

Effectiveness of Printed Modular Distance Learning Modality to the Performance of the Selected Grade 9 Students in Science

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Abstract — This study primarily aimed to determine the effectiveness of printed modular distance modality to the performance of the selected Grade 9 students in Science. The findings of the study were the bases for a proposed Recommendation plan. The study utilized complete enumeration in identifying the respondents of the study. This study used the Quasi Experimental method of research to determine the aforementioned variables. The test of difference between the scores in the pre-test and post-test of selected Grade 9 students before and after the implementation of Printed Distance Modular Learning Modality in teaching Science subject. Based on the findings the study on the test scores of the pupils being tested there are no impact brought about by the new modular approach applied in the delivery of the most essential learning competencies having the computed p value of 3.36 higher than the level of significance of 0.05 since the computed p values is greater than the value on the level of significance on the data being treated the hypothesis which stated that there is no significant difference between the pre-test and post-test performance in Science of selected Grade 9 students before and after the implementation of the printed Modular Distance Learning Modality is rejected. The results implied that implementation of the printed Modular Distance Learning Modality in the delivery of the most essential learning competencies in quarter 2 in Science subject is not really a big help in improving the academic performance of the selected Grade 9 students because of the fact that there was a decrease in the pretest compared to the posttest result before and after giving the summative test questionnaire to the students thus, it does not really promotes to increase the motivation, participation and completion of the learning modules to be answered by the students, it does not really ignites students' desire to learn the type of learning strategy in acquiring knowledge and skills particularly in Science subject specially during this time of pandemic.

Keywords — *Printed Modular Distance Learning Modality; Academic Performance; Grade 9 Students; Science*

I. Introduction

Distance education, also called distance learning, is the education of students who may not always be physically present at a school. Traditionally, this usually involved correspondence courses wherein the student corresponded with the school via post or through a given module. Today, it involves online education and covers Printed Modular Activity. For Tahud National High School, LESF reveals majority of the parent/ guardian favors Distance Modular Printed Learning for their child.

Teachers are the spinning wheel over circumstances. Despite the pandemic, learning can't be compromised. COVID-19 has caused a many change not just on the way we practice new normal but more on the delivery of education. Quality education may be difficult to spell now considering the closure of schools and extension of classes opening, this pandemic has crystalized the dilemma of the government of acquiring both safety and quality. Policymakers has been in constant twist of achieving a fair law while DepEd is trying to fit in order to meet both ends-abiding while facilitating learning.

Facilitating learning within this health crisis is crucial. Through time, learning has been tested for an innovation. Crucial doesn't mean, unachievable. As the famous line says, "If there's a will, there's a way". For the past months since the start of the pandemic, teachers have been brainstorming possible means of defying the trying times of assuring quality education. And Distance Learning Approach is one of the considered best option.

Science is one of the hardest subjects under k to 12 curricula due to its series of experimental activities that needs close supervision. Upon empirical observation from the last school year, learners tend to confuse themselves over activity instructions considering the vague topic being unclassified. It usually resulted to low academic performance. The problem goes along the new situation, where students will be working activities at home without a teacher to closely look into their activities. Will Printed Modular Distance Learning Approach be effective on attaining quality performance to the selected Grade 9 Science?

The researcher is greatly motivated to focus on his study on the effectiveness of Printed Modular Learning modality to the performance of the Grade 9 students in the delivery of the most essential learning competencies in Science in gearing towards modernization of today's classroom for it has placed a great impact on the attainment of educational goals and targets towards a quality teaching and better learning experience.

This study aimed to determine Effectiveness of Printed Modular Distance Learning Modality to the Performance of the selected Grade 9 Learners in Science. The findings of the study served as a basis of a proposed Recommendation plan.

Specifically, this study sought to answer the following questions.

1. What is the pretest performance of the Grade 9 students before the integration of Printed Modular Distance Learning Modality?
2. What is the post-test performance of the Grade 9 students after the integration the Printed Modular Distance Learning Modality?
3. Is there a significant difference on the pretest and post-test performance of the Grade 9 learners before and after the intervention of Printed Modular Distance Learning Modality?
4. What recommendation plan can be proposed based on the findings of the study?

II. Methodology

Design. This study utilized the Quasi-Experimental type of research in gathering the responses employing the quantitative approach. Tahud National High School is the main locale of the study. The 58 selected Grade 9 students are the main respondents of the study and the data based on the students' performance ratings based on the pre-test and posttest results were utilized. This research is mainly focused to gather data on: The effectiveness of Printed Modular Distance learning Modality; The performance of the Grade 9 students in the pretest and posttest before and after the implementation of the aforementioned modality; Proposed recommendation plan is based on the findings of the study.

