REFLECTION JOURNAL: A TOOL IN ASSESSING STUDENTS' LEARNING AND LEARNING DIFFICULTIES IN MATHEMATICS UNDER DISTANCE LEARNING AMONG GRADE 5 PUPILS AT DELA PAZ WEST ELEMENTARY SCHOOL SY 2020 - 2021

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ABSTRACT

The action research aimed to enhance the performance of Grade V Pupils in Mathematics in Dela Paz West Elementary School through the use of Reflection Journal in Math. Specifically, the action research sought to: 1), What is the degree of the students' performance in Mathematics when they are not using Reflection Journal? 2) What is the degree of the students' performance in Mathematics when they are using Reflection Journal?, 3) What is the degree of the students' performance in Mathematics when they are using Reflection Journal? and 4 How does the reflective journal significant affect the learning performance of the students in mathematics?

The study was conducted for two quarters from June-October 2021 (1st and 2nd Grading) with 46 pupils as the target subjects. The study made use of the one -shot experimental design to look into the effectiveness of "Reflection Journal In Math in improving pupils' performance in Mathematics.

The findings showed that the use of Reflection Journal In Math enhanced the performance of Grade V Pupils in Mathematics. For the first quarter, there was an increase of 34.13 in the performance and 29.79 for the second quarter. Using the t-test of the difference between means of correlated data, the t- test computed value of 23.71 for the first quarter and 32.37 for the second quarter is more than the critical value of 1.676 at 0.05 level of significance with 45 degrees of freedom.

In conclusion, Reflection Journal In Math enhanced mastery learning and comprehension of Grade V pupils based from the pretest and posttest. There was a significant difference between the means of pretest and posttest using t-test as the statistical treatment. In addition, Reflection Journal in Math stimulated, motivated and sustained pupils' interest. Furthermore, Reflection Journal In Math improved the teaching strategy in Mathematics.

As to the recommendations, teachers should be encouraged and motivated to use Reflection Journal In Math so as to enhance pupils' performance in Math. Moreover, integration of reflection should not only be used in teaching Mathematics but also with other subjects. The school head should encourage and support the generation and use of the Reflection Journal In Math.

INTRODUCTION

Within the thick of the Coronavirus crisis our decision as teacher remains a similar. In step with our Department of Education Secretary Leonor Magtolis Briones, that education should continue whether or not self – pace or virtual and even with or without physically going to school just to attend a class. This statement is the Department of Education response to Covid-19 pandemic. Covid-19 or the Coronavirus unwellness is associate degree communicable disease caused by a newly discovered corona virus. As a matter of truth as of nowadays there is no specific vaccines or treatments for the aforementioned Coronavirus unwellness. With this, everybody ought to take care particularly in coping with others and that we have to be compelled to follow the health protocol.

This situation gives rise to the so-called blended learning. It is a style of education in which the learners learn with the help of interactive tools and online platforms as well as traditional face-to-face teaching concept. This minimizes the face-to-face contact of the teacher to the students to prevent the spread of the Covid-19.

As a teacher in handling mathematics subject, it will be a challenge to teach the said subject area with minimal face-to-face interaction with the students. In fact, Mathematics is one of the subject area that the students find harder. As a matter of fact, in the traditional 5-day face-to-face teaching, no one can deny the pressing problem of the students' low performance in the subject. So what more if we will lessen the number of days that they are in the school to learn the lessons. Although we will have a module for the students to learn the subject when they are at home, lessening the face-to-face interaction with the students means lesser time for me to explain the lessons to them. This also means a limited time for them to ask questions regarding their queries and difficulties with the subject. This problem gives me the idea of strengthening the use of Reflection Journal in Mathematics.

The Reflection Journal in Mathematics will be one of my tools in assessing the students if they are really learn the lesson and what difficulties they encounter regarding the lesson. As stated in the study of Burns 2005, p.31 that the insights we gain by making assessment a regular part of instruction enable us to meet the needs of the learners who are wishing for mind challenges and to give some interference to those learners who find harder. Furthermore, the Journal will be used by the students to practice what they have been learning and personalizing it through their journal writing. This will also allow me as a teacher to understand and respond to students' thinking and identify things that they have difficulties.

This action analysis was conducted to work out if the ''Reflection Journal in Mathematics'' can facilitate the teacher to assess students' learning and learning difficulties in Mathematics, so as to enhance the students' performance within the aforementioned subject particularly throughout Covid-19 pandemic or during the time of distance learning.

METHODOLOGY

In this study, the researcher will utilize the purposive sampling technique to determine if the 'reflection journal in Mathematics will help the teacher to assess students' learning and learning difficulties in Mathematics as their basis to enhance the students' performance in the said subject especially during Covid-19 pandemic. In this technique, one hundred percent (100%) population frame of sixty – six (66) of the Grade 2 pupils of Dela Paz West Elementary School for this school year 2020 – 2021 are all part of the study and participated as respondents. Likewise, it is the purpose of the researcher which is to prevent pupils from feeling rejected; hence, all will be part in

the survey process. Adanza, et.al (2019) explained that a purposive sampling technique is a technique where the researcher selects a particular group or groups based on certain criteria of purposes or variables. It is a sample selected by the researcher which in his judgment is a representative sample.

