

# MOTHER TONGUE-BASED MULTILINGUAL EDUCATION OF INDIGENOUS PEOPLES LEARNERS IN SOUTHERN PALAWAN, PHILIPPINES

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**Abstract.** This study aimed to assess the effectiveness of the Mother- Tongue Based Multilingual Education to the indigenous peoples' learners in Palawan. Indigenous peoples' learners and their teachers were the respondents of the study. Mean, frequency counts, percentages, Pearson moment correlation, t-test and ANOVA were the statistical tools employed in this study. Most of the grade three learner were in the appropriate age for their grade level, male, belong to big families, spoke Palaw'an at home, belong to Palaw'an ethnic tribe, lived in highlands, live with the core members of the family with large households, and were less privileged. Pupils' level of academic performance in the core subjects using the three different mediums of instruction did not meet expectation. Teachers had difficulty in dealing with learners' individual differences, interest and needs as well as integrating MTBMLE to other subjects. The academic performance of the learners was not influenced by their demographic profile except for gender. The learners' academic performance in Science and Mathematics was influenced by the medium of instruction while the level of academic performance of the learners in the Language subjects was not influenced by the medium of instruction except for mother tongue

**Keywords:** *indigenous people, mother tongue, academic performance, multilingual education*

## Introduction

The Department of Education began implementing the K-12 Basic Education curriculum in the school year 2012-2013 with the Mother Tongue-Based Multilingual Education (MTBMLE) as the government's banner program through DepEd Order No.16, series of 2012.

Mother Tongue-Based Multilingual Education (MTBMLE) is described as a formal or non- formal education in which the learners begin their schooling by the use of their mother tongue before learning other languages particularly Filipino and English; a "first-language-first" education. It is meant to address the high functional illiteracy of Filipinos where language plays a significant factor. Since the child's own language enables him/her to express himself/herself easily, then, there is no fear of making mistakes. It encourages active participation by children in the learning process because they understand what is being discussed and what is being asked of them. They can immediately use their mother tongue to construct and explain their world, articulate their thoughts and add new concepts to what they already know (Capitol University, 2019). This bridge enables the learners to use both or all their languages for success in school and for lifelong learning. In terms of cognitive development, the school activities will engage learners to move well beyond the low level questions to cover all higher order thinking skills in their first language which they can transfer to other languages once enough Filipino or English has been acquired. With the goal of making Filipino

children lifelong learners in their L1 (Mother Tongue), L2 (Filipino, the national language), L3 (English, the global language), the learners are more than prepared to develop the competencies in the different learning areas. This will serve as their passport to enter and achieve well in the mainstream educational system and in the end, contribute productively to their community and to the larger society (Department of Education, 2016).

For the effective implementation of the Mother Tongue- Based Multilingual Education, it is suggested that the two-track method be used, that is the primer track to focus on accuracy and the story track to focus on meaning. Learning via the two- track method to gain proficiency in literacy as well as comprehend academic content and gain curriculum mastery, creative and critical thinking skills for decisive decision- making. Mother Tongue- Based Multilingual Education (MTBMLE) provides literacy, prior knowledge, cognitive development and higher order thinking skills (HOTS), strong bridge, scaffolding, teaching for meaning and accuracy, confidence building and proficiency development for two or more languages along the macro- skills (listening, speaking, reading, writing, and viewing) (Department of Education, 2016).

The implementation of the MTBMLE is seen as a great opportunity for the indigenous pupils of the different municipalities in the Philippines including Brooke's Point to have maximum participation in the teaching- learning process that will lead to their success.

Since most of the schools in South District has majority of indigenous pupils, and the implementation of the MTBMLE is said to alleviate illiteracy, the researchers decided to conduct their study to assess the effectiveness of the mother tongue as a medium of instruction for Grade 3 pupils identified as members of the indigenous communities.

