

# Effects of Modular Distance Learning as Perceived by the Pupils, Parents, and Teachers

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**Abstract**— During this pandemic, several schools opted for modular remote education. One of the elementary schools that selected Modular Distance Learning (MDL) as their primary mode of instruction for various reasons is Antipuluan Elementary School, a public elementary school in the Municipality of Narra, Palawan, the Philippines. However, the usage of this modality, which is unknown to many, has presented difficulties for everyone—including school staff, students, and their parents. Hence the conduct of this study. This quantitative research employed a Descriptive-Correlational Approach and involved 15 elementary teachers, 141 pupils, and 141 parents as the main data sources. A researcher-made questionnaire was used to collect data, which was then analyzed using mean, standard deviation, and Pearson product-moment correlation. The study found that the extent of Modular Distance Learning modality implementation was High, teachers', pupils', and parents' degrees of acceptance of the MDL implementation were High, and there was a strong relationship between the teachers' degree of acceptance of MDL implementation and the degree of its implementation. The perceived effects of MDL implementation have a direct relationship with the degree of their acceptance by teachers and parents.

**Keywords**— Modular distance learning, perceptions, pupils, parents.

## I. INTRODUCTION

The fast advancements in communication and information technologies and the spread of the internet have brought great opportunities in education. Also, due to unavoidable circumstances, just like a pandemic and natural calamity, educators who are forced to find ways to continue delivering the education everyone deserves have seen the opportunity to use various learning modalities. The said learning modalities include online learning, modular distance homeschooling, and blended learning. Among these learning modalities, every school and its teachers must properly assess their suitability for their respective learners' needs and capacities.

The global impact of Covid-19 is multifaceted and is evident in almost all sectors, particularly the health, economic and educational sectors. Following the declaration of the outbreak as a pandemic in March 2020, there have been several regular updates on the impact of the virus on millions of people worldwide. The COVID-19 pandemic has resulted in a dramatic loss of human life worldwide and poses a supreme threat to public health, food supplies, and the world of work. The economic and social damage created by the pandemic is devastating tens of millions of people at risk of slipping into severe poverty, while the number of

undernourished people, globally estimated at approximately 690 million, is at risk. Additionally, Millions of companies pose an imminent threat. Almost half of the world's 3.3 billion workers risk losing their livelihoods. Informal economic workers are disadvantaged because most lack basic security and access to adequate health services and have lost access to productive assets. For others, no money means no food or, at best, less food and less quality food (WHO, 2020).

A recent study by Chakraborty and Maity (2020) states that the Coronavirus pandemic is considered the most crucial public health crisis of the century and the biggest threat facing humanity since the Second World War. It has spread exponentially globally, presenting immense health, economic, environmental, and social challenges to the entire human population. The spread of coronavirus is seriously affecting the global economy. Almost all nations strive to delay the spread of the disease by monitoring and treating patients, quarantining suspicious individuals by contact tracing, limiting gatherings, and maintaining partial and complete lockdowns. Chudic (2020) points out that the Covid-19 pandemic is a global shock that entails supply and demand uncertainty in the interconnected world economy. Diseases decrease labor supply and output on the production side, while lockdowns, market closures, and social distances cause supply instability. On the demand side, layoffs, lack of profits, and worsened economic environment decrease household usage and spending by companies. Extreme confusion about the pandemic's course, length, severity, and effect could lead to a vicious spiral of dampening market and consumer trust and tightening financial conditions, leading to job losses and investment. The main problems for this pandemic are how to classify this great shock, prepare for its consequences, consider its cross-country spillovers, and measure the instability of the environment.

