
Implementation of Modular Distance Learning Modality in the Performance of Grade V Pupils in Math

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Abstract — The study aimed to determine the significant relationship between implementing modular distance learning modality in delivering instructions, learning and development, learning assessment, health and safety protocols, partnership and academic performance of Grade V pupils in Math. Utilizing the descriptive-correlational research design for an in-depth analysis of the study, the researcher utilized the modified researcher-made survey questionnaire taken from the Monitoring Tool of DepEd Leyte Division to implement modular distance learning modality. Simple Percentage, Weighted mean and Chi-Square were the statistical tools used. The researcher found out that the extent of implementing modular distance learning modality in the delivery of instructions, learning and development, learning assessment, health and safety protocols, partnership is high while the academic performance of Grade V pupils is passed. Likewise, it was found out in the study that there is a significant relationship between the extent of implementation of modular distance learning modality in the delivery of instructions, learning and development, learning assessment, health and safety protocols, partnership and academic performance of Grade V pupils in Math. Thus, to effectively implement modular distance learning modality, teachers, learning facilitators and other school stakeholders should be equipped with the necessary knowledge, skills, attitudes and materials and that they will observe the health and safety protocols of the local IATF strictly and strengthen a strong partnership to stakeholders in order to attain quality and accessible education for all school children.

Keywords — *Implementation of Modular Distance Learning Modality, Academic Performance*

I. Introduction

The COVID-19 pandemic poses challenges to various sectors, especially in responding to basic rights. With the physical distancing and community quarantine being among the measures to contain COVID-19, basic education is heavily affected as schools and community learning centers are closed for physical conduct. As the country continues to confront different issues brought about by this virus, the Department of Education (DepEd) is addressing the challenges in the basic education for the school year 2020-2021 through its Basic Education Learning Continuity Plan (BE-LCP) under DepEd Order No. 012, s. 2020 (1).

The BE-LCP is consistent with the mandate of Section 1, Article XIV of the 1987 Constitution for the state to protect and promote the right of all citizens to quality education at all levels and to take appropriate steps to make such education accessible to all. Under Section 6, Chapter 1 of Republic Act No. 9155, or the Governance of Basic Education Act of 2001 (2), DepEd is vested with the authority, accountability, and responsibility for ensuring access to, promoting equity in, and improving the quality of basic education. Hence, the BE-LCP aims to ensure the health, safety, and well-being of the learners, teachers, and personnel in the time of COVID-19, while finding ways for education to continue amidst the crisis. In particular, the BE-LCP has been designed with a legal framework responsive to the “new normal,” keeping in mind the constitutional mandate to uphold all citizens' right to quality education at all times.

With the result of the present survey during the conduct of the enrollment, it was revealed that parents choose the modular distance learning modality using the self-learning modules crafted by the region. Within the two months of implementing this learning modality, it was found out that mathematics subjects rank last in terms of accomplishments and with correct responses in their modules among the learning areas. Most of the Grade V pupils failed to answer all the activities stipulated in the modules. During the teachers' monitor, it was revealed by the pupils that they have difficulty understanding the concepts in Math due to the teacher's absence to explain the concept further. It was also revealed by the learners that most of their learning facilitators had limited knowledge in Math.

Mathematics is considered the mother of all learnings in both Arts and Sciences. It is a tool for understanding structures, relationships and patterns to produce solutions for complex real-life problems. However, many students possessed of negative perception on mathematics as an academic discipline. This feeling effectively hindered their potential to learn and understand mathematical problem. Consequently, for them to cope with the negative perception, modern day teachers and scholars employed innovations in teaching mathematics to help students overcome fears and improve their performance on the subject. In the above premise, the researcher decided to conduct this study to evaluate the extent of implementation of the modular distance learning modality and determine its relationship to Grade V pupils' performance in Math. A

proposed improvement plan was formulated based on the findings of the study. Further, it sought to answer the following sub-problems:

1. What is the extent of implementation of modular distance learning modality in terms of the following:
 - 1.1 Delivery of instruction;
 - 1.2 Learning and development;
 - 1.3 Learning assessment;
 - 1.4 Health and safety protocols and
 - 1.5 Partnership?
2. What is the performance of Grade V pupils in Math in the 2nd quarter?
3. Is there a significant relationship between the following extent of implementation of modular distance learning modality and academic performance of grade V pupils in Math in the 2nd quarter:
 - 3.1 Delivery of instruction;
 - 3.2 Learning and development;
 - 3.3 Learning assessment;
 - 3.4 Health and safety protocols and
 - 3.5 Partnership?
4. What improvement plan can be proposed based on the findings of the study?

