervention the researcher randomly assigned to the control and experimental group to the first 50 participants that got low performance in Mathematics on their second grading period.

The statistical analysis and treatment used standard deviation to find out the test results both in pretest and posttest of the Grade 6 pupils. T-test was also used in this study to compare the pretest and posttest results of the two groups and to check if there is significant difference between the results.

The basis to determine the second quarter grades of grade 6 pupils, the researcher used the equivalent grades DepEd (form 138) or report card: 90-100 Outstanding (O), 85-89 Very Satisfactory (VS), 80-84 Satisfactory (S), 75-79 Fairly Satisfactory (FS), and 60-74 Failed (F).

To interpret qualitatively the pretest and posttest scores of the control and experimental group, the researcher adopted the grading system in the K to 12 curriculum as prescribed by DepEd Order No. 31, s. 2012 and these are as follows: Beginning Level (74.99% and below); Developing level (75.00%-79.99%); Approaching Proficiency level (80.00%-84.99); Proficiency level (85.00%-89.99%); and Advanced level (90.00% and above).

Likewise, in determining the learning needs in terms of learners' interest, execution of teaching and the used of explicit instruction in terms on application of classroom setting, the researcher used the following legend: ( 4.45-5.00) Always (A), (3.25-4.44) Often (O), (2.50-3.24) Sometimes (S), (1.75-2.49) Rarely (R), and (1.00-1.44) Never (N).

In determining the effectiveness of explicit instruction in terms of learners' performance, the researcher basis is as follows: 4.25- 5.00 Strongly Agree ( SA), 3.50-4.24 Agree (A), 2.50-3.24 Moderate, 1.75-2.49 Disagree (D), 1.00-1.44 Strongly Disagree (SD).

## **Significant Findings**

Based on the findings, the conclusion was drawn:

There is a significant difference between the pretest result and the posttest result of the learners in experimental group that utilized explicit instruction in Mathematics 6. Likewise, there is also a lower level of significant difference between the pretest result and the posttest result of the learners in control group that utilized traditional method in learning Mathematics.

The group who have undergone or exposed to explicit instruction performed better than the group who did not receive the treatment.

The discussion includes the level of Grade 6 pupils' academic achievement in Mathematics as reflected in their second grading grade report, the learning needs of Grade 6 pupils in Mathematics that was evaluated in terms of learner's interest and execution of teaching, the explicit instruction approach which are described in terms of application on classroom setting, the effectiveness of explicit instruction in terms of learner's performance considering the pretest and posttest results of both experimental group and control group and the learner's insight on the application of explicit instruction.

## **Table 1**

## Second Quarter Grades of Grade 6 Pupils under Experimental Group

| 2 <sup>nd</sup> Quarter Grades | 90-100<br>(O)       | 85-89<br>(VS) | 80-84<br>(S) | 75-79<br>(FS) | 60-74<br>(F) |
|--------------------------------|---------------------|---------------|--------------|---------------|--------------|
| Frequency                      | 2                   | 3             | 4            | 16            | 0            |
| Percentage                     | 8%                  | 12%           | 16%          | 64%           | 0%           |
| Highest                        | 90                  |               |              |               |              |
| Lowest                         | 75                  |               |              |               |              |
| Standard Deviation             | 5.132               |               |              |               |              |
| Average                        | 79.2                |               |              |               |              |
| Verbal Description             | Fairly Satisfactory |               |              |               |              |

As shown in Table 1, that majority of the learner respondents were from the bracket of 75-79 with 64 percent of the total population. This shows that 16 pupils from Grade 6 have an academic achievement level to *fairly satisfactory*. Thus, the researcher chooses to use the explicit instruction to help and guide these struggling learners on the lessons or topic in Mathematics which they find it difficult.

On the other hand, 16 percent of the total respondents was in the grade bracket of 80-84. Furthermore, 85-89 has 12 percent and 90-100 has 8 percent only or has the lowest percentage. The Grade 6 pupils consist of 25 learners that have second quarter grades being presented above through the table have proven to have learners of *fairly satisfactory grade* as proof from the average which is 79.2. Moreover, standard deviation 5.132 signifies that the grades of the learner respondents are widely distributed.