In the Philippines, the Department of Education (DepEd) has instructed the schools to properly choose the appropriate learning modality by considering the availability of learning resources, the modality of choice of parents and learners, and ensure the health and safety of all learners and DepEd personnel (DepEd, 2020). While modular learning is at the center of current initiatives for change, it is important to have a common interpretation and meaning of the concept of modular learning (Friestad-Tate, Schubert, & McCoy, 2014). Despite this, most schools have opted for the modular distance

learning modality, which allows learners to learn using printed or digital self-learning modules (SLMs) since there are numerous limitations in using other learning modalities. Limitations include the turtle-like speed of the internet in the Philippines, which is considered one of the slowest in the world. Many schools opted for modular distance learning during this time of the pandemic. With this learning modality, the teachers are responsible for monitoring every learner's progress and assisting learners via different means such as email, phone calls, text messaging, and other social media platforms (Llego, 2020).

Correspondingly, the Schools Division of Palawan mandated its schools to correctly identify and use the most appropriate learning delivery modes for their respective clientele – the pupils. Antipuluan Elementary School, a public elementary school in the Municipality of Narra, Palawan, Philippines, is one of the elementary schools that chose Modular Distance Learning (MDL) as their primary learning modality for various reasons. However, the use of this modality, which is unfamiliar to many, has brought challenges not just to school personnel but also to the learners and their parents.

With this frame, this study is poised to identify the perceptions of pupils, parents, and teachers of Antipuluan Elementary School on the supposed effects of Modular Distance Learning (MDL) to come up with a probable solution to existing challenges properly.

#### *Research Questions*

This study generally identified the perceptions of pupils, parents, and teachers of Antipuluan Elementary School on the supposed effects of Modular Distance Learning (MDL).

Specifically, it sought answers to the following questions:

1. What is the extent of Modular Distance Learning (MDL) implementation in Antipuluan Elementary School?
2. What is the degree of acceptance of the pupils, parents, and teachers on Modular Distance Learning (MDL) as the main learning delivery modality?
3. What are the effects of Modular Distance Learning (MDL) as perceived by pupils, parents, and teachers?
4. Is there a significant relationship between the extent of the MDL Implementation and the teachers' degree of acceptance of MDL implementation?
5. Is there a significant relationship between the pupils, parents, and teachers' perceived effects of MDL implementation and the degree of acceptance of the MDL implementation?

## II. METHODOLOGY

### A. Design

This quantitative research employed Descriptive-Correlational Approach in determining the degree of acceptance of the pupils, parents, and teachers on Modular Distance Learning (MDL) as the main learning delivery modality, the effects of Modular Distance Learning (MDL) as perceived by pupils, parents, and teachers, and the experiences of pupils, parents, and teachers relative to Modular Distance

Learning (MDL), and getting the relationships of the said variables.

### B. Sampling

The study was conducted at Antipuluan Elementary School, a public elementary school institution under the direct supervision of the Department of Education, Province of Palawan located at the National Hi-way, Barangay Antipuluan in the municipality of Narra. The sample size for parent-respondents and pupil-respondents was computed using Raosoft sample size calculator with a 5% margin of error and 95% confidence level and selected using simple random sampling, while total enumeration sampling was used in determining the teacher-respondents. The parent-respondents were the parents or guardians of the selected pupil-respondents for easier and more valid data gathering.

### C. Research Instruments

For a realistic survey, a self-completed survey questionnaire was utilized. The questionnaire was developed by the researcher in a Likert scale format. There was a questionnaire intended for teachers composed of 20 Likert items which deal with the extent of implementation of MDL, their degree of acceptance of the MDL as the main learning delivery modality, and their perceptions of the effects of MDL. On the other hand, the questionnaire for learners and parents was composed of five Likert statements about the learners and their parents' degree of acceptance of the implementation of MDL and five items on the perceived effects of MDL. Both questionnaires have a part where the respondents were tasked to enumerate their experiences with the implementation of Modular Distance Learning. The responses to each of the variables under study were measured on a five-point Likert scale from Strongly Agree (5) to Strongly Disagree (1).

### D. Data Collection

The researcher randomly selected the respondents: pupils, parents, and teachers. Pupil respondents were asked to sign an informed assent to signify their willingness to participate in this research, while informed consent was asked from their respective parents/guardians. The selected respondents were given a questionnaire. The researcher explained the objective of the conduct of the survey and instruct the parents on how the survey test be answered by them and by the pupils. After completing the questionnaire, each item was analyzed using appropriate statistical tools.

