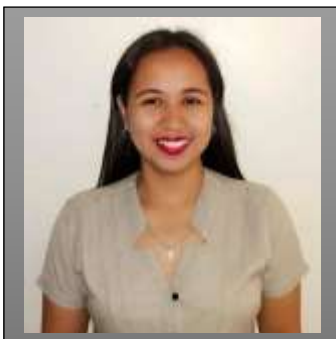


## PROJECT 1-1-2 FOR 3: A BLENDED ONLINE SYNCHRONOUS APPROACH IN ENHANCING FUNDAMENTAL OPERATIONS ON INTEGERS AND FRACTION OPERATIONS



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### ABSTRACT

Mastery in mathematics is a key literacy component that influences children's success in education and in future society. It is one of the most useful and fascinating divisions of human knowledge which includes many topics of study.

Learning in the new normal involves different platforms, it includes blended learning, online learning and modular learning approach. This means that most of the students will be working hard to learn all the subjects implemented by the Department of Education.

The study focused on the level of performance of selected Grade 9 students in (a) Fundamental Operations on Integers and (b) Fraction Operations. It also aimed to determine the significant difference in terms of pre-test and post-test scores. A pre-experimental design was used wherein only a single group was classified and no control group was included in the study. The single group was used to determine the effect of Project 1-1-2 for 3.

Mean, Standard Deviation, and T-test were the statistical treatment applied in this study to compute, analyze and interpret data.

The findings regarding Fundamental Operations on Integers (Post-test:  $M=18.275$ ;  $SD = 3.366$ ) and Fraction Operations (Post-test:  $M=17.95$ ;  $SD = 2.490$ ) indicates that Project 1-1-2 for 3 is effective in enhancing the performance of the students.

**Keywords:** blended online synchronous, fundamental operations, fraction operations, performance

## INTRODUCTION

As the global pandemic Coronavirus or covid-19 arise, millions of people died all over the world due to severe infection, hunger, poverty and lack of vaccines. The schools are all closing down as mandated by the government to prevent the spread of the virus. Everybody was advised to stay at home.

However, the Department of Education never stop to find its way to continue to provide proper education to the students. The “Sulong EduKalidad” program was launched to address Philippine Education in response to changes.

According to Sec. Leonor Magtolis Briones (2020), “Civilization can only move forward through innovation.” She stated that, the Sector of Education should start teaching innovation in basic education level. Advance technology is needed to produce new sets of learners and upgrade the capacity of the teachers.

Learning in the new normal involves different platforms, it includes blended learning, online learning and modular learning approach. This means that most of the students will be working hard to learn all the subjects implemented by the Department of Education.

In Biñan Integrated National High School, the modalities being implemented is blended online synchronous and asynchronous as

associated in Learning Action Plan (LAC). Wherein, from the school context synchronous is a real-time discussion on virtual platforms while asynchronous is the online provision of Learning Materials (LMs) and other activities through selected learning platforms through like google classroom, zoom and face book. From which learners can view or answer at the time most convenient to them what is most convenient to them. It is also indicated that no more than four hours a day will be spent for virtual face to face interaction of students for health purposes.

The major problems encountered by the researchers was the weaker ability of the students in basic math which includes more specifically integers and fractions which is necessary to advance lesson in higher math topics now that the new normal education implemented.

As supported by the past studies, according to Torio (2015), as cited by Candelaria (2019), pupils have a low performance in mathematics especially problem-solving involving fractions. The result was very depressing and can be considered as regional, if not national problem in basic arithmetic proficiency.

The Project 1-1-2 for 3 (1-Topic, 1-Example, 2- Exercises for 3 minutes) focus on

enhancement of the ability of selected Grade 9 students in terms of fundamental operations on integers and fraction operations through blended online synchronous as a pre-requisite skill in other topics in grade 9- Mathematics. This study gives the students the opportunity to recall and master the mentioned basic math skills needed to acquired higher thinking skills in mathematics.

The result of this study is expecting to be a great help to the different sectors that involved involves students, teacher and others researchers in the new normal education. It will also give emphasis how important basic math (integers/fraction) in preparing the students to the next higher level of their schooling.

### **METHODOLOGY**

This study used the pre-experimental design where only a single group was classified and no control group was included in the study. The single group was used to determine the effect of Project 1-1-2 for 3.

The respondents of the study were 40 Grade 9 students of Biñan Integrated National High School (BINHS) who belong to Blended Online Synchronous group through purposive sampling.

To measure whether the treatments are effective or not the researcher used the pre-test and post-test as the instrument in this study. The pre-test and post-test were consisting of forty (40) items multiple choice test, twenty items in fundamental

operations on integers (20) and twenty items for fraction operations (20). This test will show the proficiency in basic math that will be used to compare student's pre-test and post-test scores. The test scores will be used to determine the level of proficiency of the students and test the significant difference between the pre-test and post-test scores of the respondents. Meanwhile, the post-test result used to determine the effectiveness of the method used in the study.

### **RESULTS**

The presentation of data was based from the sequence of statement of the problem.

Mean, standard deviation and t-test were used in the interpretation of data.

With a mean of 8.350, it was verbally interpreted that the level of performance in Fundamental Operations on Integers in terms of pre-test falls on *Low Performing*.

In terms of post-test the scores from 16 to 20 got the highest frequency of half of the respondents (20) and with a mean of 18.275 it reached the *High-Performance* level.

The above findings regarding the level of performance in Fundamental Operations on Integers of the students is terms of pre-test (M = 8.350) and post-test (M= 18.275) indicates that Project 1-1-2 for 3 is effective, from low performance it hits the high-performance level.

The findings shows that the level of performance of the selected students in grade 9 in terms of pre-test lead to Low Performance for Fraction Operations with a mean of 8.750. It also indicates that the obtained scores are almost

precise using the values of the standard deviation (3.086).

The results revealed that the computed mean for fraction operation of 17.975 was verbally interpreted that the level of performance of the students in terms of post-test falls on High Performance. Showing that 62.5% of the respondents got the scores of 16 – 20.

The above findings regarding the level of performance in Fraction Operations of the students is terms of pre-test ( $M = 8.750$ ) and post-test ( $M = 17.975$ ) indicates that Project 1-1-2 for 3 is effective.

The study shows that the scores were higher for the post-test ( $M = 18.275$ ,  $SD = 3.366$ ) than the pre-test ( $M = 8.350$ ,  $SD = 3.191$ ) with a mean difference of -9.925.

The results revealed the computed p-value of less than 0.000 implies that there is significant difference in the performance of the students in fundamental operations on integers in terms of pre-test and post-test

The results indicates that the scores were significantly higher for the post-test ( $M = 17.975$ ,  $SD = 3.086$ ) than the pre-test ( $M = 8.750$ ,  $SD = 3.086$ ) with a mean difference of -9.925.

The calculated p - value of less than 0.000 states that there is significant difference in the performance of the students in fraction operations in terms of pre-test and post-test.

## **DISCUSSION**

At this time of crisis wherein there is a limited interaction, this study can help the to understand difficult lesson in Mathematics concepts and relations based on methods that the teacher will introduce to enhance their mathematical skills. They can also integrate it with their everyday life situation;

deeper understanding would be best that they can get in this study.

The result of the study shows that Project 1-1-2 for 3 is an effective method used by the researchers to enhance the performance of the students in fundamental operations on integers and fraction operations through blended online synchronous approach.

Parallel to the study is recommended for further improvement of Project 1-1-2 for 3.

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