### ***Objective of the study***

The socio-demographic profile of the indigenous people's learners of Southern Palawan in terms of;

- a. age;
- b. gender;
- c. number of siblings;
- d. dialect spoken at home;
- e. ethnicity;
- f. residency;
- g. family structure;
- h. family income;
- i. general weighted average in core subjects

The demographic profile of the grade three teachers of Southern District of Palawan in terms of;

- a. educational background;
- b. length of service.

The level of academic performance of the learners in core subjects using the following mediums of instruction;

- a. Mother tongue;
- b. Filipino;
- c. English

The challenges encountered by the grade three teachers of Southern District of Palawan. Possibility there is a significant relationship between the demographic profiles of the learners to their academic performance.

If there is a significant relationship between the learners academic performance and use of the following mediums of instruction;

- a. Mother tongue;
- b. Filipino;
- c. English

### ***Scope and delimitation of the study***

This study delimited on the assessment of the effectiveness of Mother Tongue Based Multilingual Education to the indigenous pupils of Southern District of Palawan. The study was conducted to seven schools on the Southern Part of Palawan with dominant enrolled indigenous pupils Data were analyzed with the use of frequency distribution, mean and standard deviation, chi-square, Pearson- product moment correlation coefficient and Slovin's formula. The study instigated on February 2020 and was concluded on November 2020.

## **Materials and Methods**

### ***Locale of the study***

This study entitled, "Mother Tongue-Based Multilingual Education of Indigenous Learners: An Assessment" was conducted to Southern Palawan. Since majority of the people reside on the south district, the study was piloted on the seven (7) schools of different barangays in the Southern District known to have the most number of indigenous learners.

### ***Research design***

This study used the descriptive-correlational based-survey research design.

### ***Instrumentation***

This study used the survey questionnaire method of gathering data for it is considered as one of the most effective techniques of collecting information. A table of specification was made by the researcher patterned with the DepEd issued TOS using the learning competencies written in the K- 12 Curriculum Guide.

### ***Population and sampling procedure***

The respondents of this study were the grade school teachers and school indigenous learners in Southern district of Palawan.

Participants were selected through random sampling. This sampling method was utilized in order for each pupil to have an equal opportunity to become part of the

sample. As every teacher and grade 3 indigent pupil from the mentioned schools had an equal chance of becoming a research participant, it was seen to be an effective sampling.

### *Analysis of the data*

This study used different statistical tools to analyze and interpret the data. The data were analyzed through the use of the Statistical Package for the Social Sciences (SPSS).

## **Results and Discussion**

### *Demographic profile of the respondents*

Table 1 shows the demographic profile of the learner respondents as to their age, gender, number of siblings, dialect spoken at home, ethnicity, residency, family structure, and family income.

**Table 1.** Frequency distribution on the profile of the respondents.

Profile	Frequency (N)	Percentage (%)
<i>Age</i>		
14-16	3	1.99
11-13	22	14.57
8-10	126	83.44
<i>Gender</i>		
Male	79	52.32
Female	72	47.48
<i>Number of siblings</i>		
7-10	20	13.25
3-6	94	62.25
0-2	37	24.50
<i>Dialect spoken at home</i>		
Tagalog	52	34.44
Palaw'an	92	60.93
Muslim	6	3.97
Bisaya	1	0.66
<i>Ethnicity</i>		
Tagalog	42	27.81
Palaw'an	103	68.21
Muslim	3	1.99
Jamamapun	1	0.66
Cuyunon	2	1.33
<i>Residency</i>		
Raang	20	13.25
Amas	38	25.17
Imunlod	33	21.85
Tagpinasao	18	11.92
Tub-tub	13	8.61
Tabod	4	2.65
Saraza	17	11.26
Malisya	2	1.33
Rabok	4	2.62
Macagua	1	0.66

