IMPROVING GRADE 7 STUDENTS' ATTITUDE TOWARDS MATHEMATICS THROUGH QUIPPER SCHOOL AND FLIPGRID

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ABSTRACT

PASTOR, MARK JOSEPH D. **IMPROVING GRADE 7 STUDENTS' ATTITUDE TOWARDS MATHEMATICS THROUGH QUIPPER SCHOOL AND FLIPGRID.** Ilocos Norte College of Arts and Trades. Schools Division of Laoag City. SY 2020-2021.

Quipper School and Flipgrid are online platforms that provide smart management tools with engaging educational content to support teachers and students all over the world. The effort of promoting 21st century education delivery in the classroom gave way to the Department of Education to become a partner of Quipper School, Lt, an eLearning platform in 2014. On the other hand, Flipgrid allows teachers to create grids for students to record or upload a video for their online classes. This study sought to determine whether the two platforms can improve the students' attitude towards Mathematics. Participants of the study involved two Grade 7 sections of Ilocos Norte College of Arts and Trades for the school year 2020 – 2021. The effects of Quipper School and Flipgrid in teaching mathematics on students' attitude towards mathematics was investigated by comparing the mean scores obtained from Attitudes Toward Mathematics Inventory (ATMI) of students in the experimental group with that of the students in the control group. The findings revealed that the students with constant or intermittent exposure to the said online platforms are more likely to demonstrate positive attitudes towards mathematics which further means that the intervention improves the students' attitudes towards mathematics. Based on this finding, teachers are encouraged to integrate digital applications like Flipgrid and to use learning management systems like Quipper School in their own respective mathematics classes to improve students' attitude towards the subject.

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"The success of every endeavor is counted not much from those who make it, but to those who helped to make it."

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-MJP

IMPROVING GRADE 7 STUDENTS' ATTITUDE TOWARDS MATHEMATICS THROUGH QUIPPER SCHOOL AND FLIPGRID

I. CONTEXT AND RATIONALE

One of the objectives of all mathematics teachers at all levels of education is to enable the students to understand and learn mathematics better. Various factors are involved in shaping the understanding and learning of mathematics. However, one of the prerequisites for understanding mathematics is students' attitude towards the subject and their desire to learn it. If students are interested in the subject they are learning, they will put effort to understand the materials and apply them (Kayati and Payan, 2014). A Stanford study showed that positive attitude toward math boosts the brain's memory center and predicts math performance independent of factors such as a child's intelligence quotient (IQ) (Digitale, 2018). Additionally, educators have long observed higher math scores in children who show more interest in math and perceive themselves as being better at it.

Unfortunately, many learners have negative mathematical experiences, beginning in the early primary years, that have impacted their attitude towards mathematics (Graven, 2015). Additionally, many students would consider Mathematics as the most difficult and dreaded subject in the country's K to 12 basic Education Curriculum. It is not because students do not have the ability, but because they have negative disposition or negative attitude toward mathematics (Kusmaryono, Suyitno, Dwijanto, & Dwidayati, 2019).

The outbreak of novel coronavirus infection, COVID-19, as a public health emergency of worldwide concern as declared by the World Health Organization in January 2020, has increased students' anxiety and affected their attitude towards

learning (Baloran, 2020). The COVID-19 pandemic has drastically impacted education. Schools closed down and mathematics teachers were facing the challenge of developing alternative educational practices, including at distance through digital technology. Hence, improvisation of instructional materials available in the local of the school is advised. The needs of alternative tool in teaching and learning come in to enhance the ability of students in academics (Viray, 2016).

Math teachers, considered as nation builders of the 21st century, are making efforts to improve student attitude towards mathematics despite the many challenges they face in the teaching and learning process (US Department of Education, April 15, 2011). Teachers are challenged to transform students' negative attitude into positive and productive one, so that they trust in mathematical ability and function to solve problems and for their future career progress (Cai, Robison, Moyer, & Wang, 2012).

In 2020, the biggest challenge of the Department of Education (DepEd) is the continuity of the teaching and learning process as the COVID-19 pandemic runs its course in the upcoming school year. Many governments are implementing measures that limit the number of people congregating in public places. Such measures have disrupted the normal functioning of schools and universities (OECD, 2020). Because the duration of such measures has been extensive – and is likely to continue in some countries, including the Philippines, for a certain time until a vaccine becomes available – leaders of public and private education institutions have put in place alternative methods for students and teachers to continue with their lessons when attending school is not possible and are working on methods that will make schools fit for working in a safe environment.

