

To cite this article: ALWIN A. LUAREZ (2024). TINAMBAN: Teaching Integers in A Manual-Based Numeracy, International Journal of Applied Science and Engineering Review (IJASER) 5 (6): 32-35 Article No. 212 Sub Id 327

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## TINAMBAN: TEACHING INTEGERS IN A MANUAL-BASED NUMERACY

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DOI: <https://doi.org/10.52267/IJASER.2024.5603>

### ABSTRACT

This study aimed to determine the performance of Grade 11-EIM -Makabansa students of Cantilan National High School in using the intervention material TINAMBAN.

Based on the findings of the study, there is a 97 percent increase in the performance of the students in pre-test and post-test in using the said intervention material. Thus, utilization of TINAMBAN is highly encouraged

**KEYWORDS:** TINAMBAN, Teaching operation of integers, learning material for integers,

### INTRODUCTION

TINAMBAN is a Bisaya word which means to solve a mathematical problem based on patterns and disregarding mathematical theorems and postulates. In this action research, TINAMBAN is coined from the words, Teaching Integers in A Manual-Based Numeracy. TINAMBAN is an intervention material which help the students who may be struggling with understanding and applying the rules of integers operations.

In the conduct of pre-test on the operations of integers, out of 30 Grade 11-EIM students, 27 failed the said test on a 75% passing rate. This implies that the 27 students do not know how to apply the rules in operation of integers. With this result, the researcher designs material that could help solve the gap, thus the birth of TINAMBAN. As an intervention material, TINAMBAN involves instructional strategies that focus on the operations of integers in a manual like style of teaching. Vernacular is used as language in the said material.

TINAMBAN focuses on the operations of integers since this competency is essential for success in a more advanced math concepts and real-world applications.

This action research will seek to answer the following questions:

1. What is the Mean Percentage Scores (MPS) of the respondents during Pretest Exam in Operations of Integers?
2. What are the reasons of the respondents in obtaining low scores during the conduct of Pre-test in Operation of Integers?
3. What is the Mean Percentage Scores (MPS) of the respondents in Post-test Exam in Operation of Integers after TINAMBAN is utilized?

### Figures and Tables

The researcher used a descriptive method applying purposive sampling. The participants of this action research took the Pre-test Exam on the Operations of Integers before the intervention material was given for 20 minutes allotted time. Their scores was then gathered, and the Mean Percentage Score (MPS) was computed. After the pre-test, intervention material (TINAMBAN) was given to the participants for them to study for 20 mins. Then, Post-test Exam was floated to the participants with same allotted time given during the pre-test.

The mean percentage score in pre-test and post-test were compared as basis for effectiveness of the intervention material.

**Table 1: Performance of participants in Pre-test**

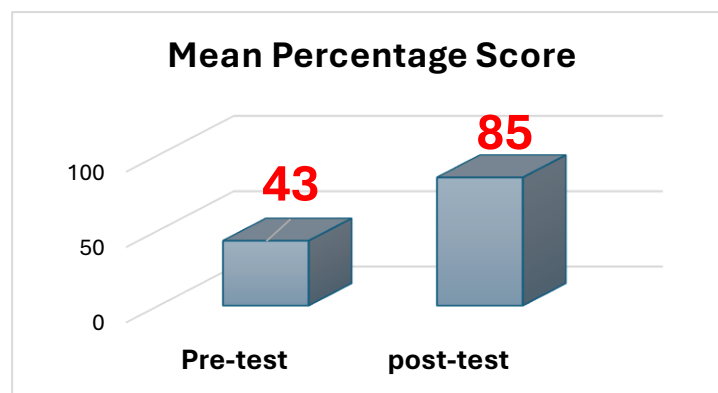
Score Interval	Frequency	
	Pre-Test	Percentage (%)
0 - 1	1	3
2 - 3	5	17
4 - 5	7	23
6 - 7	7	23
8 - 9	4	13
10 - 11	4	13
12 - 13	1	3
14 - 15	1	3
<b>Total</b>	30	
<b>Mean Score</b>	6	

<b>MPS</b>	<b>43</b>
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**Table 2: Performance of participants in Post-test**

Score Interval	Frequency	
	Pre-Test	Percentage (%)
0 - 1	0	
2 - 3	0	
4 - 5	0	
6 - 7	1	3
8 - 9	2	7
10 - 11	3	10
12 - 13	9	30
14 - 15	15	50
<b>Total</b>	30	
<b>Mean</b>	13	
<b>MPS</b>	<b>85</b>	

**Graph 1: Comparison of pre-test and post-test MPS**



**REFERENCES**

Bernido, Ryan, Use of Strategic Intervention Materials (SIM) in Adding Integers: An Action Research (April 24, 2023). Available at SSRN: <https://ssrn.com/abstract=4426854> or <http://dx.doi.org/10.2139/ssrn.4426854>

## Equations

$$(1) \quad \text{mean percentage score}$$

## RECOMMENDATIONS

Utilization of TINAMBAN is highly encouraged to students who are struggling in math operations specifically in integers.

## Author Profile



**Alwin A. Luarez** is a dedicated and experienced mathematics educator with a strong academic background in teaching mathematics. A graduate of Mindanao State University-Iligan, Alwin completed his Bachelor of Education, majoring in Mathematics, in 2005. He further advanced his expertise by earning a Master's degree in science, specializing in Teaching Mathematics, from Surigao del Sur State University in Tandag City, Philippines. With 16 years of professional experience in the Department of Education in the Philippines, Alwin has developed a deep understanding of effective teaching strategies and curriculum development in mathematics. His commitment to fostering a strong mathematical foundation in students is evident in his long-standing service and dedication to the education sector.