**Table 2**

## Pretest and Posttest Scores of Control Group

| Traditional Group Scores | Pretest (n=25) |       | Posttest (n=25) |           | Verbal Description  |
|--------------------------|----------------|-------|-----------------|-----------|---|
|                          | F              | %     | F               | %         |   |
| 41-50                    | 0              | 0.00  | 0               | 0.00      | 90 - 100 (Advanced)<br>85 - 89 (Proficient)<br>80 - 84 (Approaching Proficient)<br>75 - 79 (Developing)<br>74 and below (Beginning) |
| 31-40                    | 1              | 4.00  | 2               | 8.00      |   |
| 21-30                    | 5              | 20.00 | 5               | 20.00     |   |
| 11-20                    | 17             | 68.00 | 18              | 72.00     |   |
| 0-10                     | 2              | 8.00  | 0               | 0.00      |   |
|                          |                |       |                 |           |   |
|                          | Pretest        |       |                 | Posttest  |   |
| Highest Score            | 34             |       |                 | 36        |   |
| Lowest Score             | 7              |       |                 | 11        |   |
| Mean Percentage          | 33.36          |       |                 | 38.56     |   |
| Transmutation            | 68             |       |                 | 70        |   |
| Verbal Description       | Beginning      |       |                 | Beginning |   |

The pretest for control group subjected to traditional approach is presented in the table above which has a mean percentage score of 33.36 and was interpreted as “*beginning*”. The table recorded that there are more learners in the group who got scores within the range of 11-20 with the corresponding frequency of 17 which dictates the turning point of claiming the description of *beginning*. After the administration to the control group, using traditional approach, posttest was administered. The table presents the mean percentage score of the test which is 38.56. It was observed that the mean increased as compared to its counterpart pretest; however, it was still categorized as “*beginning*”. Only two learners got high scores under the range of 31-40.

Generally, this entails that in the process of learning, the students have learned the subject matter in the curriculum of Mathematics 6 using traditional approach. However, the increase is not that convincing to show that the learners have acquired sufficient knowledge regarding the subject due to its posttest result that did not show convincing result as compared to the pretest. Although, there is a positive mean rise, still, it is not excellent enough as concluded in the result.

**Table 3**

*Pretest and Posttest Scores of Experimental Group*

| Experimental Group Scores | Pretest (n=25) |       | Posttest (n=25) |            | Verbal Description               |
|---------------------------|----------------|-------|-----------------|------------|----------------------------------|
|                           | F              | %     | F               | %          |                                  |
| 41-50                     | 0              | 0.00  | 4               | 16.00      | 90 - 100 (Advanced)              |
| 31-40                     | 0              | 0.00  | 9               | 36.00      | 85 - 89 (Proficient)             |
| 21-30                     | 11             | 44.00 | 10              | 40.00      | 80 - 84 (Approaching Proficient) |
| 11-20                     | 14             | 56.00 | 2               | 8.00       | 75 - 79 (Developing)             |
| 0-10                      | 0              | 0.00  | 0               | 0.00       | 74 and below (Beginning)         |
|                           | Pretest        |       |                 | Posttest   |                                  |
| Highest Score             | 29             |       |                 | 47         |                                  |
| Lowest Score              | 13             |       |                 | 20         |                                  |
| Mean Percentage           | 41.36          |       |                 | 63.60      |                                  |
| Transmutation             | 70             |       |                 | 76         |                                  |
| Verbal Description        | Beginning      |       |                 | Developing |                                  |

It is reflected in the table that the mean percentage score of the group before being subjected to the explicit instructions is 41.36 and described to be “*beginning*”. It was also presented in the table that no learner even got score within 31-40. Furthermore, the highest score during the pretest is 29 and the lowest is 13. Although it is irrelevant since this is only a pretest. In the posttest of experimental group exposed to the explicit instructions, it is visible that the mean description has improved to “*developing*” with a mean percentage score that increased to 76. This shows that the application of explicit instruction is effective. Therefore, the learning in

Mathematics of experimental group was enhanced and developed through the use of explicit instruction.