Sampling. There are 58 students who are included in the study and the primary means of reach is through Facebook account – such as messenger as group chat, they were also reached through texting using their cell numbers.

Research Procedure. The researcher formulated the following procedures as guide in gathering of data:

The researcher asked permission from the Schools Division Superintendent as well as to the Public-School District Supervisor (PSDS) to conduct a research study in the school.

The researcher immediately conducted an orientation to the teachers who were conducted the test. The research instrument was administered to the identified respondents. Then the teacher used Printed Modular Distance Learning Modality within 40 days in delivering the Science Competencies. Prior to the giving of the Printed modules to the Grade 9 students, the researcher gave the pre-test examination using the validated Summative Test Questionnaires to get the gauge of their knowledge and skills to the different Most Essential Learning Competencies in Science.

After conducting the 40-day activities through giving the printed SLMs to the identified participants, the researcher was immediately gave the posttest examination through the use of the

Summative Test Questionnaire for Quarter 2 to determine whether the Printed Modules in Distance Learning is effective to their performance academically in Science Subject.

The Researcher was consolidated the Pretest and Posttest Results of the Grade 9 students in Science using MS Excel and submitted to the statistician for treating the data and identify whether there is effectiveness on the aforementioned variables.

Ethical Issues. The right to conduct the study was strictly adhered through the approval of the principal, approval of the Public-School District Supervisor and the approval of the Schools Division Superintendent of the Division. Orientation of the respondents both the students and the teachers were done separately. In the orientation, the issue on, an Informed Consent Form was accomplished prior to the giving of the summative test questionnaires either in school or delivered to their respective homes following the IATF and DepEd Protocols.

Treatment of Data. The effectiveness of the Printed Modular Distance Learning Modality focused was treated through a weighted mean and descriptions (refer to appendices for the scoring and description). The data on the pretest and posttest was presented through Simple Percentage and T-test for mean difference to test whether the hypothesis is rejected or acceptance at 0.5 level of significance.

III. Results and Discussion

Table 1

Pre-Test Performance of Selected Grade 9 Students In Science

Score Range	Description	Grade 9	
		Frequency	%
33-40	Excellent	4	7
25-32	Very Good	13	22
17-24	Good	19	33
9-16	Fair	19	33
0-8	Poor	3	5
Total		58	100
Weighted Mean		21.21	Good

Table 1 presents the pre-test performance data of the selected Grade 9 students before the implementation of Printed Modular Distance Learning Modality which are presented in terms of their level of knowledge in relation to their learning skills in a specific Most Essential Learning Competencies in Quarter 2. The table 1 shows that in the poor level of performance which has a score range from 0 to 8, there were 3 students or 5 percent on the said level for both in the pre-test scaling of performance. From the score ranging from 9-16 which has a descriptive value of a Fair level of performance, majority of the pupils belong to this level having 19 students or 33 percent out of the 58-total number of respondents or 100%. In the good level with a corresponding score range equivalent to 17-24, during the pre-test majority of the respondents belong to this level which has equal number of respondents of 13 or 33 percent having equal to the fair level of performance. In the very good level ranging the score from 25-32 there were 13 respondents which has an equivalent percentage of 22. Furthermore, in the excellent level in the performance before the testing on the effectiveness of Printed modular Distance learning Modality, there were 4 or 7 percent which brought them to the highest level of performance.

The results in table 1 implies that though the pupils have not yet experienced the printed Modular Distance Learning Modality, the students still able to learn in their own pace of learning considering the results in the pre-test having the weighted mean equal to 21.21 (good). This is further explains that due to the lockdown of some places or even quarantine to their respective

homes, the students may be find another ways and means to learn in their lessons.

Table 2
Post-Test Performance of Selected Grade 9 Students in Science

Score Range	Description	GRADE 9	
		Frequency	%
33-40	Excellent	2	3
25-32	Very Good	9	16
17-24	Good	22	38
9-16	Fair	20	34
0-8	Poor	5	9
Total		58	100
Weighted Mean		21.00	Good

Table 2 presents the posttest performance of the selected Grade 9 students after the implementation of Printed Modular Distance Learning Modality which are presented in terms of their level of knowledge in relation to their learning skills in a specific Most Essential Learning Competencies in Quarter 2.