One of the strategies to address these issues and challenges in the educational sector is the shifting to online instruction in mathematics education. This involves creating a new learning environment called Learning Management Systems (LMS), digital platforms and web-based materials to convert, store, process, transmit and retrieve information and includes the services and application associated with them. In doing so, the teacher and learner must gain access to technology for improving learning outcomes (Shaik, 2013). Watson (2010) also suggested in his study that online distance learning enables a higher level of interaction and that the growing use of the internet for online distance learning facilitates interaction.

Integration of online platforms provides students with more chances for practice, self-testing, self-regulation, and self-evaluation, while teachers receive more feedback from students, save time in reading and grading, and have closer interactions with students In using web-based tools, teachers can integrate the different content areas for their students and enhance students' attitude and motivation toward the learning subject. At the same time, students can use online technology in learning and helping themselves succeed.

Additionally, students' attitudes and perceptions have been found to directly affect their satisfaction and engagement in educationally related activities (Kuh, Linzie, Buckley, Bridges, & Hayek, 2006). Students who are highly satisfied with their learning are more likely to engage in educational activities (Fredricks, Blumenfeld, & Paris, 2004; Prince, 2004) and as a result, succeed in their studies. Student participation in the classroom is also affected by "students' perceptions of and experiences within the social organization of the classroom" (Weaver, 2005). Hence, the more positive their experiences are, the more likely they are to be active participants and to learn.

In response to the effect of pandemic on students' attitudes in their learning, and with an understanding that ICT will be a fundamental requirement for work in the 21st century, the Philippines has established policies on ICT in education that sets out general principles, guidelines and strategies for online learning as one of the modalities in delivering education. As 21st century teachers, DepEd requires teachers to empower the next generation to view the world in a much broader sense, as members of a global community. Teachers of the twenty-first century must act as facilitators who teach students how to be responsible users of technology.

The effort of promoting 21st century education delivery in the classroom gave way to the Department of Education to become a partner of Quipper School (QS), Lt, an e-Learning platform. According to Yuki Naotiri, Quipper Country Manager, Quipper School's main priority is to provide public schools with tools that are innovative and equip teachers in teaching (Quipper School Philippines, 2017). QS is a learning management system that supports teachers in the classroom throughout K-12 education.

The introduction of QS in the Philippine educational system, as well as the various online platforms have pushed forward the use of blended learning and teaching in the K-12 classrooms. QS is an online learning system that provides smart management tools with engaging educational content to support teachers and students all over the world - 150,000 teachers and 1.5 million students in 8 countries (Pitagan, 2017).

Aside from QS, another platform that have been proven to be effective in improving the attitude of students in learning Mathematics is Flipgrid. In the study of McClure and McAndrews (2016), Flipgrid was recognized as a low-stakes platform that

helped students hone their public speaking skills Also, using Flipgrid helped in bringing more UDL (Universal Design for Learning) into the classroom by allowing students to also engage in verbal discussions, not only text-based ones (Flanagan, 2019). The use of Web 2.0 technologies, such as Flipgrid, in the classroom, provides a way for students to become more comfortable using videos in an ever-changing technological world, thereby forming positive outlook towards learning mathematics.

At present, there has been inadequate research conducted in the Philippines on the QS and Flipgrid in evaluating its effectiveness in improving the attitude of students in Mathematics.

Thus, the observations above strongly motivated the researcher to find out the effectiveness of said online platforms as supplemental tools in improving the Grade 7 students' attitudes towards mathematics.

II. INNOVATION, INTERVENTION AND STRATEGY

Based on previous studies, the researcher has known that ICT plays an important role in improving the mathematical disposition of students. Research has shown that the appropriate use of ICTs can catalyze the paradigmatic shift in both content and pedagogy that is at the heart of education reform in the 21st century. According to Granito, et. al. (2012), technology has the potential to be a powerful educational tool for those that have interest in it. Furthermore, teachers need to learn ways to facilitate meaningful learning in the classroom and try various approaches.

With the pandemic brought by the COVID-19, schools and universities are scrambling to enable digital and technical infrastructures to support whatever form of virtual learning that they will most likely to adopt. Online learning has been pushed further and deeper as a solution that addresses the challenges of learning continuity

amidst school closure at this time of the pandemic (Tuscano, 2020). The new normal is about conducting online learning and having different digital platforms and tools to support and enable learning.

