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Research Article

Enhancing Academic Performance in Mathematics of Grade 11 Students through Pre-Recorded Lesson and Home Tutorial Session

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ABSTRACT

Introduction: Under the new normal circumstances, a lot of students had the most difficulty learning effectively and succeeding in school, and they still frequently struggle. The majority of students were having problems understanding the modules and other subjects, particularly math. Consequently, students truly need the assistance of the teachers in each lesson in mathematics for the self-learning module. **Method:** The study employed descriptive research utilizing a quantitative approach through the comparative method to determine if there is a significant difference in the pre-test and post-test results of the students before and after giving pre-recorded lessons and home tutorial sessions. The respondents to the study were the 32 Grade 11 students at Jomalig National High School who took the General Academic Strand (GAS). **Results:** The findings of the study revealed that there were notable and significant differences between the pre-test and post-test scores of the students involved in the interventions. The pre-test and post-test data revealed a mean of 12.25 and 26.5312, respectively. The data also revealed a computed t-value of 24.52165006 and a p-value of 3.66137E-22 at the 0.05 level of significance, which shows that there is a significant difference in the pre-test and post-test scores of the students while giving the pre-recorded lesson and home tutorial session. The respondents were chosen purposefully. **Conclusions:** Giving pre-recorded lessons and home tutorial sessions had a massive effect on the academic performance in mathematics of grade 11 students; thus, these enhanced the academic performance of grade 11 students in mathematics.

Keywords: Academic performance, Pre-recorded lesson, Home tutorial

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Introduction

The COVID-19 pandemic presented unusual problems to all parties involved, including teachers, parents, and most importantly, students. When using the modular learning style in mathematics, the new normal education approach had a considerable impact on student performance. The study by Bibon and Barcenas (2021) states that some problems encountered in modular distance learning include support systems, which revealed that their immediate family support system could not aid in their academic needs. Indeed, parents or guardians were essential workers in the modular learning modality. However, they were short on time when it came to assisting children with their homework at home. Maybe they were too focused on their work and lacked the knowledge and abilities to aid students in their study of mathematics. According to the study of Gueta and Janer (2021), many students struggled the most with learning properly and succeeding in school under the new normal circumstances and now find it tough in some cases. The majority of students were having problems understanding the modules and other subjects, particularly math. Some students complained that most mathematics problems were tough to solve and that no thorough explanations were offered. Calculation alone was not sufficient to solve a problem; the issues also needed to be fully understood and analyzed.

Based on the aforementioned feedback, teachers should take appropriate action. The use of a self-learning mathematics module by students should be encouraged. The Department of Education issued Regional Memorandum No. 393 s. 2020, which stated that in order to provide assistance or remediation for students who do not have access to learning facilitators at home, the subject teacher or a cluster learning facilitator may conduct a home visitation in accordance with social distancing protocols or conduct communication through text messages, phone calls, live chats, or other available forms of communication. The necessary learning resource for each learning modality may also be supplemented by other learning texts, students' materials, MELCs-aligned teacher-made videos, audio lesson modules,

activity sheets, and interactive electronic materials.

Meanwhile, the Department of Education, No. 32 s. 2020, stated that learning support must be prioritized for communities or barangay schools with a higher number of learners or households. Priority in the deployment of learning support aides will be given to learners who are unable to manage independent learning, including those with disabilities and special needs, as well as households without any available family members or responsible adults who can support the child's distance learning. It is supported by the study of the Center for Education Statistics and Evaluation (2015), which revealed that one approach to addressing the disparity in student outcomes is through remedial tutoring programs aimed specifically at improving the school performance of students who need attention. Consequently, the lessons from the self-learning module will be obtainable to students. Students truly need the assistance of the teachers in each lesson in mathematics for the self-learning module, as can be seen in the aforementioned statement above. These actions will guarantee that teachers impart the appropriate knowledge needed for students to learn the lessons in mathematics. However, Jomalig National High School students are now performing poorly in mathematics. They rarely provided an output for the subject, and when they did, no response was provided. Consequently, as a researcher, it is vital to determine if there is a significant difference in the pre-test and post-test results of the students before and after giving pre-recorded lessons and home tutorial sessions. Thus, the researcher is eager and motivated to find out the result of this study (Alraimi et al., 2015).