However, it was also observed that four learners got score within the range 41-50 with the highest score of 47 and nine or (36%) from the bracket of 31-40, a proof that learning has been acquired. Moreover, 40 percent of the learners from the experimental group falls on the range of 21-30. Hence, learners from the bracket of 11-20 have been lessened to only two and none remained in the lowest bracket.

This implies that in pre-assessment, the test result was low enough and was accounted since no input was given before the conduct of the test. More so, this served as basis for the teachers to check if there will be improvement in students' performance. Furthermore, as the teaching procedure progressed, the quality of learning will be evident and the degree will only vary with respect to different factors that may affect the learners' study habits and the use of other techniques aside from face- to- face discussion.

**Table 4**

*Learning Needs in terms of Learners' Interest*

| Learners' Interest   | 5  | 4  | 3 | 2 | 1 | Std. Dev. | Mean        | VD           |
|--|----|----|---|---|---|-----------|-------------|--------------|
| 1. I make myself prepared for the Mathematics subject ( <i>Lagi keng handa ing sarili ko keng Math a asignatura</i> )  | 4  | 17 | 4 | 0 | 0 | 0.577     | 4.00        | Often        |
| 2. I listen attentively and participate in the discussion of my Mathematics teacher ( <i>Makirandam kung masalese at makyabe keng partisipasyon keng tuturu na ning Mestra ku keng Math</i> )  | 11 | 10 | 3 | 1 | 0 | 0.831     | 4.24        | Often        |
| 3. I am motivated to study and eager to learn because my Mathematics teacher clarify things I did not understand ( <i>Ganado kung manigara at mabiyasa uling ing Mestra ku keng Math paliwag ng masalese ing liksyon na eku antindyan.</i> ) | 13 | 7  | 4 | 1 | 0 | 0.891     | 4.28        | Often        |
| 4. I do my best to get good grades on activities, test, quizzes, assignments and projects ( <i>Gagawan ku ing agvu ku para manikva kung matas a grado kareng aktibidades mi, test, assignment at proyektomi.</i> )                           | 18 | 5  | 2 | 0 | 0 | 0.638     | 4.64        | Always       |
| 5. I study my lesson every day to have participation in the discussion ( <i>Manigara kung liksyon ko aldo-aldo para mika partisipayon ko keng diskusyon mi</i> )   | 2  | 5  | 8 | 3 | 7 | 1.314     | 2.68        | Sometimes    |
| <b>Weighted Mean</b>   |    |    |   |   |   |           | <b>3.97</b> | <b>Often</b> |

It can be viewed that the overall mean is 3.97 with *often* as description. As to its indicators, the learners *often* make themselves prepared for the Mathematics subject with mean of 4.00 and SD of 0.557. Likewise, listening attentively and participating in the discussion of their

Mathematics teacher and being motivated to study and eager to learn because their Mathematics teacher clarifies the lessons that they did not understand. Both have a description of *often* with mean and SD of 4.24, 0.831 and 4.28, 0.891, respectively. The indicator 5 has the highest mean with 4.64 and SD of 0.636, and is described as *always*, while the indicator 5 has the lowest mean with 2.68 and SD of 1.314.

As to learning needs, the learners showed that they were *often* s interested during the execution of the explicit instructions as reflected by the overall mean.

**Table 5**

*Learning Needs in terms of Execution of Teaching*

| Execution of Teaching   | 5  | 4  | 3 | 2 | 1 | Std. Dev. | Mean        | VD            |
|---|----|----|---|---|---|-----------|-------------|---------------|
| 1. Teacher facilitates pupils activating prior knowledge                          | 13 | 11 | 1 | 0 | 0 | 0.586     | 4.48        | A             |
| 2. Teacher provides instruction and examples in interacting with pupils           | 20 | 4  | 1 | 0 | 0 | 0.523     | 4.76        | A             |
| 3. Teacher regulates guided practice  | 18 | 5  | 2 | 0 | 0 | 0.638     | 4.64        | A             |
| 4. Teacher poses problems and coaches problem- solving                            | 18 | 7  | 0 | 0 | 0 | 0.458     | 4.72        | A             |
| 5. Teacher helps the pupils to conclude lesson with summary of the lesson content | 20 | 2  | 3 | 0 | 0 | 0.690     | 4.68        | A             |
| <b>Weighted Mean</b>  |    |    |   |   |   |           | <b>4.66</b> | <b>Always</b> |