This paves the way for the researcher to introduce an innovative approach which is the integration of different online platforms in math class to improve the students' attitude towards mathematics. With the pandemic hindering schools to conduct face-to-face interaction, teachers may utilize QS and Flipgrid in their respective Learning Continuity Plan.

Quipper School. QS is a free online platform for teachers and students, which will be utilized in the conduct of the study. It consists of two parts: LINK for teachers, and LEARN for students. Both teachers and students must register first on Quipper School to enable them to log in into the Teacher and Student Portals.

Quipper School Link is where teachers manage their classes online and check students' progress. The teacher can perform different tasks such as: 1) sending assignments and practice examinations; 2) creating educational content; 3) viewing and downloading analytics of students' progress; and 4) collaborating with other teachers of the same class or same school.

Flipgrid. Aside from Quipper School, another online platform that was used as an intervention in this study is the Flipgrid which is a social-learning video platform. It allows teachers and parents to create grids for students to record or upload a video. Students can interact with each other in this asynchronous space via their videos and they can comment, like, respond to, or provide feedback to each other.

Even though Flipgrid is a relatively new tool, educators across disciplines have taken advantage of this new medium to enhance student learning (Mango, 2019). One of

the strengths of Flipgrid is that it provides a platform that centers every student voice. Students learn from each other without the anxiety that some of them may feel as a result of being put "on the spot". A “shy” student may listen to other students’ postings before posting their own. In addition, students can practice multiple times until they are ready to post.

Quipper School and Flipgrid were used as tools in improving the students’ attitudes towards learning mathematics.

III. ACTION RESERCH QUESTIONS

Based on personal observations by the researcher and previous studies concerning the issues and solutions presented, he has come up with this thematic interest: How effective are Quipper School and Flipgrid in improving the mathematical attitude of Grade 7 students?

Specifically, this study sought to answer the following questions:

1. What is the students’ level of attitude towards mathematics from the
    a. control group; and
    b. experimental group?
2. Is there a significant difference between the level of students’ attitude towards mathematics of the control and experimental groups before and after the intervention?

IV. ACTION RESEARCH METHODS

A. PARTICIPANTS AND/OR OTHER SOURCES OF DATA AND INFORMATION

In determining the participants of the study, the researcher conducted an Attitudes Toward Mathematics Inventory (ATMI) by Tapia (1996) to four Grade 7 sections he is teaching for the current school year 2020 – 2021 wherein two sections are under online learning and two sections are under modular instruction. The researcher then determined the two sections, one from each learning modality, which have no significant difference in their level of attitude towards mathematics. The control group is the section who chose modular instruction and the experimental group is the section who chose online instruction.

Table 1 shows the distribution of the Grade 7 participants from Ilocos Norte College of Arts and Trades for the school year 2020-2021.

Table 1. Distribution of the respondents.

Group	Respondents
Grade 7 - Magnolia*	33
Grade 7 - Orchid**	40
Total	73

* Experimental Group (Online Learning Modality)
**Control Group (Modular Learning Modality)

B. DATA GATHERING METHODS

Research Design. In order to come up with a comprehensive study, the researcher adopted the descriptive quasi-experimental design. The researcher made use of two groups of students for the study: the control and the experimental group.

The descriptive analysis will describe the level of students' attitude towards mathematics for both control and experimental groups while the quasi-experimental

design will determine the effectiveness of Quipper School and Flipgrid in improving the mathematical attitude of students.

According to Corbeta (2003), quasi-experiments do not use random assignment. In practice, it is often impossible in social research to assign subjects randomly to groups, particularly when the groups are pre-constituted (e.g. school classes, work departments, etc.). Therefore, rather than randomly allocating, researchers choose a control group that is as similar to the experimental group as possible (Muijs 2004, pp.27). In this pattern, two of the present groups are matched based on specific variables (Büyüköztürk, et al. 2008).

Furthermore, an Attitudes Toward Mathematics Inventory (ATMI) was administered by the researcher in order to determine the level of students' attitude towards mathematics.

