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# Classpoint as an intervention strategy in teaching Business Math

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## A B S T R A C T

This Action Research aims to determine the effectiveness of utilizing class point in teaching Business Mathematics among grade 11 ABM learners in the Mataas Na Paaralang Neptali A. Gonzales. This study was undertaken to identify the level of performance in Business Mathematics of Grade 11 ABM2 students of Mataas Na Paaralang Neptali A. Gonzales before and after using class point in teaching the subject. The research study participants were 29 ABM2 students during the S.Y. 2021-2022. Data were gathered through the researcher-made Mathematics Performance Test (MPT). A quasi-experimental design was used in this study. Learner-respondents came from 11 ABM2 at Mataas Na Paaralang Neptali A. Gonzales. Data were generated from the Pre-test to determine the learners' prior knowledge before using the Classpoint. Weekly Assessment in a form of teacher-made learning activity sheets which undergone quality assurance process to determine students' performance while using the classpoint in teaching Business Mathematics and Posttest was administered to determine the learners' mastery of Business Mathematics after using the classpoint. After using classpoint in teaching Business Math, there is a significant difference between the pre-test and the post test mean scores. This suggests that using class points effectively has a beneficial effect on students' achievement test.

## 1. INTRODUCTION

### 1.1. Research Background

According to their study, Reg.[1] states that math problems may be quite challenging. They also found that numerous mathematical skills need the ability to solve problems, yet many students lack the fundamental skills. As a result, many students reportedly struggle with mathematical concepts. Students may have more trouble learning arithmetic skills if the teaching and learning process is not effective for all students. One strategy to help these students is to understand their challenges with the problem-solving abilities required in mathematics.

As per the researcher observation, the problem regarding the low performance in business math class is more evident specially in this pandemic. Despite explaining more about Business Mathematics and the important proof, the students don't like this subject. It is one of the most important competencies but ironically, it is the least – learned skills. They think that the Business Math is one of the boring subjects of the ABM students and it is hard to understand. Raising students' achievement

despite the scarcity of resources, especially in this pandemic, is challenging for the teacher.

The COVID-19 pandemic had several unusual effects, affecting the worldwide educational system and people's everyday routines. Due to COVID-19, there are more challenges to the Philippines' current situation in the field of education. In reaction to the unexpected events carried on by the health crisis, distance learning methods through the internet or TV broadcasts were required [2].

Additionally, a blended learning approach, including online classes, handouts, and lessons aired on television and social media was launched in October 2020. Therefore, internet access is necessary for the new teaching methods for students and teachers.

As per researcher observation, the problem of students who struggle in business math classes is evident during this pandemic. Apart from providing more information on business mathematics and highlighting the essential foundation, the students hate this subject. Ironically, although being one of the most essential, it is also one of the hardest to learn. They consider business math to be one of the most challenging and uninteresting subjects for ABM students. Even with low resources, it may be challenging



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for teachers to improve student achievement, especially during a pandemic.

The use of classpoint in teaching Business Math was applied to address the attention span, increase the engagement and performance of the learners in online virtual classroom set up. ClassPoint is a powerful, easy-to-use interactive teaching and live student response system built for PowerPoint.

The use of class point can offer efficient and effective ways of providing quality education during this pandemic. Applying this class point in teaching business math will address the least mastered skill to improve the students' performance. This endeavor of conducting research and using a class point will undoubtedly improve teaching-learning experiences. It cannot be denied that in using class points in teaching business math, the teacher may be a better position to assess the performance of the students and give them a learning style suited to their needs

## 1.2. Literature Review

According to a study, Ref. [3] found out that Mathematics is the most compelling subject for fostering students' higher-order cognitive skills and logical thinking. Despite this, most high school students believe mathematics is the most difficult subject. Its importance and need, however, cannot be denied. If the appropriate interventions are being used, math classes could be engaging. Finding the most effective strategy to inspire students may be difficult for teachers. Many educators are concerned about the lack of motivation among students.

There may be significant differences between teaching in a real classroom and teaching online. Participating in class discussions with the students. The ClassPoint was developed to promote student learning and engagement. Built specifically for PowerPoint, ClassPoint is a potent and user-friendly interactive teaching and live student response platform. In the study, Ref. [4] in his article stating that the class point allows Multiple choice, short answer, and image uploads. He also emphasized that it can be used to aid PowerPoint and use it during live video conferencing calls to boost student engagement with live responses from every single one of the students.

In the study, Ref. [5] found out that more than 80% of the participants believed that ClassPoint effectively enhanced student participation and involvement in the classroom. Participants in the lecturers' classes unanimously concurred (60 percent agreed, and students respond more frequently to interactive quizzes, according to 40% of respondents who strongly agreed delivered via ClassPoint as compared to a verbal response in class.

In the study, Ref. [6] states that ClassPoint is helpful to teachers for more reasons than assisting instructors to make lessons run smoothly with fewer connection gaps. ClassPoint may be used to all topic areas and learning styles. Any teacher may simply incorporate a variety of learning activities using the different question types. ClassPoint may be used for more than anything else. It may be used to teach science and research lessons, but it can also teach history, mathematics, and other disciplines.