Methods

The study employed descriptive research utilizing a quantitative approach through the comparative method to determine if there was a significant difference between the pre-test and post-test results of the students before and after giving pre-recorded lessons and home tutorial sessions. In fact, the school included in this study was Jomalig National High School, lo-

cated in Brgy. Talisoy, Jomalig, Quezon. This institution provided only a senior high school (SHS) in Jomalig, Quezon, where the respondents in this study were grade 11 students, specifically students who enrolled in the General Academic Strand (GAS). The respondents of the study were the 32 Grade 11 students of Jomalig National High School who took General Academic Strand (GAS) during the first semester of the school year 2021–2022. In fact, there were two sections at Jomalig National High School that were currently taking GAS. However, only one section was chosen by the researcher for this study. Thus, the respondents were chosen purposefully (Bento & Ribeiro, 2013).

Subsection 1

Parental consent was requested by the researcher from the parents of the respondents. Then, the researcher sent a request for a consent letter and approval to the district supervisor. In fact, a duplicate of the signed letter was forwarded to the Division of Quezon Office for final approval by the Division Superintendent. All of this was done by following safety protocols (Cabual, 2021).

Subsection 2

For conducting the pre-test and post-test of this study, the researcher prepared a draft of the test as a research instrument and as the primary source of information. Two lessons were covered in the pre-test and post-test exams in accordance with the most essential learning competencies. The instruments went through content validation by the Public Schools Division Supervisor of the Jomalig district, Dr. Sharon A. Villaverde. Another validator was a doctoral student who was currently studying at the Manuel S. Enverga University Foundation named Maam Earludgin B. Torrente. The instrument was revised to improve the content, and the result was valid and reliable before the administration of the instrument. Suggestions, corrections, and comments from the adviser were taken into consideration in making the final draft of the instrument. Moreover, the research instruments underwent pilot testing and reliability testing to be more credible. Grade 12 students studying at Jomalig National

High School were involved in the pilot testing. Using split-half analysis, the correlation coefficient was high, which means high reliability. Thus, after the validation of the instruments, pilot testing, and reliability testing, the instruments were used in the study.

The researcher went to the place of the respondents to get permission from the barangay chairman to conduct the study formally and legally. After the approval of the permission, the researcher conducted the pre-test exam in a limited face-to-face setting, following the safety protocols. Then, after the pre-test exam, the researcher gave the pre-recorded lesson as one of the interventions. One week after the pre-test examination, a home tutorial session followed to continue the interventions. Afterward, a post-test exam was conducted through limited face-to-face contact, again following the safety protocols. In fact, limited face-to-face interaction in conducting the pre-test and post-test avoided cheating among the respondents since the researcher was present in the activity. Thus, the result was valid and reliable.

The researcher was eager to determine if there was a significant difference in the pre-test and post-test results of the students before and after giving pre-recorded lessons and home tutorial sessions (Centre for Education Statistics and Evaluation, 2015).

Results and Discussion

The findings of the study revealed that there were notable and significant differences between the pre-test and post-test scores of the students involved in the interventions. The pre-test and post-test data revealed a mean of 12.25 and 26.5312, respectively. The data also revealed a computed t-value of 24.52165006 and a p-value of 3.66137E-22 at the 0.05 level of significance, which shows that there is a significant difference in the pre-test and post-test scores of the students while giving the pre-recorded lesson and home tutorial session. Consequently, giving pre-recorded lessons and home tutorial sessions had a massive effect on the academic performance in mathematics of grade 11 students. Thus, giving a pre-recorded lesson and a home tutorial session enhanced the academic performance of grade 11 students in mathematics.

Table 1. T-test: Paired Two Sample Means

	PRE-TEST SCORES	POST TEST SCORES
Mean	12.25	26.53125
Variance	12.38709677	5.998991935
Observations	32	32
Pearson Correlation	0.436889182	
Hypothesized Mean Difference	0	
Df	31	
t Stat	-24.52165006	
P(T<=t) one-tail	3.66137E-22	
t Critical one-tail	1.695518783	
P(T<=t) two-tail	7.32274E-22	
t Critical two-tail	2.039513446	

Conclusion

Based from the findings, the following conclusions were derived:

1. Students learn better during pre-recorded lessons and home tutorial sessions.
2. The home tutorial sessions for the students must always consider the safety protocols during a pandemic.
3. A pre-recorded lesson must always be provided in conjunction with a home tutorial session.
4. Activities for the students that involve parents promote harmonious relationships that have a positive effect on students learning and skill development.

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