Research Instruments. The researcher utilized the Attitudes Toward Mathematics Inventory (ATMI) by Tapia (1996) consisting of 40 questions designed to measure high school students' disposition towards mathematics. Twenty-nine (29) items are positively written statements about mathematics and eleven (11) are negative. ATMI uses a five-point Likert scale with options from *strongly disagree* to *strongly agree* (Tapia, 1996). The assessment is broken down to measure four different categories including enjoyment, motivation, self-confidence, and value. The complete version of the ATMI is in appendix A.

The first category is comprised of 10 statements that measure *enjoyment.* This category measures how much students like the subject and the process of working on mathematics (Tapia & Marsh, 2004). The second category is comprised of five statements that measure *motivation.* These statements measure a student's interest in

the field of mathematics and the likelihood of pursuing it further (Tapia & Marsh, 2004). The third category is comprised of 15 statements that measure *self-confidence.* These statements measure how a student feels about mathematics in a course, as well as working on mathematics (Tapia & Marsh, 2004). In this category, a student evaluates feelings when thinking and working on mathematics. The fourth category is comprised of 10 statements that measure *value*. These statements measure the level to which a student believes mathematics is useful to them (Tapia & Marsh 2004).

Unlike other math assessments, the ATMI was designed to be brief while also capturing multiple factors that contribute to one's attitude towards math. The ratings of the respondents to the inventory items were used to assess the mathematical attitude of the students in both control and experimental groups before and after the intervention.

Data Gathering Procedure. This period included three phases: Pre-Intervention Phase, Intervention Phase and Post-Intervention Phase.

*Pre-Intervention Phase***.** Within this phase, the researcher administered the ATMI to all the Grade 7 sections he is teaching through Google Form. Students were given a link where they can accomplish the survey. Then, two sections to be considered in the study were determined by conducting Analysis of Variance with Post Hoc Test. Finally, the control and experimental groups were determined based on the preferred learning modality of the two sections.

Intervention Phase. This period concerns with the implementation of Quipper School and Flipgrid during the first quarter of the school year 2020 - 2021. The intervention was applied to the experimental group for the said grading period. The experimental group conducted online classes while the control group underwent modular instruction. The experimental group utilized Quipper School and Flipgrid in studying their

lessons in mathematics remotely, and in accomplishing their online tasks such as assignments and examinations at home. Students used the given LMS or the mobile application in accessing and submitting online tasks.

On the other hand, the control group was not given any online tasks. They utilized the printed modules in learning the subject. Lessons and assessment given to the students in online learning modality are based from these modules.

Post-Intervention Phase. After the exposure of Quipper School and Flipgrid to the experimental group, the ATMI was conducted again through Google Form to both groups and their responses were recorded, analyzed and interpreted accordingly.

Statistical Treatment. The statistical tests that were conducted included: a) Analysis of Variance (ANOVA) with Post Hoc Test; b) arithmetic mean; and c) Independent samples t-test. The ANOVA with Post Hoc Test was used in determining which two groups among all the sections taught by the researcher have no significant difference in their levels of attitude towards mathematics. In this way, two sections which are statistically equivalent in their level of attitude towards mathematics were determined.

Arithmetic Mean was used in determining the level of mathematical attitude of the control and experimental groups before and after the intervention using the following range of values with corresponding descriptive interpretation.

Range of Means	Descriptive Interpretation
4.21 – 5.00	Highly Positive
3.41 – 4.20	Positive
2.61 – 3.40	Neutral
1.81 – 2.60	Negative
1.00 – 1.80	Extremely Negative

The independent samples t-test, on the other hand, was used in determining the significance of any observed differences between two groups in their mathematical attitude after the intervention.

V. DISCUSSION OF RESULTS AND REFLECTION

In order to determine the control and experimental groups in the study, the ATMI was conducted to all Grade 7 sections being taught by the researcher namely: Orchid, Carnation, Magnolia and Rose. Their mean scores in the said survey were analyzed using ANOVA with Post Hoc Test to determine if the four groups are significantly different in their level of attitude towards mathematics and to know which two groups have no significant difference in their level of attitude towards mathematics.

Table 2. Significant difference between the four Grade 7 sections

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.243	3	.748	2.984	.033*
Within Groups	35.324	141	.251		
Total	37.567	144			

*p < 0.05

Note that in Table 2, the mean square between groups (MS = 0.748) is larger than the mean square within groups (MS = 0.251). The ratio, between-groups mean square over within-groups mean square, denoted by F which is equal to 2.984 shows the variability there is between treatment groups than within treatment groups. Also, the p-value (p = 0.033) is below the significance level of 0.05 which means that the levels of attitude towards mathematics of the four groups are not the same.