With respect to the execution of teaching, all indicators got verbal description of *always*. Teacher provides instruction and examples in interacting with pupils, with the highest mean of 4.76 with SD of 0.523. Next in line is teacher poses problems and coaches problem- solving with a mean of 4.72 and SD of 0.458, followed by indicators 5 and 3 with the mean of 4.64 and 4.68, respectively. Teacher facilitates pupils activating prior knowledge has the lowest mean with 4.48 and SD of 0.586.

The overall mean of 4.66 with a verbal description of *always* signifies that the learners under the experimental group were satisfied with the execution of teaching done by the researcher.

**Table 6**

*Explicit Instruction in terms of Application on Classroom Setting*

| Application on Classroom Setting   | 5  | 4 | 3 | 2 | 1 | Std. Dev. | Mean        | VD            |
|--|----|---|---|---|---|-----------|-------------|---------------|
| 1. My Mathematics teacher reviews the previous lesson before starting the new lesson   | 21 | 3 | 1 | 0 | 0 | 0.500     | 4.80        | A             |
| 2. My Mathematics teacher presents the lesson through motivation and gives examples using concrete, semi-concrete, pictures, power point presentation, video, etc. | 16 | 7 | 2 | 0 | 0 | 0.651     | 4.56        | A             |
| 3. My Mathematics teacher guides us to practice the lesson or skills that we learned and to generalize the objectives of the lesson                                | 18 | 5 | 2 | 0 | 0 | 0.638     | 4.64        | A             |
| 4. My Mathematics teacher re-teaches or explains the process feedback and gives us additional explanation  | 17 | 6 | 2 | 0 | 0 | 0.645     | 4.60        | A             |
| 5. My Mathematics teacher provides additional practice through individual or group activity to practice the new acquired learning                                  | 19 | 5 | 1 | 0 | 0 | 0.542     | 4.72        | A             |
| <b>Weighted Mean</b>   |    |   |   |   |   |           | <b>4.67</b> | <b>Always</b> |

The table 7 reveals that all the indicators have descriptions of *always*. The first indicator, “My Mathematics teacher reviews the previous lesson before starts the new lesson” has the highest mean of 4.80 and an SD of 0.500 while the next is the last indicator which is, “My Mathematics teacher provides additional practice through individual or group activity to practice the new acquired learning”, which has a mean of 4.72 and SD of 0.542. Hence, the indicator with the lowest mean is, “My Mathematics teacher presents the lesson through motivation and gives examples using concrete, semi-concrete, pictures, power point presentation, video etc.’ with a mean of 4.64 and SD of 0.638.

As per experimental learners’ responses, the implementation of the explicit instruction on the classroom setting has positive perception as reflected from the overall mean of 4.67 which is described as *always*.

**Table 7**

*Effectiveness of Explicit Instructions in terms of Learners’ Performance*

| Effectiveness of Explicit Instructions  | 5  | 4  | 3 | 2 | 1 | Std. Dev. | Mean        | VD           |
|---|----|----|---|---|---|-----------|-------------|--------------|
| 1. I am motivated to go to school and learn new lesson.   | 19 | 3  | 3 | 0 | 0 | 0.700     | 4.64        | SA           |
| 2. I studied harder and prepared for quizzes and test.  | 13 | 9  | 3 | 0 | 0 | 0.707     | 4.40        | A            |
| 3. I got good grades in my activities, recitation, performance and periodical test.   | 11 | 10 | 4 | 0 | 0 | 0.737     | 4.28        | A            |
| 4. I improved and developed more especially my skills in understanding, computing, solving, analyzing, applying and connecting problems to real life. | 13 | 10 | 2 | 0 | 0 | 0.651     | 4.44        | A            |
| 5. I enhanced my academic performance more because of the use of explicit instruction.  | 13 | 10 | 2 | 0 | 0 | 0.651     | 4.44        | A            |
| <b>Weighted Mean</b>  |    |    |   |   |   |           | <b>4.44</b> | <b>Agree</b> |