II. Methodology

Design. This study employed the descriptive- correlational research design to determine the extent of implementation of modular distance learning modality in the delivery of instructions, learning and development, learning assessment, health and safety protocols, partnership and academic performance of Grade V pupils in Math. Cambalong Elementary School, Merida District, Leyte Division is the main locale of the study. The six (6) teachers and 81 Grade V pupils enrolled in the current school year are the study respondents and modified researcher-made survey questionnaire were utilized to gather the data. This research is mainly to gather data on: The extent of implementation of modular distance learning modality in the delivery of instructions, learning and development, learning assessment, health and safety protocols, partnership; The Academic Performance of Grade V pupils in Math; The relationship between the dependent and independent variables; Proposed Improvement Plan based on findings of the study.

Sampling. There are six (6) teachers and 81 Grade V pupils included in the study. The primary means of reach is face-to-face interaction with approved requests from the Local IATF and following the prescribed Health Protocols amidst pandemic. Complete enumeration was employed in choosing the respondents of the study.

Research Procedure. The researcher prepared the research design and tools to be utilized in the study. Approval from the Schools Division Superintendent, Public School District Supervisor, and School Principal was sought. Thesis proposal was submitted and approved by the panel of examiners of the school. Upon the approval, the researcher proceeded on data gathering. A permit from the respondents was sought. An orientation was conducted and tools were clearly explained. Answering the survey was done. Different tools were utilized to gather the data needed. To gather the data on the extent of extent of implementation of modular distance learning modality in the delivery of instructions, learning and development, learning assessment, health and safety protocols, partnership, a modified researcher-made survey questionnaire is used while to measure the performance of Grade V pupils in Math, the 2nd quarter grade of the pupils in Math was gathered and used. Finally, for the academic performance the researcher gathers the result of the modules for the 2nd quarter. This survey was submitted to the District and School Head for approval and it was pre-tested to other schools. After accomplishing the tool, retrieval, tallying and treatment of data was done. Analysis and interpretation of data. Making of Proposed Improvement Plan.

Ethical Issues. The study's right to conduct was strictly adhered through the principal's approval, approval of the Superintendent of the Division and approval of the District office under BERF guidelines. Orientation of the respondents were done. A written permission was sought to the respondents' confidentiality and anonymity was discussed requiring them not to write their names on the tools. For Qualitative data.

Treatment of Data. The extent of implementation of modular distance learning modality in the delivery of instructions, learning and development, learning assessment, health and safety protocols, partnership and academic performance of Grade V pupils in Math was presented through the Simple Percentage and Weighted Mean. The Chi-Square was used to determine the relationship between the variables.

III. Results and Discussion

Table 1
Extent of Implementation of Modular Distance Learning
on the Delivery of Instruction

STATEMENTS	Weighted Mean	Description	Interpretation
IDELIVERY OF INSTRUCTION			
1. The teacher had adopted schemes or strategies and methodologies to determine whether there is really learning that happened/has been happening inside the home.	4.00	Often	High
2. The teacher has crafted contextualized tools and used it to determine the learning of the pupils at home.	4.00	Often	High
3. The teacher is aware of their responsibilities in assessing the different processes in the modular distance learning modality.	4.60	Always	Very High
4. The teacher immediately addresses the issues and challenges encountered by the learning facilitators, pupils and stakeholders in the implementation of modular distance learning modality.	4.80	Always	Very High
5. The teacher has crafted plans to sustain the positive results or address the gaps in the implementation of modular distance learning modality.	4.00	Often	High
AVERAGE	4.28	Often	High

Table 1 presents the extent of implementation of modular distance learning modality on the delivery of instructions. It was revealed on the table that the extent of implementation of modular distance learning modality on the delivery of instructions has an average mean of 4.28 which is interpreted as high. This means that teachers often have adopted schemes or strategies, methods and techniques to determine that there is learning to happen to the pupils at home and they are able to craft contextualize tools to monitor pupil's performance on modular distance learning modality. This implies that teachers can monitor the pupils' performance while learning at home with their modules and other learning materials by using a contextualize monitoring tools. They make sure that instructions are delivered to the pupils despite this pandemic through the use of modules. Moreover, in this table, the indicator with the highest mean of 4.80 cited that teachers

immediately address the issues and challenges encountered by the learning facilitators, pupils, and stakeholders in implementing modular distance learning modality. On the other hand, the indicator with the lowest mean of 4.00 states that teachers had adopted schemes or strategies and methodologies to determine whether there is really learning that happened/has been happening inside the home, they have crafted contextualized tools and used it to determine the learning of the pupils at home and crafted plans to sustain the positive results or address the gaps in the implementation of modular distance learning modality.