In order to determine which two groups are not significantly different in their level of mathematical attitude, results of the LSD multiple comparisons were analyzed as shown in Table 3.

Table 3. Comparison between and among Grade 7 sections

	I	J	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval
						Lower Bound
LSD	Carnation[1]	Magnolia	.275*	.12063	.024	.0369
		Orchid	.315*	.11499	.007	.0873
		Rose	.141	.11798	.234	-.0921
	Magnolia[2]	Carnation	-.275*	.12063	.024	-.5138
		Orchid	.039	.11771	.739	-.1934
		Rose	-.134	.12063	.268	-.3727
	Orchid[1]	Carnation	-.315*	.11499	.007	-.5419
		Magnolia	-.039	.11771	.739	-.2720
		Rose	-.173	.11499	.134	-.4008
	Rose[2]	Carnation	-.141	.11798	.234	-.3743
		Magnolia	.134	.12063	.268	-.1042
		Orchid	.173	.11499	.134	-.0538

[1]Modular Learning Modality
[2]Online Learning Modality
*p < 0.05

The mean difference (I - J) column reports the difference between each pair of means of the four sections. Looking at the table, LSD comparisons revealed that the pair of group means which are significantly different at the .05 level are Carnation and Magnolia (p= 0.024); Carnation and Orchid (p= 0.007) while the groups that have no significant difference in their means are Carnation and Rose (p = 0.234) and Magnolia and Orchid (p = 0.739).

It can also be noted that Magnolia and Orchid has lesser mean difference (MD = 0.39) that that of Carnation and Rose (MD = 0.141). Hence, among the two pairs who have no significant difference in their level of attitude towards mathematics, Magnolia and Orchid were selected as the two groups for the study. Magnolia is then considered the experimental group since this section is under the online learning modality while Orchid is the control group since this section is under the modular instruction.

The effects of Quipper School and Flipgrid in teaching mathematics on students' attitude towards mathematics was investigated by comparing the mean scores obtained from ATMI of students in the experimental group with that of the students in the control group as reflected in the following tables.

Table 4. Students' Level of Attitude Towards Mathematics Before the Intervention

Subscale	Before Intervention			
	Orchid*		Magnolia**	
	Mean	Description	Mean	Description
Enjoyment	3.25	Neutral	3.24	Neutral
Motivation	3.29	Neutral	3.10	Neutral
Self-Confidence	3.06	Neutral	3.09	Neutral
Value	3.66	Positive	3.86	Positive
Overall Level of Attitude Towards Mathematics	3.28	Neutral	3.32	Neutral

*Control Group (Modular Learning Modality)
* *Experimental Group (Online Learning Modality)

As shown in table 4, the mean scores of both groups (x= 3.28, x = 3.32) are considered neutral response, hence, the students in both modular and online learning modalities generally have neutral attitude toward mathematics.

However, it is important to note that the means of the two groups (x = 3.66, x = 3.86) for the *value subscale* indicate a positive attitude towards mathematics. These data indicate that most participants placed a relatively high value on learning and using mathematics. Before the intervention, participants in both learning modalities indicated a positive value of mathematics while at the same time expressing low self-confidence, motivation towards or enjoyment of mathematics.

Interestingly, at the end of the first quarter, after the intervention was conducted, there was an improvement of the attitude of students from experimental group as shown in its overall mean (x = 4.06) in Table 5.

Table 5. Students' Level of Attitude Towards Mathematics Before the Intervention

Categories	After Intervention			
	Orchid*		Magnolia**	
	Mean	Description	Mean	Description
Enjoyment	3.10	Neutral	4.02	Positive
Motivation	3.09	Neutral	4.13	Positive
Self-Confidence	2.90	Neutral	4.06	Positive
Value	3.42	Positive	4.03	Positive
Overall Level of Attitude Towards Mathematics	3.13	Neutral	4.06	Positive

*Control Group (Modular Learning Modality)
* *Experimental Group (Online Learning Modality)

After being exposed to Quipper School and Flipgrid, students under online learning modality generally showed a positive attitude towards learning mathematics (x = 4.06). Aside from maintaining a positive value in learning mathematics, the students also developed positive attitude in the other subscales of ATMI.

