

# **Influence of Teacher Characteristics and Modular Distance Learning to Student's Learning Outcomes**

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**Abstract**— The main purpose of this study was to determine if teacher characteristics and modular distance learning significantly influence students' learning outcomes. In this study, the respondents were the 334 public elementary school teachers teaching in Maco North and South Districts for School Year 2020-2021. This study used a quantitative research design with a non-experimental method utilizing a correlational technique with regression analysis. Moreover, the statistical tools employed in analyzing the data gathered were the Mean, Pearson-r, and Regression Analysis. The findings of the study revealed a very high level of teacher characteristics in terms of outside the classroom, classroom culture, assessment and motivation, content knowledge, pedagogical knowledge, and teacher beliefs. This study also revealed a very high extent of modular distance learning implementation in terms of teacher-learner-parent/guardian collaboration, subject matter, instruction, active and personalized learning, learning assessment, and inclusion. Moreover, this study also revealed a high level of student learning outcomes in terms of the General Scholastic Average for the school year 2020-2021. Lastly, the result of the study confirmed that there was no significant relationship between teacher characteristics and students' learning outcomes; and modular distance learning and students' learning outcomes.

**Keywords**— MAED—Educational Management, modular distance learning, student's learning outcomes, teacher characteristics, Philippines.

## **I. INTRODUCTION**

Low learning outcomes that have not kept pace with the expansion of education are undeniably a worldwide concern. The extent of the learning deficit is reflected in learning assessments which provide data that can be used to monitor students' learning outcomes. This reveals that learning data, in conjunction with other quality dimensions, such as teacher characteristics, context, learning environment, and the learner itself, are the factors that most affect learning outcomes (UNESCO, 2021). Hattie, cited by Sparke (2019), emphasized that among the crucial ways to improve student's learning outcomes is having teachers who constantly strive to enhance teaching practices. Hence, Teachers have the potential to have the most significant influence on their students' outcomes. Reflecting on favorable characteristics is one of the teachers' most essential methods to empower their students.

In the Philippines, the rise of issues on learning outcomes is embedded in the Department of Education during the pandemic. The country is at the peak of a struggle to promote continuity of learning while preventing the Covid-19 virus. Subsequently, learning with the use of modules has become the widely used modality considering the students in locations where access to the internet is limited for online learning (Aksan, 2021). Nevertheless, even before the pandemic, learning outcomes reflected from the result of the

National Achievement Test (NAT) for the last three decades revealed that Grade 6 takers decreased performance and placed them to the descriptive level of "low mastery" by the Department of Education (Albano, 2019).

Learning outcomes specify what a student should learn from a period of specified and supported study (Harvey, 2004). They are essential to teaching since it helps the teacher analyze the teaching approaches, the assessment, and the expectations that best suit the students. Moreover, students can create connections between teaching and learning, enabling them to truly master the content of the lessons (South Carolina Center for Teaching Excellence, 2021). Student learning outcomes aid in learning effectively. Through it, learners are particular about what they are going to learn. Various methods used in Nordic regions to assess learning outcomes found that learning outcomes are beneficial (Galvara et al., 2008).

A teacher's influence, ideas, and assumptions of the capabilities of his or her students impact student learning outcomes. Teacher preparation and expertise in teaching and learning, experiences, subject matter knowledge, and certification are vital to their effectiveness in the classroom. So, it is essential to realize that each teacher should possess the necessary characteristics to improve outcomes. Hence, good

teacher characteristics are essential to student learning outcomes (Richland, 2017). On the other hand, the shifting from traditional physical learning to distance learning using modules due to the spread of COVID-19 caused problems like inadequate number of modules, difficulties of the learners to understand, and the lack of knowledge of the parents in guiding their children are the factors by which learning outcomes decreases (Pe Dangle & Sumaoang, 2020). This is among of the essential issues in the Division of Davao de Oro, specifically in the Districts of Maco North and Maco South, that needs further evaluation.

The researcher has not come across a study about “The Influence of Teacher Characteristics and Modular Distance Learning to Student’s Learning Outcomes”, especially in the local environment; therefore, the urgency to conduct the study. Most published studies only involved either teacher characteristics or modular distance learning as its independent variable. The focus of this study is to address and determine which domain of teacher characteristics and modular distance learning greatly influences students’ learning outcomes. Further, the study of teacher characteristics could include an inquiry into the strengths and weaknesses of teachers. The findings of this research could be utilized to improve student’s learning outcomes, thus the urgency to conduct the study.