According to the study, Ref. [7] found out that the use of games will improve the effective method to educate themselves pleasantly and entertainingly. Finally, it will enhance the student's math skills.

## 1.3. Research Objective

This study aims to use the class point in enhancing learning and remedy the students' least mastered skill in business math. Specifically, it seeks to answer the following research questions: (1) What is the level of performance of the participants in Business Math before and after the use of class point as revealed in the result of pre-test and post-test? ; (2) What is the effect of using a class point in the performance of the learners in business Math?; (3) Is there a significant difference between the performance skills of the learners before and after the use of class point as revealed in the result of pre-test and post-test?

## 2. METHODS

### 2.1. Participants and/or Other Sources of Data

During the school year 2021 – 2022, grade 11 ABM2 students from Mataas na Paaralang Neptali A. Gonzales in the Schools Division of Mandaluyong City involved in research. The respondents were chosen via purposeful sampling. 29 students from 11 ABM2 have been chosen to take part in this study. Throughout this exercise, their performance was monitored using the teacher's class record.

### 2.2. Data Gathering Procedures

Before the data gathering, the researcher will first construct a pre-test containing questions congruent to the specific lessons of the business math. Once completed, the pre-test will be subject for validation by the expert validators chosen by the researcher. After validation by experts, the pre-test will be ready for pilot testing to test the reliability. Respondents for testing will be the 11 ABM2 students of Mataas na Paaralang Neptali A. Gonzales, who will be participants in this investigation. The researcher will apply the class point in which it is built in the powerpoint presentation through classroom discussion. After the last topic in Business Mathematics, the 11 ABM2 students will answer the questions in the post test. Data are gathered, they will be appropriately analyzed using data analysis in the form of excel [8].

## 3. RESULT AND DISCUSSION

### 3.1. Level of performance of the participants in Business Math

Table 1 shows that the level of performance of the participants in Business Math before the use of class point was 1.65 while the level of performance of the participants after the use of classpoint was 4.9. It can be gleaned from the table that it was statistically found that the mean difference before and after the utilization of classpoint was 3.25. It only shows that the student's performance level increased after utilizing the classpoint as intervention materials. Mean can prove to be effective tool when comparing different sets of data. The higher the mean score the higher the expectation just like the given samples. It can be interpreted that the respondents after using classpoint perform much better after using classpoints.

**Table 1.** Before and after the implementation of Classpoint

Level of performance	N	Mean	Mean Difference	Description
Before	29	1.65	3.26	Approaching Proficiency
After	29	4.9		

### 3.2. *Performance of the students before and after the implementation of Classpoint*

Table 2. shows the level of performance of the students. It can be gleaned from the table that after the implementation of classpoints, there are 12 or 41.38% of students identified as outstanding. There are also 8, or 27.59 % of students identified as very satisfactory, 7, or 24.13 % of the students identified to be

satisfactory, and 2 or 6.90 % fairly satisfactory, and none of the students got a poor performance in Business Math. It only shows that the level of performance of the students increased after the utilization of class points. Based on the given data it only implies that the class point as intervention material was found to be beneficial and effective not only to teachers but, most importantly, to the learners.

**Table 2.** Performance of the students before and after the implementation of Classpoint

Performance of Students	Before		After	
	Frequency	Percentage	Frequency	Percentage
Outstanding (100-90)	3	10.34 %	12	41.38 %
Very Satisfactorily (89-85)	3	10.34 %	8	27.59 %
Satisfactorily (84-80)	5	17.24 %	7	24.13%
Reasonably Satisfactory (79-75)	10	34.48 %	2	6.90 %
Poor (74- below	8	27.59 %	0	0
Total	29	100 %	29	100 %

### 3.3. *Performance of the students before and after the implementation of Classpoint*

Table 3 shows the comparison between the pretest and post-test mean scores. It shows a pre-test mean score of 12.25, while the post-test has a mean score of 19.77. These mean scores have a

mean difference of 7.51, which gain a p-value of 0.000000000000446252, less than 0.05 level of significance. Such difference suggested a significant difference between the pre-test mean scores and the post-test. This implies that the utilization of class point positively affects the learners' achievement test.

**Table 3.** Performance of the students before and after the implementation of Classpoint

Achievement Test	N	Mean	Mean Difference	T test	P value	Significant
Pre test	29	12.25	7.52	-14.24	0.0	Significant
Post test	29	19.77				

## 4. CONCLUSION

The conclusions had stated the following based on the findings: (1) The level of performance of the participants in Business Math before the use of class point was 1.65 while the level of performance of the participants after the use of classpoint was 4.9. It simply proves that after using classpoint as intervention materials, the students' level of performance increased; (2) The mean performance of the pretest and post tests are numerically greater. This suggests that the classpoint has an affirmative effect on student's performance in mathematics; (3) After the utilization of classpoint in teaching Business Math, there is a significant difference between the pre-test and the post-test mean scores. This suggests that using class points effectively has a beneficial effect on student's achievement on the test.

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