Table 2
The extent of Implementation of Modular Distance Learning
in the Learning and Development

STATEMENTS	Weighted Mean	Description	Interpretation
II. LEARNING AND DEVELOPMENT			
1. The teacher has prepared strategies to help the parents effectively and efficiently facilitate the learning process.	5.00	Always	Very High
2. The teacher has interventions to assist the kinds of parents (like busy parents, I don't care and indifferent attitude about education and who are not literate and numerate).	4.00	Often	High
3. The teacher has formulated schemes/strategies to equip the implementers in facilitating learning under the new normal situation.	4.00	Often	High
4. The teacher is equipped with the knowledge, skills and attitude in the implementation of modular distance learning modality.	4.65	Always	Very High
5. The teacher has crafted plans to sustain the positive results or address the gaps as the pupils learn at home through the implementation of modular distance learning modality.	4.00	Often	High
AVERAGE	4.33	Often	High

Table 2 presents the extent of implementation of modular distance learning modality on learning and development. It was revealed on the table that the extent of implementation of

modular distance learning modality on learning and development has an average mean of 4.33 which is interpreted as high. This means that teachers are equipped with the knowledge and skills to implement modular distance learning modality and have conducted capacity building to learning facilitators to assist and guide their children while learning at home using the modules. This implies that teachers are aware of their roles on helping the learning facilitators equipped with their responsibilities while implementing the modular distance learning modality. The indicator which shows the highest mean of 5.00, states that teachers have prepared strategies to help the parents effectively and efficiently facilitate the learning process. While the indicator with the lowest mean of 4.00 shows that teachers have interventions to assist the kinds of parents (like busy parents, I don't care and indifferent attitude about education and who are not literate and numerate). They have formulated schemes/strategies to equip the implementers in facilitating learning under the new normal situation. They have crafted plans to sustain the positive results or address the gaps as the pupils learn at home by implementing modular distance learning modality.

Table 3
Extent of Implementation of Modular Distance Learning
on the Learning Assessment

STATEMENTS	Weighted Mean	Description	Interpretation
III. LEARNING ASSESSMENT			
1. The teacher has formulated assessment tools to determine the learning outcomes of the pupils while learning at home.	4.80	Always	Very High
2. The teacher has formulated strategies to address the pupils unable to cope with the lessons.	4.00	Often	High
3. The teacher responded to issues and challenges encountered by the implementers in assessing the learning of their children.	4.00	Often	High
4. The teacher assesses the pupil's total development through the contextualized assessment tool crafted.	3.70	Often	High
5. The teacher formulated plans to strengthen or sustain the learning of the pupils while at home.	4.00	Often	High
AVERAGE	4.10	Often	High

Table 3 presents the extent of implementation of modular distance learning modality on learning assessment. It was revealed on the table that the extent of implementation of modular distance learning modality on learning assessment has an average mean of 4.10 which is

interpreted as high. This means that teachers had formulated assessment tools to measure the performance of the pupils based on the competencies learned by them using the modules and other learning resources for modular distance learning modality and conducted such to the pupils. This implies that teachers conducted a regular assessment of learning to monitor the pupils' performance, immediately address the learning gaps, and provide an appropriate measure to address those gaps. Moreover, the indicator with the highest mean of 4.80 shows that teachers have formulated assessment tools to determine the pupils' learning outcomes while learning at home. On the other hand, the indicator with the lowest mean of 3.70 states that teachers assess the pupil's total development through the contextualized assessment tool crafted. This implies that teachers are focusing on the academic development of the learners and their total development.

Table 4
Extent of Implementation of Modular Distance Learning
on the Health and Safety Protocols

STATEMENTS	Weighted Mean	Description	Interpretation
IV. HEALTH AND SAFETY PROTOCOLS			
1. The teacher had instituted actions/mechanisms to safeguard the health and welfare of the implementers.	4.00	Often	High
2. The teacher strictly follows the health and safety protocol of the IATF in all activities undertaken in school and at home.	4.25	Often	High
3. The teacher has initiated activities to determine the strict implementation of the health protocols of the IATF while the pupils are at home.	3.80	Often	High
4. The teacher conduct disinfection on the modules and other learning materials to be distributed to the parents and during the retrieval of such materials.	4.00	Often	High
5. The teacher formulated plans and other precautionary measures if in case of COVID 19 infection happened in the community.	4.25	Often	High
AVERAGE	4.06	Often	High