## II. METHODOLOGY

The researchers utilized a quantitative non-experimental research design using causal-effect with regression analysis to describe the possible existing relationship between three identified variables and determine the direction and magnitude of such relationship if there is. This research design establishes relationships between two or more variables in the same population and measures the statistical relationship among them with neither minimal nor effort to control minor variables as stated by Gravetter & Wallnau (2004). To conform the study’s objectives, the researcher used an adopted and modified questionnaire from the studies of the Office of Educational Innovation and Evaluation (OEIE) about “Exemplary Teacher Characteristics: Results of a National Survey and Alignment of Results with DeBruyn Institute for Teaching Excellence Teacher Core Beliefs”; and the other was from the study “In-depth Evaluation of Learning Delivery Modalities Pilot Testing: Basis for SOCCSKSARGEN Education Framework Response to COVID-19 Pandemic.” The first variable comprises six indicators: outside of the

classroom; classroom culture; assessment and motivation; content knowledge; pedagogical knowledge; and teacher beliefs; while the second variable is composed of six indicators, namely; teacher learner parent/guardian collaboration, subject matter; instruction; active and personalized learning; learning assessment; and inclusion. To help with the formation of the questionnaire, the data from the discourse was correlated with the literature. The questionnaire was then approved by a panel of internal and external validators. Two sets of questionnaires for the independent variables were given to the respondents, and both used a five-point Likert scale.

The respondents were selected through cluster sampling. For Maco North District, ten schools out of twenty-one schools are chosen; while out of 16 elementary schools in Maco South District, 11 schools are chosen to represent the entire population. A population is a collection of people who share definite attributes (Creswell, 2012). The population in this study was 334 teachers out of 405 teachers of selected schools in Maco North and South Districts.

Request letters were made to concerned offices before the administration and retrieval of the questionnaires. The researcher reproduced clear copies and a sufficient number of questionnaires. Basically, proper clarification of the purpose of the study and clear instructions were done to make it understandable to the respondents. They were also asked to answer each question honestly to obtain reliable and precise data. The respondents were also asked for a copy of the school form 5 (Report on Promotion and Level of Proficiency) for the school year 2020-2021. On the other hand, the research instrument retrieval was done the following day to give the respondents ample time to answer the questionnaires. Then, collation and tabulation of the data followed. The data were encoded and submitted to the statistician for the statistical treatment process using the appropriate statistical tools. Lastly, analysis and interpretation of the results and findings were carefully made to answer the problems emerged in this study.

Appropriate statistical tools were used in this study to analyze the responses to the questions at the 0.05 level of significance. The responses to the questionnaire's items were added up, tabulated, and then interpreted as necessary. To determine the level of influence of teacher characteristics, extent of modular distance learning

implementation, and student’s learning outcomes the mean was used.

To assess the relevance of the association between student learning outcomes and modular distance learning, as well as between teacher characteristics and student learning outcomes Pearson-r was employed. Finally, to determine if teacher characteristics and modular distance learning influences student’s learning outcomes among elementary school teachers Linear Regression Analysis was used.

**III. RESULTS AND DISCUSSION**

**Level of Teacher Characteristics**

One of the variables of the study is Teacher Characteristics as one of the independent variables, whose measures include Outside of the Classroom, Classroom Culture, Assessment and Motivation, Content Knowledge, Pedagogical Knowledge and Teacher Beliefs. Shown in Table 1 are the data on the level of teacher characteristics based on the participants’ responses.

*Table 1: Level of Teacher Characteristics*

Indicators	Mean	SD	Descriptive Equivalent
Outside of the Classroom	4.52	0.41	Very High
Classroom Culture	4.53	0.48	Very High
Assessment and Motivation	4.46	0.41	Very High
Content Knowledge	4.42	0.43	Very High
Pedagogical Knowledge	4.40	0.46	Very High
Teacher Beliefs	4.64	0.39	Very High
<b>Overall</b>	<b>4.49</b>	<b>0.36</b>	<b>Very High</b>

It can be seen from the table that the overall mean is 4.49 with a standard deviation of 0.36 and has a descriptive equivalent of very high. Among the six (6) indicators of teacher characteristics, Teacher Beliefs obtained the highest mean score of 4.64 and has a standard deviation of 0.39, followed by Classroom Culture with a mean score of 4.53 and a standard deviation of 0.48, Outside of the Classroom with a mean score of 4.52 and a standard deviation of 0.41, Assessment and Motivation with a mean score of 4.46 and a standard deviation of 0.41, Content Knowledge with a mean score of 4.42 and a standard deviation of 0.43, and Pedagogical Knowledge with a mean score of 4.40 and a standard deviation of 0.46. Moreover, these six indicators were

all described as very high, which shows that all these teacher characteristics were very much observed.

**Extent of Modular Distance Learning**

Another variable of the study is Modular Distance Learning as the second independent variable, whose measures are Teacher-Learner-Parent/Guardian Collaboration, Subject Matter, Instruction, Active and Personalized Learning, Learning Assessment and Inclusion. Presented in Table 2 are the data on the extent of modular distance learning implementation based on the participants’ responses.

