



**DEVELOPING LOVE AND INTEREST FOR MATHEMATICS AMONG
THE GRADE IV ONLINE CLASSES THROUGH AES
(APPLICATION OF EFFECTIVE STRATEGIES)**

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CONTEXT AND RATIONALE

Indeed, the e-learning method or online classes, due to the period of quarantine and limitation that is happening due to COVID-19, has increased its part and application in the new normal teaching and learning processes. This supports the idea that technological development is a reality and a need for today's living. As reflected to its impact in the educational field, the so-called information and communication technologies (ICT) becomes popular. In the conduct of online classes, ICT definitely promotes innovative pedagogical approaches and didactic strategies.

Mathematics subject is considered by many as one of the tough subjects and become more challenging to others in Distant Learning specifically in Online learning. If learners find it hard to learn even with the face to face interaction, how much more when they are in the new normal set up where limited time is allotted for every subject.

However, with the desire of teachers to increase learners' love and interest for numbers, there are emerging e-learning activities that are developed as teaching method that would surely

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help learners in appreciating mathematics. One of which is the GeoGebra resource, which is integrated into the Moodle platform, improving aspects related to assessment, motivation and student interest. It also promotes learning in a more meaningful way and adapts assessment to students' needs. Another similar case is that of the Working Memory Capacity (WMC) method, developed in the e-learning method. This method leads to an improvement in students' abilities to acquire various mathematical concepts. Another one is the Edmodo application, focusing in the field of mathematics. Another example is UZWEBMAT that is used for individualized e-learning environment.

Though Grade IV learners of Balayan East Central School are new with the educational scheme of online classes and so with the teachers, the researcher conducted this study to ensure that learners' love and enthusiasm to learn mathematics is being practiced and improved.

ACTION RESEARCH QUESTIONS

1. What is the stand of Grade IV Online Classes learners in embracing Mathematics lessons for the past 2 rating periods?
2. What intervention could be applied to develop their love and interest in learning mathematics?
3. What is the impact of the interventions applied to develop their love and interest to learn mathematics?

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4. What is the best way of instilling love for mathematics among grade IV learners under online classes?

Proposed Innovation, Intervention, and Strategy

There are learners who have arithmophobia or fear in mathematics. No matter how persistent the teacher is in teaching mathematics, still, learners dislike it. This is quite alarming on part of the teacher specially during this time of pandemic where learners are under modular and online classes. Since the main task of the teacher is to make learners learn, she conceptualized the study "Developing Love and Interest for Mathematics Among the Grade IV Online Classes through AES (Application of Effective Strategies)". It aims to encourage and motivate learners that despite their fear in mathematics, they are able embrace, love, and be determined in learning it using different online application. This is supported with the idea that learners learn best when they see, do, and experience it. Providing them with enjoyable activities lead to a better grasp of topic in mathematics.

ACTION RESEARCH METHODS

Participants and/or other source of data information

The respondents of the study were the ___ Grade IV learners under online class. They are the perfect respondents of the study because from the previous record in mathematics, ___

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or ____ out of ____ learners experienced difficulty in doing mathematical activities even during their face to face classes. Through this study, the mentioned respondents were able to love and embrace mathematics in a different yet in a technical way.

Data Gathering Method

Result of the pre assessment of Grade IV learners under in online classes in mathematics topic was collected to serve as the baseline data. It was studied thoroughly to ensure that there was really a need for an intervention. Casual interview with the learners also helped in knowing their problems towards mathematics. Observable behavior during the class discussion was recorded as a supporting document of the study. Post assessment was also given to see if there was a change on their score and performance.

After the conduct of the study, results were collected, tabulated, and analyzed to give the possible way of addressing their needs.

Before the conduct of the study, the researcher requested the approval of the principal through a request letter. Then she coordinated to children and to their parents about the procedure of the study. Data privacy act was discussed also to parents for learner's security and integrity of the result.

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Scoring of Responses. Likert Scale and its corresponding verbal interpretation was used.

Option	Scale Range	Verbal Interpretation
4	3.26-4.00	Strongly Agree
3	2.51-3.25	Agree
2	1.76-2.50	Disagree
1	1.00-1.75	Strongly Disagree

Statistical Treatment of Data

Mixed method or the combination of quantitative and qualitative research was used by the researcher since she asked for the ways how the learners could easily understand the lesson during online classes. Weighing their responses helped in determining the possible action to take. Also, comparison of the pre and post results was done if there was a change in learning mathematics.

The following statistical tools were used to get an accurate result leading to appropriate intervention to augment the gap.

Likert Scale. It is used to weigh the responses of the respondents.

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Ranking. From the responses, result was tabulated, tallied and interpreted. Ranking shows the magnitude of the responses.

Mean. An average of responses and use to determine importance of each quantity on the average.

T-Test. It is used to determine the significant difference in the result before and after the utilization of the intervention

ACTION RESEARCH WORK PLAN AND TIMELINE

ACTIVITIES	WEEK 1	WEEKS 2-3	WEEKS 3-4	WEEK 5	WEEK 6	WEEK 7
1. Identifying problem	█					
2. Formulating introduction and rationale	█					
3. Crafting research questions		█				
4. Identifying research design and methodology		█				
5. Tallying and interpretation of responses			█			
6. Drafting results and discussion			█			
7. Drawing conclusions and writing the recommendation				█		

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8. Finalizing the introduction, results and discussion, bibliography						
9. Encoding and polishing the entire paper and peer validation of the research output						
10. Submission of the completed research to the District Research Committee						

Plans for Dissemination and Utilization

DISSEMINATION ACTIVITIES	October	November	December	January	February
Present the result to teachers and principal					
Conduct a SLAC about the result of the study					
Roll-out the result to other Grade II learners					
Participate in District Research Compendium					

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