It is visible from the table result that the learners *strongly agree* that they were motivated to go to school and learned new lesson. This indicator has the highest mean of 4.64 and with SD of 0.700. Moreover, the rest of the indicators have verbal interpretation of *agree*. The indicator, “I studied harder and prepared for quizzes and test”, has mean of 4.40 and SD of 0.707, while indicators 4 and 5 have mean of 4.44 and SD of 0.651 apiece. The indicator with the lowest mean is indicator 3, yet the learners *agree* that they got good grades in their activities, recitation, performance and periodical test, with a mean of 4.28 and SD of 0.737

Generally, as to the effectiveness of the explicit instruction, the learners *agreed* that it had affected their performance as revealed by the overall mean of 4.44.

**Table 8**

*Difference between the Pretest and Posttest Results of Both Experimental Group and Control Group*

| Group               | Test     | Mean  | SD    | Mean Differ- | T-test   | P-value |
|---------------------|----------|-------|-------|--------------|----------|---------|
| <b>Experimental</b> | Pretest  | 20.68 | 4.441 | -10.40       | -5.666** | 0.000   |
|                     | Posttest | 31.08 | 8.031 |              |          |         |
| <b>Control</b>      | Pretest  | 16.68 | 6.817 | -2.60        | -1.359** | 0.000   |
|                     | Posttest | 19.28 | 6.705 |              |          |         |

Legend: \*\*Significant Difference at 0.01

The pretest and posttest of pupils under the integration technique using explicit instruction on the experimental group who received the treatment (intervention), posttest result ( $M = 31.08$ ,  $SD = 8.031$ ) reported that there is highly significant increase in test score compared to pretest result ( $M = 20.68$ ,  $SD = 4.441$ ),  $t = -5.666$ ,  $p < 0.01$ . Moreover, using the traditional method in the control group posttest result ( $M = 19.28$ ,  $SD = 6.705$ ) reported, likewise, pretest result ( $M =$

16.68,  $SD = 6.817$ ),  $t = -1.359$ ,  $p < 0.01$ . The statistical values presented were proofs that the majority of the learner respondents who were subjected or received the treatment(intervention) which is the experimental group have results that increased from pretest to posttest. Although the group who did not receive the treatment (intervention), still improved their performance; but, there is strong evidence that the group with intervention performed better than those who did not receive the intervention.

However, for some learners whose test results were not good enough, it did not produce great mean difference as reflected from the statistical treatment. Generally speaking, as experienced by the learners in the study, the use of explicit instruction as integration in the learning process not only served as factor to develop learning outcomes. Hence, it contributed to the enhancement of learning as exhibited in the comparative result.

**Table 9**

*Difference between the Experimental Group Posttest Result and Control Group Posttest Result*

| Group        | Test      | Mean  | SD    | Mean Difference | T-test   | P-value |
|--------------|-----------|-------|-------|-----------------|----------|---------|
| Experimental | Post Test | 31.08 | 8.031 | 11.8            | -5.639** | 0.001   |
| Control      | Post Test | 19.28 | 6.705 |                 |          |         |

Legend: \*\*Significant Difference at 0.01

The result implies that the learners under experimental group which utilized explicit instructions benefited in terms of learning as compared to learners under control group in the traditional approach. Hence, groups were believed to have acquired knowledge on the subject matter.

Generally, the integration of explicit instructions in the learning process was proven that it was a good technique in acquiring better learners' achievement. The pupils who were exposed to the treatment performed better than those pupils who did not receive the treatment. In addition, consistent practice and enhancement of the said technique in the traditional classroom routine benefited both the teacher and the pupils in achieving the main objective of the institution.

### **Learner's Insight on the Application of Explicit Instruction**

The effectiveness of explicit instruction as strategy in teaching mathematics has become more evident when the researcher conducted an interview with the Grade 6 pupils. Their some insights showed that learning enhances in Mathematics. The learners have undergone a one-on-one online interview.

The researcher prepared guide questions to be asked during the interview. The results were analyzed to identify a particular theme. Three themes emerged from the interview conducted to Grade 6 pupils about their insights on the application instruction.