*Table 2: Extent of Modular Distance Learning Implementation*

Indicators	Mean	SD	Descriptive Equivalent
Teacher-Learner-Parent/Guardian Collaboration	4.53	0.44	Very High
Subject Matter	4.45	0.47	Very High
Instruction	4.31	0.50	Very High
Active and Personalized Learning	4.33	0.55	Very High
Learning Assessment	4.36	0.55	Very High
Inclusion	4.38	0.56	Very High
<b>Overall</b>	<b>4.41</b>	<b>0.46</b>	<b>Very High</b>

Presented in Table 2 are the data on the extent of modular distance learning implementation based on the participants’ responses. It can be gleaned from the table that modular distance learning has an overall mean score of 4.41 with a standard deviation of 0.46 and has a descriptive equivalent of very high. This value is derived based on a mean score of 4.53 and a standard deviation of 0.44 for Teacher Learner Parent/Guardian Collaboration, a mean score of 4.45 and a standard deviation of 0.47 for Subject Matter, a mean score of 4.38 and a standard deviation of 0.55 for Inclusion, a mean score of 4.36 and a standard deviation of 0.55 for Learning Assessment, a mean score of 4.33 and a standard deviation of 0.55 for Active and Personalized Learning, and a mean score of 4.31 and a standard deviation of 0.50 for Instruction.

Furthermore, these six indicators of modular distance learning have a descriptive equivalent of very high, which means that modular distance learning in terms of these indicators is very much implemented.



**Level of Student's Learning Outcomes**

Another variable of the study is Student's Learning Outcomes as the dependent variable, whose measures are obtained from the General Scholastic Average of the learners of the participant for S.Y. 2020-2021 which is under pandemic.

**Table 3: Level of Student's Learning Outcomes**

Indicators	Mean	SD	Descriptive Equivalent
General Scholastic Average	85.75	1.32	Very High

Descriptors, Grading Scale and Remarks:

Descriptors	Grading Scale	Remarks
Outstanding	90-100	Passed
Very Satisfactory	85-89	Passed
Satisfactory	80-84	Passed
Fairly Satisfactory	75-79	Passed
Did Not Meet Expectations	Below 75	Failed

Presented in Table 3 are the data on the level of student's learning outcomes based on the participants' School Form 5 (Report on Promotion and Level of Proficiency and Achievement). It can be gleaned from the table that student's learning outcomes has an overall mean score of 85.75 (3.76) with a standard deviation of 1.32 (0.43) and has a descriptive equivalent of very satisfactory which is considered high.

**Significance on the Relationship Between Teacher Characteristics and Student's Learning Outcomes**

The relevance of the interplay among components is shown in Table 3, which illustrates teacher characteristics and student's learning outcomes. The research hypotheses were tested at a 0.05 significance level, as demonstrated in Chapter 2. The Pearson-r correlation test examined the relationship between the dependent and independent variables. The p-value in the table must be compared to the 0.05 significance level to determine the relationship.

**Table 4: Significance on the Relationship Between Teacher Characteristics and Student's Learning Outcomes**

Independent Variable	Dependent Variable	r-value	r-squared	p-value	Decision
Teacher Characteristics	General Scholastic Average	-0.040	0.0016	0.471	Failed to reject Ho

\*p < 0.05  
Dependent Variable: Student's Learning Outcomes

Teacher Characteristics has an r-value of -0.040, an r-squared value of 0.0016 with a p-value of 0.471, which shows a very weak negative correlation. Moreover, the indicators of teacher characteristics have the overall probability level of 0.471, which is more than the level of significance at 0.05. The negative correlation between the two variables being studied failed to reject the null hypothesis, which states that there is no significant relationship between teacher characteristics and student's learning outcomes. Therefore, it can be settled that teacher characteristics has no significant relationship with student's learning outcomes, indicating that the higher the level of the teacher characteristics, the higher the level of the student's learning outcomes also.

**Significance on the Relationship Between Modular Distance Learning and Student's Learning Outcomes**

The result of the test on the significance of the relationship of modular distance learning and student's learning outcomes is presented in Table 4. The research hypothesis was assessed at a significance of 0.05, as demonstrated in Chapter 2. The Pearson-r correlation test was performed to investigate the relationship between the independent variables (IV) and the dependent variable (DV). The p-value in the table must be compared to the 0.05 significance level to determine the relationship.