Table 4 presents the extent of implementation of modular distance learning modality on health and safety protocols. It was revealed on the table that the extent of implementation of modular distance learning modality on health and safety protocols has an average mean of 4.06,

which is interpreted as high. This means that due to the spread of COVID-19, the teachers and school personnel are careful in implementing the new learning modality. They implemented measures on how their clientele could avoid being infected with the virus. This implies that teachers are adherent to follow the prescribed health and safety protocols from the preparation of modules to the distribution and retrieval of such materials. Moreover, the indicator with the highest mean of 4.25 states that teachers strictly follow the health and safety protocol of the IATF in all activities undertaken in school and at home and they formulated plans and other precautionary measures if in case of COVID 19 infection happened in the Community. On the other hand, the indicator with the lowest mean of 3.80 shows that teachers often initiated activities to determine the strict implementation of the health protocols of the IATF while the pupils are at home. As part of their monitoring, they make sure that they are always aware of the health and safety protocols for COVID-19.

Table 5
Extent of Implementation of Modular Distance Learning
on Partnership

STATEMENTS	Weighted Mean	Description	Interpretation
V. PARTNERSHIP			
1. The teacher has initiated activities to gain support from stakeholders in the implementation of modular distance learning modality.	4.80	Always	Very High
2. The teacher conducted initiatives to ensure continuous support of the community and stakeholders.	4.00	Often	High
3. The teacher show transparency for the support given by stakeholders in the implementation of modular distance learning modality.	4.00	Often	High
4. The teacher immediately responds to issues and challenges encountered by the stakeholders in support to modular distance learning modality.	3.70	Often	High
5. The teacher has crafted plans to strengthen/sustain the support of stakeholders or address the gaps.	4.00	Often	High
AVERAGE	4.10	Often	High

Table 5 presents the extent of implementation of modular distance learning modality on partnership. It was revealed on the table that the extent of implementation of modular distance learning modality on partnership has an average mean of 4.10 which is interpreted as high. This

means that teachers and other school personnel had initiated activities that involve the stakeholders in implementing modular distance learning modality. This implies that with the school's limited resources to be able to provide the learning modules and other materials to the pupils, they initiated activities that will strengthen the partnership of all stakeholders in the locality. Moreover, the indicator that shows the highest mean of 4.80 states that teachers have initiated activities to gain support from stakeholders in implementing modular distance learning modality. Likewise, the indicator that shows the lowest mean of 3.70 states that teachers immediately respond to the stakeholders' issues and challenges regarding modular distance learning modality. This premise implies that teachers and other stakeholders show transparency in all the donations they received and acknowledge such donors by giving certificates and signing a memorandum of agreement and deed donations.

Table 6
Academic Performance in Mathematics (N=103)

Grade Range	Description	Grade 5	
		Frequency	%
90-100	Outstanding	33	41
85-89	Very Satisfactory	17	21
80-84	Satisfactory	11	14
75-79	Fairly Satisfactory	20	24
Below 75	Did Not Meet Expectations	0	0
Total		81	100

Table 6 presents the academic performance of the Grade V pupils on modular distance learning modality using the 2nd quarter grades. It was revealed on the table that there are 33 or 41% have an outstanding rating on their academic performance, 17 or 21% have very satisfactory rating, 11 or 24% with satisfactory rating and 20 or 24% with fairly satisfactory rating. This means that all the 81 Grade V pupils had passed the subject Math for the 2nd quarter. This implies that with the teachers' initiative to provide quality education to the pupils despite of home learning and with the use of modules with the assistance and guidance of their learning facilitators, they were still able to pass the subject. This is a manifestation of an effective implementation of modular distance learning modality in the said locale.

Table 7
Test of Relationship

Variables Correlated	r	Computed value or t	Table Value @.05	Decision on Ho	Interpretation
DELIVERY OF INSTRUCTION AND ACADEMIC PERFORMANCE	0.74	2.89	0.336	Reject Ho	Significant Relationship <i>(Very Strong Positive Relationship)</i>
LEARNING AND DEVELOPMENT AND ACADEMIC PERFORMANCE	0.78	3.92	0.336	Reject Ho	Significant Relationship <i>(Very Strong Positive Relationship)</i>
LEARNING ASSESSMENT AND ACADEMIC PERFORMANCE	0.64	3.71	0.336	Reject Ho	Significant Relationship <i>(Very Strong Positive Relationship)</i>
HEALTH AND SAFETY PROTOCOLS AND ACADEMIC PERFORMANCE	0.71	2.76	0.336	Reject Ho	Significant Relationship <i>(Very Strong Positive Relationship)</i>
PARTNERSHIPS AND ACADEMIC PERFORMANCE	0.77	3.06	0.336	Reject Ho	Significant Relationship <i>(Very Strong Positive Relationship)</i>

Table 7 presents the test of relationship between the extent of implementation of modular distance learning modality on the delivery of instruction, learning and development, learning assessment, health and safety protocols and partnership and academic performance of Grade V pupils in Math. It was revealed on the table that the computed value or t of 2.89 is greater than the tabular value of 0.336, so null hypothesis is rejected. This means that there is a significant relationship between the extent of implementation of modular distance learning modality on the delivery of instruction and academic performance in Math. The r value of 0.74 shows a very strong positive relationship between the two variables. This implies that teachers can still deliver quality

education to the learners despite no face-to-face interaction with their pupils. This shows effectiveness of delivery of instruction on modular distance learning modality.