The researcher distributed the questionnaires via online communication (using zoom/Google platforms). The researcher was granted access to participants' first marking period grades by the school principal to conduct this action research. On the other hand, the researcher conducted their online interviews using the zoom, Facebook, GSuite and other internet platforms as their way of getting the response of their respondents to determine if the reflection journal in Mathematics will help the teacher to assess students' learning and learning difficulties in Mathematics as their basis to enhance the students' performance in the said subject especially during Covid-19 pandemic. And with that, the result of their interview and response to the questionnaire (via Google forms) will be the basis of the study.

A survey, developed by the researcher, was distributed to the actual respondents in a total of 44 Grade 5 pupils enrolled in Dela Paz West Elementary School.

RESULTS

Reflection journal was used in the teaching-learning process for the first and second quarters of the school year 2020-2021 to enhance the performance in Mathematics of the Grade 5 pupils of Dela Paz West Elementary School. Different activities using reflection journal in Math were used in the development of lessons as well as during the preparatory activities and evaluation activities. The researcher used Reflection journal in Math in almost all the least learned competencies in Mathematics. The result of the teaching-learning process is presented basing on each objective. They are as follows: Reflection Journal: A Tool in Assessing Student's Learning and Learning Activities Under Distance Learning Among Grade 6 pupils in Dela Paz west elementary School SY 2020-2021 particularly the use of drawing, coloring, painting, and etching activities in teaching the competencies enhanced the learning of the Grade 6 pupils in Mathematics. During the teaching of Mathematics, different individual and group activities were used to add, subtract, multiply, divide decimals, identify prime and composite numbers, find equivalent fractions, determine GCF and LCM, change fractions to lowest terms, reduced fractions, add, subtract, multiply and divide similar and dissimilar fractions. Table 1 shows the pretest and posttest results for the two quarters- first quarter and second quarter. Results show that there was an increase of 34.13 in the performance for the first quarter and 29.79 for the second quarter. The increase in the mean score which indicated great difference between the pretest and posttest evidently validated the claim that pupils exposed to creative, exciting and varied activities had better retention and had mastered the lessons. Table 1 also presents the results of the t-test statistics between the pretest and posttest for the first quarter and second quarter.

Using the t-test of the difference between means of correlated data, the t- test computed value of 23.71 for the first quarter and 32.37 for the second quarter is more than the critical value of 1.676 at 0.05 level of significance with 45 degrees of freedom. The result shows that the Reflection journal in Math is an effective tool in improving learning in Mathematics. Table 1: Mean Difference of the Pre-test and Post Test score in Reflection in journal Quarter Test Mean Standard Deviation Computed t df Tabulated value of t at 0.05 level of significance 1st Pre-test 14.57 4.86 23.71 45 1.676 Posttest 31.63 2 and Pre-test 16.02 3.15 32.37 45 1.676 Post-test 30.91 B. Improved comprehension skills of Grade 6 on Mathematics concepts through the use of Reflection journal in teaching Mathematics