**Learning Mathematics Makes Easier.** Some elementary pupils, find Mathematics subject difficult especially the Grade 6 lessons. However, in order to follow the K to 12 curriculums, this subject should be implemented. The following are the responses of the participants regarding their insights in Mathematics subject.

Grade 6 Pupil 5: *“Yaku po, bilang mag-aral para po kanaku ing Math subject metung ya kareng masakit a subject pero megì ku pung interesado anyang ing mestra ku ginamit yang explicit a pamanuru at masaguli kung antidyán ing lesson”.*

(“For me as pupil, Math subject is one of the difficult subjects but it becomes interesting when my teacher uses explicit instruction I easily understand the lesson.”)

Grade 6 Pupil 2: *“Ing Math subject po metung ya kareng major subject. Minsan po reng lessons talagang masakit la, pero ing mestra ku pu gagawan na ing hanggang agyu na para apaliwanag neng masalese ing panigalaran mi.”*

(“Math subject is one of the major subjects. Sometimes the lessons are hard but teacher tries to explain the lesson to the best that she can.”)

**Teacher’s Execution of Explicit Instruction.** Teacher plays a significant role in the learning process. He is the one who executes the teaching, manages the classroom and facilitates the learning. How teacher delivers the lessons affects the learning outcomes of the pupils. This was revealed in the responses of the participants.

Grade 6 Pupil 1: *“Ing mestra mi pu keng Math tuturu na kaming masalese, eyapu magumpisa hangga’t ela makiramdam reng kaklase ko. Pag inumpisan na napu ing panigalaran mi, umpisan napang payalala kekami kung nanu ing penigalaran mi napun, Kaybat bayu ya pu turu mamye yapang halimbawa ning problem, astka na ke po sopan paintindi keka mi kung makananu miya asolusyunan ing problem. Kayi mamye ya ulit dakal pang halimbawa ning panigalaran mi keng pisara para mas a master miyapa ing lesson. Kapag po antidyán mina kanita yapa po mamyang sari sariling activity para sagutan mi.”*

(“My math teacher teaches us very well. She does not start the lesson if we are not still ready to listen. And when she begins the lesson she begins to review or recall our previous lesson. She gives examples on the board on how to solve the problem, then we do the activity by group through her guidance. Until we do an individual activity.”)

**Pupils’ Insights on the Application of Explicit Instruction.**

Learners are the participants in this study they are the ones who experience the explicit instruction. Their insight shows the effectivity of explicit instruction. It was evident from the following responses:

Grade 6 Pupil 6: “Ing asabi kupu anyang ginamit ne ning mestra ku ing explicit a pamanuru mas meging mayan ing panigaralan mi at mas antindayan ku pu. Mitas ku din pu reng iskor ku kareng activities mi, kareang assignment mi ampo pu kareng test mi.”

(“I can say that explicit instruction helps me to easily understand the lesson. It improves my scores in my activities, assignment and test.”)

Grade 6 Pupil 3:” Anyang ing mestra kupu keng math, ginamit yang explicit ah pamunuru, kerakalan pu kekaming mikakaklase mitas kami pu iskor keng kaming test ampo keng kekaming grades. Bayu miya pu kasi lakwan ing metung a lesson, sisiguradwan napu ning mestra mi na ayayalala mipa po ing penigaralan mi. At bayu kami pu mag test ireview na ke pa po ning mestra mi keng lesson mi para manikwa kami pong matas a iskor keng test.”

(“When my teacher used the explicit instruction many of us got higher grades in our test. Before we left the lesson my teacher made sure that we have a recalling. And before we have a test my teacher conducts a review for us to be able to get high score.”)

## Recommendations

Based on the findings and conclusions of the study, the following recommendations are being offered:

1. The Curriculum implementers may use findings of the study to provide insights about enhancing learning in Mathematics Grade 6 through the use of explicit instruction.
2. Mathematics teachers can use the findings of the study to upgrade their method or strategy in teaching Mathematics.
3. The study recommends that teachers must apply more extended time frame to see more effectiveness of explicit instruction.
4. Considering the learners answer on their interview, explicit instruction improves pupils’ performances and support the teachers in developing pupils’ mastery of the lesson.

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