**Table 5: Significance on the Relationship Between Modular Distance Learning and Student's Learning Outcomes**

Independent Variable	Dependent Variable	r-value	r-squared	p-value	Decision
Modular Distance Learning	General Scholastic Average	-0.078	0.0061	0.154	Failed to reject Ho

\*p < 0.05

Dependent Variable: Student's Learning Outcomes

Modular Distance Learning has an r-value of -0.078, an r-squared value of 0.0061 with a p-value of 0.154, which shows a very weak negative correlation. Moreover, the indicators of modular distance learning have the overall probability level of 0.154, which is more than the level of significance at 0.05. The negative correlation between the two variables being studied failed to reject the null hypothesis, which states that there is no significant relationship between modular distance learning and student's learning outcomes. Therefore, it can be settled that modular distance learning has no significant relationship with student's learning outcomes,

indicating that the higher the level of the modular distance learning, the higher the level student's learning outcomes also.

### ***Regression Analysis on the Influence of Teacher Characteristics and Modular Distance Learning to Student's Learning Outcomes***

Since all the indicators of the two independent variables shows non-significant to the dependent variable, there is no regression analysis in testing the domain of teacher characteristics and modular distance learning that significantly influences student's learning outcomes. This means that no domain among the six domains of teacher characteristics that shows significance. This also entails that the null hypothesis is not rejected, which states that there is no domain of teacher characteristics that significantly influences student's learning outcomes. Furthermore, the domains of modular distance learning also showed non-significant to student's learning outcomes, which means that there is no domain of modular distance learning that significantly influence student's learning outcomes. Therefore, the result of the study denotes that student's learning outcomes could be attributed to other factors not included in the study.

### **IV. CONCLUSION**

Based on the findings of the study, the following conclusions are drawn:

Teacher characteristics in terms of outside the classroom, classroom culture, assessment and motivation, content knowledge, pedagogical knowledge, and teacher beliefs are all very high, which implies that these are all very much observed among teachers. Likewise, modular distance learning in terms of teacher learner parent/guardian collaboration, subject matter, instruction, active and personalized learning, learning assessment and inclusion are all very high or very much implemented. Further, student's learning outcomes in terms of General Scholastic Average (GSA) has a descriptor of high which implies that student's learning outcomes is very satisfactory.

Moreover, there is no significant relationship exists between teacher characteristics and student's learning outcomes, which also implies that no domain of teacher characteristics showed significant influence on student's learning outcomes. Likewise, there is no significant relationship exists between modular distance learning and student's learning outcomes, which also implies that

no domain of modular distance learning showed significant influence on student's learning outcomes.

### **V. RECOMMENDATIONS**

Based on the findings as mentioned earlier and the drawn conclusions, the following recommendations are offered:

The study found a very high overall result of the teacher characteristics. Hence, it is recommended that teachers may reflect if they possess characteristics incorporated in outside the classroom, classroom culture, assessment and motivation, content knowledge, pedagogical knowledge, and teacher beliefs that would make them a good teacher. Among the six indicators, pedagogical knowledge got the lowest in rank; teachers may develop this characteristic and become better teachers through continuous professional development to improve one's skills. They may attend education conferences, seminars, or training that can help them connect with and learn from other teachers, they may embrace modern technologies to develop modern teaching skills, they may read articles and blogs or research new trends in education, and they may connect or have some coaching and mentoring from colleagues and school heads to gain new insights on how to teach effectively.

Moreover, there is a very high overall result of modular distance learning. Therefore, it is also recommended that teachers may consider the implementation of modular distance learning in terms of teacher learner parent/guardian collaboration, subject matter, instruction, active and personalized learning, learning assessment, inclusion, and other aspects of modular distance learning to maintain its effective implementation. Among the six indicators, instruction got the lowest in rank. Teachers may review the learning goals of the lesson found in the module, consider the learning pace of the students, reflect on the various learning preferences and skills among students, and assess the self-learning module that considers complicated concepts in various of ways. They may also provide more concrete examples about the lesson and may lessen the activities. Teachers may give follow-up activities and guide the parents on how to facilitate module activities.

Furthermore, there is a high overall result of the student's learning outcomes in terms of the General Scholastic Average. Therefore, it is also recommended that teachers will regularly assess their learners using the

DepEd Order No. 031 s. 2020 or the Interim Guidelines for Assessment and Grading in Light of the Basic Education Learning Continuity Plan. Teachers can use assessment techniques in the classroom that align with the standards of the curriculum and can provide students consistent feedback. Learners may also develop essential learning skills, they may utilize available resources, may use technology for advancement, and may connect with classmates and teachers to improve learning outcomes.

Lastly, further research on the influence of teacher characteristics and modular distance learning is hereby recommended. The researchers assured that it is the time to conduct a more extensive research on this issue. It is also strongly recommended to do more research on this topic using other indicators to validate the findings and address issues and gaps that were not addressed in this study.

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