showed that there was an improvement on the comprehension skills of the pupils on Mathematics concept. Individual and group activities in the development of the lessons, lesson proper and during the evaluation of learning outcomes were used. Table 2 presents the mastery indices of the different competencies for the first grading examination. It could be seen that most of the competencies are under Closely Approximating Mastery (CAM) and Mastered (M). Of the 15 competencies, six (6) were under Mastered (M) and nine (9) were under Closely Approximating Mastery. This could be attributed from the effect of the Arts in Math (AIM) used in classroom instruction. Table 2: Mastery Index per Competency in Math 6 First Grading Examination COMPETENCIES Average Number. of Correct Responses Percentage of Correct Responses Mastery Level 1. Translate word phrase to numerical expressions. 43 93% CAM 2. Write correct equation for a problem/situation. 40 87% CAM 3. Evaluate an expression with/without exponents. 40 87% CAM 4. Identify the value/place value of a digit in a given decimal. 41 89% CAM 5. Compare and order decimals through ten thousandths. 43 93% CAM 6. Estimate sums and differences of whole numbers and decimals. 40 87% CAM 7. Add and subtract whole numbers and decimals. 46 100% M 8. Solve 2 to 3 step word problems involving addition and subtraction of decimals. 44 96% M 9. Multiply whole numbers and decimals. 44 96% M Page 6 of 9 10. Multiply decimals by 10,100, 1000. 46 100% M 11. Multiply decimals by 0.1, 0.01, and 0.001. 46 100% M 12. Solve 1- to 3- digit by 1- to 2-digit factors of decimals and numbers with zero difficulty. 44 96% M 13. Solve word problems involving whole numbers and decimals including money. 43 93% CAM 14. Estimate quotients of whole numbers and decimals. 38 83% CAM 15. Divide 2- to 5- digit whole numbers by 1- to 2- digit decimals. 38 83% CAM • M- Mastery • CAM- Closely Approximating Mastery Table 3 presents the mastery indices of the different competencies for the second grading examination. Of the 19 competencies, four (4) were under Mastered (M), fourteen (14) were under Closely Approximating Mastery (CAM) and one (1) was under Moving towards Mastery (MTM). Table 3: Mastery Index per Competency in Math 6 Second Grading Examination Competencies Ave. No. of Correct Responses Percentage of Correct Responses Mastery Level 1 .Divide whole numbers by 1-to 2-digit decimals. 39 85% CAM 2. Divide a whole number by decimal and mixed decimal 38 83% CAM 3. Divide mixed decimals by mixed decimals. 36 78% MTM 4. Divide decimals by 10, 100, 1000, 0.1, 0.01.and 0.001 43 93% CAM 5. Solve word problem involving division of decimals including money 38 83% CAM 6. Identify prime and composite numbers 46 100% M 7. Determine the greatest common factor (GCF) of 2 or more numbers 40 87% CAM 8. Determine the least common multiple (LCM) of 2 or more numbers. 40 87% CAM 9. Rename fractions as decimals and vice versa 39 85% CAM 10.Reduce fractions to lowest term. 42 91% CAM 11.Change mixed numbers to improper fraction or vice versa. 44 96% M 12.Estimate fractions close to 0, 1/2, or 1 38 83% CAM 13.Find the least common denominator (LCD) of a set of numbers. 43 93% CAM 14.Order fractions in simple or mixed forms in ascending or descending order. 46 100% M 15.Add similar fractions in simple or mixed form with regrouping. Competencies 44 96% M 16. Subtract similar fractions in simple and mixed forms with or without regrouping. 41 89% CAM 17. Add dissimilar fractions with or without regrouping. 40 87% CAM 18. Subtract dissimilar fractions with or without regrouping. 40 87% CAM.

DISCUSSION

Using Reflection Journal In Math in teaching Mathematics showed that there was an improvement on the performance of the pupils on Mathematics concept. Individual and group activities in the development of the lessons, lesson proper and during the evaluation of learning outcomes were used.

The study used different activities in teaching Mathematics 5. Individual activities for individual work and group work were used.

Aside from individual activities, reflection journal were also done.

According to Larrick (2015) as cited by Agnasi (2019), there is no substitute for the study of the interest of the individual; we must make the most of the children's interest because it is the starting point for the improvement, a barometer of proficiency and as a criterion of the success of school instruction.

It was observed that whenever the lessons were presented using Reflection Journal In Math, the pupils became more interested and active in all the activities. Pupils' interest throughout the teaching-learning process was very evident.

The use of Reflection Journal in Math was a very effective strategy in teaching Mathematics subject. The pupils were provided with different art activities which they enjoyed doing while computing and analyzing mathematical sentences and mathematics word problems.

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REFERENCES

DM 144, s. 2017 – Supplemental Research Guides and Tools

August 29, 2017-DM 144, s. 2017 – Supplemental Research Guides and Tools

DM 144, s. 2017 – Supplemental Research Guides and Tools | Department of Education (deped.gov.ph)

DO 16, S. 2017 – RESEARCH MANAGEMENT GUIDELINES

References: DepEd Order: Nos. 43, s.2015; and 4, s. 2016

DO 16, s. 2017 – Research Management Guidelines | Department of Education (deped.gov.ph)

Public Education's Response to the Coronavirus (COVID-19) Pandemic (ncsl.org)

DO_s2020_017.pdf (deped.gov.ph)
Adapted from Ruth Sutton, unpublished document, 2001, in Alberta Assessment Consortium, Refocus: Looking at Assessment for Learning (Edmonton, AB: Alberta Assessment Consortium, 2003), p. 4. Used with permission from Ruth Sutton Ltd.
Types of Classroom Assessment (Assessment) (learnalberta.ca)

Adanza, E. (1995). Research methods: Principles and applications. Manila: Rex Book Store.

Agnasi, Rosita C. Improving the Performance of Grade III pupils in Mathematics of Naytokyab Elementary School Through Math Home in School Strategy, (Unpublished Action Research, Naytokyab ES, Buguias, Benguet, 2015).

Ducayso, Georgina C. Enhancing Pupils' Performance of Slow Learners in Biology of Buguias National High School-Main Through the Use of Strategic Intervention Materials,(Unpublished Action Research, Buguias NHS, Buguias, Benguet ,2017).

Gregorio, Herman C. Principles and Methods of Teachings, Revised Edition, Manila : National Book Store, 2000.

Malkevitch, John. Mathematics and Art, New York: Mason Crest Publisher Inc., 2015.

Wakit, Shiela K. ICT Based Lessons as Tools in Improving Pupils' Performance in Science of Gold Creek Elementary School (Unpubished Action Research, Gold Creek Elementary School, Itogon, Benguet, 2015)