### E. Data Analysis

The following statistical tools were utilized in interpreting and analyzing the data:

1. The mean and standard deviation were used to describe the extent of implementation of Modular Distance Learning (MDL), the degree of acceptance of the pupils, parents, and teachers of the Modular Distance Learning (MDL) as the main learning delivery modality, the effects of Modular Distance Learning (MDL) as perceived by pupils, parents, and teachers, and the experiences of pupils, parents, and teachers relative to Modular Distance Learning (MDL).

2. The Pearson product-moment correlation was used to determine the relationships of the: (1) pupils, parents, and teachers' perceptions toward MDL and the degree of acceptance of the implementation, and (2) pupils, parents, and teachers' MDL experiences and the degree of acceptance of MDL implementation.

III. RESULTS AND DISCUSSION

The extent of implementation of Modular Distance Learning (MDL)

To determine the extent of the Modular Distance Learning modality implementation, the teachers were asked to agree or disagree on the ten statements using a survey scale: 1.00-1.80 - Strongly Disagree; 1.81-2.60 Disagree; 2.61-3.40 Neutral; 3.41-4.20 Agree; 4.21-5.00 Strongly Agree.

As shown in Table 1, the teachers strongly agree with the statements: The Self-Learning Modules are readily available ( $\bar{x} = 4.50$ ;  $\sigma = 1.03$ ), Parents are aware of the schedule of distribution and retrieval of modules, and pupils' outputs ( $\bar{x} = 4.50$ ;  $\sigma = 1.03$ ), Parents and pupils are well-informed of the modular distance learning modality ( $\bar{x} = 4.44$ ;  $\sigma = 1.03$ ), Teachers are readily available to pupils with queries or clarifications about the modules ( $\bar{x} = 4.38$ ;  $\sigma = 1.26$ ), and The

School is 100% ready for the MDL implementation ( $\bar{x} = 4.38$ ;  $\sigma = 1.26$ ).

In contrast, teachers neither agree nor disagree with the statement that Enough resources (such as printers, bond paper, etc.) for implementing MDL are available ( $\bar{x} = 3.38$ ;  $\sigma = 1.02$ ). In general, the extent of implementation of the Modular Distance Learning modality in the Antipulan Elementary School was High, having a weighted mean of 4.16.

The degree of acceptance of the pupils, parents, and teachers on the Modular Distance Learning (MDL)

Table 2 presents the teachers' agreement on the statements indicating the degree of their acceptance on the Modular Distance learning modality. It can be noted that teachers have strongly agreed on the indicator Modular Distance Learning modality is the safest way to continue learning amidst health crises ( $\bar{x} = 4.31$ ;  $\sigma = 1.14$ ) while they neither agreed nor disagreed on the indicator of Giving instructions and assistance to pupils is easy ( $\bar{x} = 3.31$ ;  $\sigma = 0.79$ ). Having a weighted mean of 3.65, teachers' degree of acceptance in the implementation of the Modular Distance Learning modality is High. The result implied that teachers have positively welcomed the implementation of the said modality.

TABLE 1. Extent of Implementation of Modular Distance Learning Modality

	Mean	Std. Dev.	Adjectival Rating	Level of Implementation
1. Parents and pupils are well-informed of the modular distance learning modality.	4.44	1.03	Strongly Agree	Advanced
2. Parents are aware of the schedule of distribution and retrieval of modules and pupils' outputs.	4.50	1.03	Strongly Agree	Advanced
3. The Self-Learning Modules are distributed to parents promptly.	4.19	1.22	Agree	High
<i>Cont. Table 1.</i>				
4. Accomplished activity sheets/outputs of pupils are submitted on time.	3.81	1.28	Agree	High
5. Pupils' learning progress is properly assessed	4.13	1.15	Agree	High
6. The Self-Learning Modules are readily available.	4.50	1.03	Strongly Agree	Advanced
7. Teachers are readily available to pupils with queries or clarifications about the modules	4.38	1.26	Strongly Agree	Advanced
8. Enough resources (such as printers, bond paper, etc.) for the implementation of MDL are available.	3.38	1.02	Neutral	Medium
9. There is strong support from School stakeholders (LGU, community, parents, learners, etc.)	3.69	1.08	Agree	High
10. The School is 100% ready for the MDL implementation	4.25	1.06	Strongly Agree	Advanced
Weighted Mean	4.16		Agree	High