The data presented shows that the posttest performance of the Grade 9 students in Science started in the poor and fair level of performance which have the score ranges from 0 to 8 and 9 to 16 respectively, in the said level for both in the post-test scaling of performances, there were 5 or 9 percent and 20 students or 34 percent. In the good level with a corresponding score range equivalent to 17-24, during the post-test the respondents belong to this level which has equal number of respondents of 22 or 38 percent which considered as majority level of performances while in the very good level having the score ranges from 25-32 has 9 number of respondents or 16 percent. Furthermore, in the excellent level (33- 40) in the performance testing on the effectiveness of the printed modular distance learning modality, during the post-test, there only 2 or 3 percent from the total number of 58 respondents or 100 percent which brought them to the highest level of performance. The results in table 2 implies that the students which experienced the new implementation of modular distance learning modality through giving of printed materials

is not really that effective to cope up with their pace of learning in the new normal of delivering the most essential learning competencies in Science. The main reason for this results it is because learning science is quite difficult when there are no actual learning delivery and contact with the teacher and students due to the competencies that needs more time in learning with lot of actual activities to be done by the teacher prior to the abstraction and application to be made by the Science Teacher. Hence, the Most essential learning competencies in Science in order for them to be delivered and hit the expectation to the students, it will be delivered in other mode of learning other than printed modular distance learning modality. The respondents' performances in Science did not really find their strength on how to improve themselves academically in science considering the results in the post-test having lower value compared to the pretest with a weighted mean equal to 21.00 (good). On the other point of view, Since the weighted mean of the Grade 9 students resulted to a Good level of performance, it means that the printed modular distance learning modality can help the students maintain their performance in learning Science subject considering that it did not go down to a fair level of performance.

Table 3

Test of Difference Between the Scores in the Pre-test and Post-test Scores

Groups	Test Scores		p value	Level of Sig	Decision	Interpretation
Grade 9	Pre	21.21	3.36	0.05	Fail to Reject H_0	Not Significant
	Post	21.00				

Table 3 presents the test of difference between the scores in the pre-test and post-test of selected Grade 9 students before and after the implementation of Printed Distance Modular Learning Modality in teaching Science subject. Based on the findings the study on the test scores of the pupils being tested there are no impact brought about by the new modular approach applied in the delivery of the most essential learning competencies having the computed p value of 3.36 higher than the level of significance of 0.05 since the computed p values is greater than the value on the level of significance on the data being treated the hypothesis which stated that there is no significant difference between the pre-test and post-test performance in Science of selected Grade 9 students before and after the implementation of the printed Modular Distance Learning Modality is rejected. The results implied that implementation of the printed Modular Distance Learning Modality in the delivery of the most essential learning competencies in quarter 2 in Science subject is not really a big help in improving the academic performance of the selected Grade 9 students because of the fact that there was a decrease in the pretest compared to the posttest result before

and after giving the summative test questionnaire to the students thus, it does not really promotes to increase the motivation, participation and completion of the learning modules to be answered by the students, it does not really ignites students' desire to learn the type of learning strategy in acquiring knowledge and skills particularly in Science subject specially during this time of pandemic.

IV. Conclusion

Based from the findings of the study, the Printed Modular Distance Learning Modality has no impact in improving the academic performance of the selected Grade 9 pupils in Science. Furthermore, the utilization of different techniques in delivery of lesson other than the printed modular distance learning modality could be tried in order to find its effectiveness.

V. Recommendations

1. The proposed recommendation plan should be utilized.
2. The teachers in Science should implement another modular distance learning modality in the delivery of the most essential learning competencies to augment them in learning Science Subject specially for those topics that the students find difficult to understand and comprehend.
3. The school head should conduct Webinar (teleconferencing) through google meet, zoom which are related to the different distance learning modality to improve students and teacher's competence.
4. The School Head should closely monitor and evaluate the teacher's activities specially in this time of pandemic on the delivery of lesson to assess the academic performance of the students in Science and to other subjects.
5. All teachers in the school should give worksheets-activity sheets/ self-learning kit to their pupils with the touch of another learning modality.
6. The School Head should include the procurement the different materials that could augment in the utilization of another learning modality to help the teachers to create

more interactive learning of the students specially that most of the time they will in their respective homes.

7. The school head together with all the teachers, PTCA should ask any type of assistance to the different internal and external stakeholders in acquiring additional materials to support the program being implemented.

In relation to the abovementioned, the researcher is giving the authority to those future researcher to conduct or do the same study to verify the usability and significance of the study in order to improve the performance profile of the pupils in all subject areas in the curriculum.

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