RESEARCH O'CLOCK
Improving Basic Education Through Research

RESEARCH BULLETIN

IMPROVING GRADE 6 NUMERACY SKILLS IN ADDITION AND SUBTRACTION OF FRACTIONS THROUGH DIGITIZED SELF-LEARNING KIT

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INTRODUCTION

For the few years, we had been all staying in our homes due to the lockdown and community quarantine policy implemented by the Government, but learning should not halt. The Division of Ilocos Sur had an orientation on preparing learners' self-learning kits (SLKs) based on the K to 12 most essential learning competencies (MELC) to address quarantine issues. One of the fundamentals of Mathematics that students should know is fractions, however, the competencies in addition and subtraction of fractions were the least mastered as perceived in the Test Item Analysis of Pias Elementary School (ES) during the First Periodic Examination for Grade 6 pupils for School Year (SY) 2021-2022. This study aimed to determine the effectiveness of Digitized SLK in improving the numeracy skills of Grade 6 pupils of Pias ES. Further, it sought to determine (1) the level of the numeracy skills of Grade 6 pupils in Math before the implementation of Digitized SLK, (2) the level of numeracy skills of the Grade 6 pupils in Math after the implementation of Digitized SLK, (3) the rate of pupils with improved performance and, (4) the significant difference between the level of performance of the pupils' respondents before and after the implementation of the Digitized SLK.

The study used one group pretest-posttest research design to determine the effectiveness of the Digitized SLK in improving the mathematical skills of the 17 Grade 6 learners composed of seven (7) boys and ten (10) girls. They were presently enrolled learners of Pias Elementary School for SY 2021-2022. A total enumeration of Grade 6 learners was considered as respondents of the study because all learners have difficulties understanding the lesson due to very low-test results. The researcher created a digitized self-learning kit based on the approved self-learning kit of the Schools Division of Ilocos Sur. The learners used their smartphones since all the enrollees in Grade 6 have their smartphones at home based on their Learner Enrollment Survey Form.

DISCUSSION OF RESULTS

PROBLEM 1. What is the level of the numeracy skills of Grade 6 learners in Math before and after the implementation of Digitized SLK?

TABLE 1. Pretest and Posttest Results of the Grade 6 Pupils

Items	Pre-test	Posttest
Number of Respondents	17	17
Number of Points	30	30
Lowest Score	5	16
Highest Score	18	30
Mean	11.18	24.06
Descriptive Level	Needs Improvement	Very Satisfactory
Standard Deviation	4.14	3.68
Coefficient of Variation	35.95	14.85

Table 1 presented the level of numerical skills of the Grade 6 learners of Pias Elementary School and showed that 17 pupils took the 30-item test. The lowest score obtained during the pretest is 5 and 16 in the posttest. The highest scores obtained during the pre-test were 18 and 30 in the post-test. It is reflected that the mean in the pretest was 11.18 described as Needs Improvement (NI), while in the posttest was 24.06 described as Very Satisfactory (VS). The standard deviation in the pre-test was 4.16 which was slightly higher than 3.68 in the post-test. The coefficient of variation in the pre-test was 35.95 which was higher than 14.85 in the post-test.

PROBLEM 2. Is there a significant difference between the mathematical skills of the respondents before and after the implementation of Digitized SLK?

TABLE 2. Comparison of the Pre-test and Posttest Performance of the Grade 6 Pupils

	Mean	Mean Difference	Computed t-test	Tabular Value	Decision
Pre-test	11.18				
		12.88	22.18	2.12	Reject Ho
Posttest	24.06				

Level of significance- 0.05
Degrees of freedom (n-1)- 16

Table 2 shows the significant difference in the levels of mathematical performance of Grade 6 learners between the pre-test and post-test. It further revealed that the mean in the pretest was 11.18 while 24.06 in the post-test. The mean difference was 12.88. The computed t-test was 22.18, which was greater than the tabular value of 2.12 at a 0.05 level of significance with 16 degrees of freedom. Hence, the null hypothesis was rejected. This implies that the Digitized SLK is effective in improving the numerical skills of Grade 6 learners.

CONCLUSION AND RECOMMENDATION

The use of Digitized SLK is an effective strategy for improving the level of numerical skills of the pupils. In the digital age, this innovation touches upon the ways to improve the numeracy skills of the learners since digital learning is far more interactive and remarkable than the texts written on paper, they offer better contexts and more engaging activities than traditional education methods. Thus, it allows students to better connect with the learning material. Emanating from the results, teachers should use digital tools such as Digitized SLK in their mathematics classes, alongside the different learning areas across different grade levels.

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This Research Bulletin is an abridged version of the full manuscript of Mr. Gironella and supplements his research presentation during the Research O'clock last August 8, 2023, under the topic, "Count and Compute: Enabling Learners' Competence in Numeracy". To request a copy of their manuscript, send an email to ps.prd@deped.gov.ph.