TABLE 2. Teachers' Degree of Acceptance in the Modular Distance Learning

Indicators	Mean	Std. Dev.	Adjectival Rating	Degree of Acceptance
1. Modular Distance Learning modality is the safest way to continue learning amidst health crises.	4.31	1.14	Strongly Agree	Very High
2. The teaching-learning process using the Modular Distance Learning modality can be easily implemented.	3.56	1.03	Agree	High
3. Pupils' outputs and performances can be properly assessed.	3.56	0.96	Agree	High
4. Giving instructions and assistance to pupils is easy	3.31	0.79	Neutral	Medium
5. MDL promotes self-learning or independent learning	3.50	0.82	Agree	High
Weighted Mean	3.65		Agree	High

TABLE 3. Pupils' Degree of Acceptance in the Modular Distance Learning

Indicators	Mean	Std. Dev.	Adjectival Rating	Degree of Acceptance
1. Modular Distance Learning modality is the safest way to continue learning amidst health crises.	4.25	1.057	Strongly Agree	Very High
2. Learning through modules is fun	3.60	1.062	Agree	High
3. Completing outputs and performance is easy and doable	3.43	1.142	Agree	High
4. Teachers' instructions and assistance is more accessible and individualized	3.35	1.309	Neutral	Medium
5. MDL promotes self-learning or independent learning	3.63	1.130	Agree	High
Weighted Mean	3.65		Agree	High

Table 3 revealed pupils' degree of acceptance in the implementation of Modular Distance Learning modality. It

can be gleaned that pupils strongly agreed that MDL is the safest way to continue education amidst pandemic ( $\bar{x} = 4.24$ ;  $\sigma$



= 1.075) while they neither agreed nor disagreed on the accessibility of teachers’ instructions and assistance ( $\bar{x} = 3.35$ ;  $\sigma = 1.309$ ).

The computed weighted mean of 3.65 implied that pupils have high or positive degree of acceptance of the implementation of the Modular Distance Learning modality. The results imply that the implementation of Modular Distance Learning modality in Antipulan Elementary School was highly acceptable for its pupils.

The parents’ degree of acceptance of the implementation of the Modular Distance Learning modality was shown in Table 4. It disclosed that parents have strongly agreed that Modular Distance Learning Modality is the safest way to continue their child’s education during a pandemic ( $\bar{x} = 4.55$ ;  $\sigma = .554$ ). Meanwhile, they neither agreed nor disagreed that learning through modules is fun ( $\bar{x} = 3.32$ ;  $\sigma = .768$ ), and completing outputs and performance is easy and doable ( $\bar{x} = 3.11$ ;  $\sigma = .622$ ).

Generally, parents have agreed on the statements indicating the acceptability of Modular Distance Learning Modality ( $\Sigma = 3.63$ ). This implies that parents’ degree of acceptance of the implementation is High.

*The effects of Modular Distance Learning (MDL) as perceived by pupils, parents, and teachers*

Table 5 disclosed the effects of Modular Distance Learning modality as perceived by the teachers. It revealed that the teachers have agreed on all the statements indicating the perceived effects of Modular Distance Learning. It can be noted that the topmost effect of the MDL implementation as perceived by the teachers was that it made the teachers and school personnel to exert extra efforts and personal resources during the pandemic ( $\bar{x} = 3.88$ ;  $\sigma = 1.147$ ).

Having a weighted mean of 3.74, Modular Distance Learning implementation was perceived by the teachers as highly affecting their emotional, professional, and financial aspects.