The *enjoyment subscale* mean (x = 4.02) showed that students enjoyed their math classes with the use of the different online platforms presented by the researcher. Thus, at the end of the quarter, students liked the subject and the process of working on mathematics. Based on their mean in *motivation subscale* (x = 4.13), students had shown positive interest in learning mathematics and will most likely to pursue it further. On the other hand, students under online instruction showed remarkable self-confidence in doing mathematics activities in class as indicated by its mean (x = 4.06). This further means that the students have positive feelings when thinking and working on mathematics.

In order to verify if there is a significant difference between the level of attitude towards mathematics between the control and experimental groups, a t-test was used in the data analysis.

Table 6. Independent Samples t-test of the level of attitude towards Mathematics of the Control and Experimental Groups

		Levene's test for Equality of variance		**t-test for Equality of Means**				
		f	Sig.	t	df	Sig.(2-tailed)	Mean difference	Standard error difference
ATMI Result	Equal Variance assumed	7.004	.010	9.750	71	.000	.93612	.09601
	Equal variance not assumed			10.184	66.191	.000	.93612	.09192

*p < 0.05

Results of the t-test shown in Table 6 revealed that there is a significant difference (p = 0.010) between the ATMI results of the control and experimental groups, hence, the intervention is effective in improving the students' level of attitude towards mathematics. The use of Quipper School and Flipgrid has greatly impacted the students' mathematical attitude.

Consequently, there is a significant difference between the two methods of instruction in teaching mathematics. Compared to modular instruction, using Quipper School and Flipgrid in mathematics class enables the teachers to better engage their classes where students are more empowered to learn, and schools are able to cultivate a learning environment fit for the new generation of learners. Quipper School and Flipgrid are fun, engaging, and an effective way to both teach and learn in the 21st century. Furthermore, in using the said platforms, teachers can send assignments and quizzes for students to access anytime, anywhere with a gamified feature that appeals to digital natives, and students can create videos as a way of expressing what they have learned in the subject, which cannot be found in the modules.

Thus, the findings revealed that the students with constant or intermittent exposure to the said online platforms are more likely to demonstrate positive attitudes towards mathematics which further means that the intervention improves the students' attitudes towards mathematics. The results of this study are similar to those of Pitagan (2017) and Guillen (2018) who studied the effect of Quipper School in students' test scores, attendance rate and assignment submission in teaching Mathematics; and in teaching English, respectively.

Based on the findings of the study, the following recommendations are formulated: 1.) Teachers, administrators, and parents should encourage students to choose online learning modality in learning mathematics; 2.) Teachers are encouraged to integrate digital applications like Flipgrid and to use learning management systems like Quipper School in their own respective mathematics classes.; 3.) Teachers are encouraged to use Quipper School and Flipgrid to motivate and build the students' self-confidence in learning mathematics; 4.) Teachers may use these different platforms as alternative tools to provide enjoyment and develop positive values among the students; and 5.) Schools should invest more on providing access to students to internet for academic purposes.

VI. ACTION PLAN

Since the study concluded that the Quipper School and Flipgrid are effective innovative interventions in improving the students' attitude towards mathematics, findings of the study may be further disseminated to teachers in the school or division through a Learning Action Cell (LAC), a research forum or a webinar. All interested mathematics teachers in the school may be guided with regards to the proper utilization of these platforms in their math classes through the said information dissemination

drives with the permission of the Schools Division Superintendent and concerned school heads.

With the guidance and support of the researcher, the teachers in the division will be oriented on what to do for the successful implementation of the online platforms. Specifically, they will be given a set of instructions in the implementation and manipulation of the said platforms for a systematic and organized online classes. A series of focus group discussion may also be conducted to determine the extent of effectiveness of the intervention in the improvement of academic performance of the students.

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VIII. FINANCIAL REPORT

ACTIVITIES	ESTIMATED COST
Drafting the Research Proposal	
• Supplies	1,500.00
• Printing Cost	1,500.00
Revision of the Research Proposal	
• Supplies	1,500.00
• Printing Cost	1,500.00
Monthly Internet Subscription of the Class	
• Internet Charges (5 months)	7,500.00
Reproduction of Pretest and Posttest	
• Supplies	1,500.00
• Printing Cost	1,500.00
Writing the Final Manuscript	
• Supplies	1,500.00
• Printing Cost	3,500.00
• Travel Expenses	1,000.00
Production of Research Manuscript	5,000.00
Submission of the Manuscript	2,500.00
TOTAL	30,000.00