Moreover, this table also presents the extent of implementation of modular distance learning modality on the learning and development and academic performance of Grade V pupils in Math. It was revealed on the table that the computed value or t of 3.92 is greater than the tabular value or t of 0.336 at .05 level of significance, so null hypothesis is rejected. This means that there is a significant relationship between the extent of implementation of modular distance learning modality on the learning and development and academic performance of Grade V pupils in Math. The r value of 0.78 shows a very strong positive relationship between the two variables. This implies that teachers and learning facilitators are equipped with the knowledge and skills in providing quality education to the pupils while implementing modular distance learning modality. The teachers' preparations and readiness to deliver such lessons to the pupils create a positive learning outcome.

Further, this table also presents the extent of implementation of modular distance learning modality on the learning assessment and academic performance of Grade V pupils in Math. It was revealed on the table that the computed value or t of 3.71 is greater than the tabular value or t of 0.336 at .05 level of significance, so null hypothesis is rejected. This means that there is a significant relationship between the extent of implementation of modular distance learning modality on the learning assessment and academic performance of Grade V pupils in Math. The r value of 0.64 shows a very strong positive relationship between the two variables. This implies that the learning assessment given to the pupils are congruent to the competencies learned and mastery of the lessons were attained by them.

Likewise, this table also presents the extent of modular distance learning modality on the health and safety protocols and academic performance of Grade V pupils in Math. It was revealed on the table that the computed value or t of 2.76 is greater than the tabular value or t of 0.336 at .05 level of significance, so null hypothesis is rejected. This means that there is a significant relationship between the extent of implementation of modular distance learning modality on the health and safety protocols and academic performance of Grade V pupils in Math. The r value of 0.71 shows a very strong positive relationship between the two variables. This implies that teachers and other school personnel are adherent to the pupils' health and safety and learning facilitators as prescribed by the Local IATF and thus, strict implementation is exhibited.

Lastly, this table presents the extent of modular distance learning modality on the partnership and academic performance of Grade V pupils in Math. It was revealed on the table that the computed value or t of 3.06 is greater than the tabular value or t of 0.336 at .05 level of significance, so null hypothesis is rejected. This means that there is a significant relationship between the extent of implementation of modular distance learning modality on partnership and academic performance of

Grade V pupils in Math. The r value of 0.77 shows a very strong positive relationship between the two variables. This implies that strong partnership results in effective implementation of modular distance learning modalities to improve the Grade V pupils' academic performance in Math.

VI. Conclusion

This study revealed that there is a significant relationship between the extent of implementation of modular distance learning modality in the delivery of instruction, learning and development, learning assessment, health and safety protocols and partnership and academic performance of Grade V pupils in Math. The high implementation of modular distance learning modality helps in the attainment of positive learning outcome. Thus, to effectively implement modular distance learning modality, teachers, learning facilitators and other school stakeholders should be equipped with the necessary knowledge, skills, attitudes and materials and that they will observe the health and safety protocols of the local IATF strictly and strengthen a strong partnership to stakeholders in order to attain quality and accessible education for all school children.

VII. Recommendations

1. The proposed improvement plan formulated should be utilized;
2. Teachers should be equipped with the necessary knowledge, skills and attitudes in the implementation of modular distance learning modality;
3. Teachers and School Heads should regularly conduct capability building to the learning facilitators on the effective implementation of modular distance learning modality;
4. School Heads should review the activities presented in the module and congruence to the competencies must be observed;
5. Teachers should encourage parents to support their children through their guidance and assistance in accomplishing the modules;
6. Teachers and School Heads should conduct home visitation for feedback giving and consultation;
7. School Heads should closely monitor the teachers for the successful implementation of modular distance learning modality;
8. Strong partnership to the stakeholders must be strengthen to gain their support;
9. Strict implementation of health and safety protocols for all school stakeholders should be observed; and
10. Future researchers should replicate this study to include different locale, and include different variables aside from what is mentioned in this study.

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AUTHOR’S PROFILE



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