In Table 6, the pupils’ perceptions of the effects of Modular Distance Learning implementation were presented. Pupils have agreed on all of the identified effects of MDL implementation. It can be noticed that pupils’ perceptions of the effects of MDL implementation are contradicting as they believed that the use of learning materials in the MDL helped them understand the subject matter better ( $\bar{x} = 4.11$ ;  $\sigma = 0.942$ ) but also believed that MDL limits their learning ( $\bar{x} = 4.05$ ;  $\sigma = 1.091$ ). Moreover, among the five pre-listed effects, the pupils have least agreed that MDL increases learners’ reading ability ( $\bar{x} = 3.82$ ;  $\sigma = 1.199$ ).

Having a weighted mean of 3.96, pupils perceptions of the effects of MDL implementation implied that it highly affected their learnings and mental health.

As for the parent’s perceptions of the effects of the Modular Distance Learning implementation, Table 7 showed that they strongly agreed that Modular Distance Learning puts extra pressure and added burden on them ( $\bar{x} = 4.32$ ;  $\sigma = 0.822$ ). On the other hand, parents were indeterminate on the effect of MDL implementation on increasing expenses ( $\bar{x} = 2.91$ ;  $\sigma = 0.797$ ), and increasing parental involvement ( $\bar{x} = 3.38$ ;  $\sigma = 0.604$ ).

The results imply that parents believed that implementation of MDL has both positive and negative effects. As a whole, MDL implementation has a high impact on the pupils’ learning, parents-teacher’s interaction, and family expenses ( $\Sigma = 3.68$ ).

TABLE 4. Parents’ Degree of Acceptance in the Modular Distance Learning

Indicators	Mean	Std. Dev.	Adjectival Rating	Degree of Acceptance
1. Modular Distance Learning modality is the safest way to continue learning amidst health crises.	4.55	.554	Strongly Agree	Very High
2. Learning through modules is fun	3.32	.768	Neutral	Medium
3. Completing outputs and performance is easy and doable	3.11	.622	Neutral	Medium
4. Teachers’ instructions and assistance is more accessible and individualized	3.52	.616	Agree	High
5. MDL promotes self-learning or independent learning	3.65	.821	Agree	High
Weighted mean	3.63		Agree	High

TABLE 5. Effects of Modular Distance Learning as Perceived by the Teachers

Indicators	Mean	Std. Dev.	Adjectival Rating	Effects
1. MDL increased school expenses on learning materials	3.81	1.167	Agree	High
2. Printing of learners’ materials is an addition to teachers’ responsibilities	3.81	1.047	Agree	High
3. MDL implementation caused stress among teachers and school personnel.	3.44	1.031	Agree	High
4. Teachers and school personnel were required to exert extra effort and personal resources	3.88	1.147	Agree	High
5. Teacher and learners’ interaction became indefinite	3.75	1.125	Agree	High
Weighted Mean	3.74		Agree	High

TABLE 6. Effects of Modular Distance Learning as Perceived by the Pupils

Indicators	Mean	Std. Dev.	Adjectival Rating	Level of Effect
1. MDL increases learners’ reading ability	3.82	1.199	Agree	High
2. The use of learning materials helped learners in understanding the subject better	4.11	0.942	Agree	High
3. MDL promotes/improves the relationship between parents and learners.	3.97	0.861	Agree	High
4. MDL implementation gives learners and parents stress	3.87	1.148	Agree	High
5. MDL limits the learning of pupils	4.05	1.091	Agree	High
Weighted Mean	3.96		Agree	High

TABLE 7. Effects of Modular Distance Learning as Perceived by the Parents

Indicators	Mean	Std. Dev.	Adjectival Rating	Level of Effect
1. Modular Distance Learning (MDL) lessens family expenses.	3.92	1.122	Agree	High
2. Teachers-parents' interaction was heightened	3.52	0.733	Agree	High
3. It changed parent's perceptions of Modular Distance Learning (MDL).	3.43	0.813	Agree	High
4. It increases parental involvement on their child's education.	3.38	0.604	Neutral	Medium
5. Modular Distance Learning (MDL) implementation caused stress among parents.	4.06	0.896	Agree	High
6. It increases expenses in support to school needs.	2.91	0.797	Neutral	Medium
7. It forced parents to study to be able to support child's learning needs.	3.92	0.903	Agree	High
8. Modular Distance Learning (MDL) gives extra pressure and added burden to parents.	4.32	0.822	Strongly Agree	Very High
Weighted mean	3.68		Agree	High

*Relationship between the extent of the MDL Implementation and the teachers' degree of acceptance of MDL implementation*

A Pearson product-moment correlation was computed to assess the relationship between the extent of the MDL implementation and the teachers' degree of acceptance of MDL implementation, as reported in Table 8. Based on the computed correlation value of 0.650, the teachers' degree of acceptance of MDL implementation strongly correlates with the extent of implementation of the Modular Distance Learning modality in the school. This implies that the degree of teachers' acceptance of MDL implementation directly affects the extent of its implementation.

TABLE 8. Correlations Between Degree of Acceptance and Extent of Implementation

	Pearson Correlation*	Sig. (2-tailed)	Interpretation
Teachers' Degree of Acceptance of MDL and the Extent of MDL Implementation	0.650	0.235	Strong correlation

\*0.00-0.199 - Very Weak; 0.20-0.399 - Weak; 0.40-0.599 - Strong Enough; 0.60-0.799 - Strong; 0.80-1.000 - Very Strong

*Relationship between the effects of MDL implementation as perceived by pupils, parents, and teachers and the degree of their acceptance of MDL implementation*

As shown in Table 9, the relationship between teachers', pupils', and parents' degree of acceptance of MDL and their perceived effects were computed using Pearson product-moment correlation. It can be gleaned that there was a very weak relationship between the teachers' degree of acceptance and the effects of MDL Implementation ( $r = 0.079$ ,  $p = 0.899$ ), a negative and weak relationship between pupils' degree of acceptance and the effects of MDL implementation ( $r = -0.395$ ,  $p = 0.511$ ), and a strong relationship between the parents' degree of acceptance and the effects of MDL implementation ( $r = 0.645$ ,  $p = 0.240$ ). The results imply that as the perceived effects of MDL implementation change, the degree of the teachers' and parents' acceptance also changes. Still, the effects were very weak and strong for teachers and parents respectively. As for the pupils' degree of acceptance and the effects of MDL implementation, there was a negative or inverse relationship which means every time that pupils' perception increases, their degree of acceptance on the MDL implementation decreases.

TABLE 9. Relationship between the effects of MDL implementation as perceived by pupils, parents, and teachers and the degree of their acceptance

	Pearson Correlation*	Sig. (2-tailed)	Interpretation
Teachers' Degree of Acceptance of MDL and Effects of MDL Implementation as Perceived by them	0.079	0.899	Very Weak
Pupils' Degree of Acceptance of MDL and Effects of MDL Implementation as Perceived by them	-0.395	0.511	Negative Weak
Parents' Degree of Acceptance of MDL and Effects of MDL Implementation as Perceived by them	0.645	0.240	Strong

\*0.00-0.199 - Very Weak; 0.20-0.399 - Weak; 0.40-0.599 - Strong Enough; 0.60-0.799 - Strong; 0.80-1.000 - Very Strong

IV. CONCLUSIONS

After careful evaluation of the research findings, the researchers then concluded that:

1. The extent of Modular Distance Learning modality implementation was High which means that it was highly implemented in Antipuluan Elementary School.
2. The teachers, pupils, and parents positively accept the implementation of the Modular Distance Learning modality in Antipuluan Elementary School since their degrees of acceptance were all high.
3. Implementing the Modular Distance Learning modality has a high positive and negative effect on the pupils' learning, parent-teacher interaction, family and school expenses, and teachers' duties and responsibilities.
4. There was a strong relationship between the teachers' degree of acceptance of MDL implementation and the extent of its implementation.
5. The effects of MDL implementation as perceived by teachers and parents have a direct relationship with the degree of their acceptance. In contrast, pupils' perceptions of the effects of MDL implementation have a negative or inverse relationship to their degree of acceptance.

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