2nd Avane	1	0.66
<i>Family structure</i>		
Nuclear	89	58.94
Extended	61	40.40
single-parent	1	0.66
<i>Family structure (Living with)</i>		
parents & siblings	72	47.68
parents, siblings, grandparents	41	27.15
parents, siblings, relatives	20	13.25
father only	1	0.66
Parents	17	11.26
<i>Family income</i>		
>20000	3	1.99
10k-19999	9	5.96
<10k	139	92.05

It can be seen from the table that the age of the grade three learners were mostly at the range of 8- 10 with a frequency of 126 or 83.44 percent. This was followed by the range of 11- 13 which included 22 respondents or 14.57 percent, and range of 14- 16 with 3 respondents or 1.99 percent. The mean age of the pupils was 9.42. As to gender, majority were male with a frequency of 79 or 52.32 percent. The rest were female with 72 or 47.68 percent. With regards to number of siblings, majority had 3-6 siblings with a frequency of 94 or 62.25 percent; some had 0-2 siblings with 37 frequency or 24.50 percent; others had 7- 10 siblings with 20 frequency or 13.25 percent. This implies that most of the learners belong to big families. As for the dialect spoken at home, majority used Palaw'an with 92 frequency or 60.93 percent; followed by Tagalog with 52 frequency or 34.44 percent, Muslim with 6 frequency or 3.97 percent, and Bisaya with 1 frequency or 0.66 percent. This implies that the dialect spoken at home by the majority of the learner respondents was Palaw'an because most of the parents were Palawan. As to ethnicity, Palawan comprised the majority with 103 frequency or 68.21 percent; followed by Tagalog with 42 frequency or 27.81 percent, Muslim with 3 frequency or 1.99 percent, Cuyunon with 2 frequency or 1.33 percent; and Jamamapun with 1 frequency or 0.66 percent. As for the family structure, most of the learners belong to nuclear families with 89 frequency or 58.94 percent. Others from extended family with 61 frequency or 40.40 percent, and single- parent with 1 frequency or 0.66 percent. Majority of the learners were living with their parents and siblings (72 or 47.68%); some with parents, siblings, and grandparents (41 or 27.15%); others with their parents, siblings, and relatives (20 or 13.25%); the rest with parents (17 or 11.26%), and father only (1 or 0.66%). With regards to family income, majority had family income lower than ten thousand pesos which included 139 respondents or 92.05 percent. 9 respondents or 5.96 percent had family income ranging from ₱10,000.00- ₱19,999.00, while 3 or 1.99 percent had greater than ₱20,000.00.

***Demographic profile of the grade three teachers of Brooke's Point South District in terms of highest educational attainment and length of service***

With regards to highest educational attainment, it is shown in the table that majority of the teacher respondents with a frequency of 4 or 57.14 percent were college graduate and there were frequency of 3 or 42.86 percent who had MA units (Table 2). This implies that majority of the teachers teaching grade three had basic pedagogical

knowledge. As to the length of service, most of the grade three teachers with a frequency of 6 or 85.71 percent were serving for less than 10 years, only 1 or 14.29 percent was rendering service for more than ten years. The computed mean was 1.43. This implies that majority of the teachers teaching grade three had limited experience in handling diverse learners for they were just new in the field of teaching. This also means that they had limited knowledge about the language, beliefs and culture of the Palawans because they were with them for only a short period of time.

**Table 2.** Frequency distribution on the profile of the grade school teachers.

Profile	Frequency (N)	Percentage (%)
<i>Highest educational attainment</i>		
College graduate	4	57.14
With MA units	3	42.86
<i>Length of service</i>		
More than 10 years	1	14.29
Less than 10 years	6	85.71

### **Performance of the respondents in Science, Mathematics and English**

Table 3 shows the frequency distribution on the level of academic performance of the respondents in Science. It can be seen that majority of the respondents with 22 in frequency or 44 percent had a level of academic performance of 75- 79 interval or fairly satisfactory; followed by 11 frequency or 22 percent who had a level of academic performance of 85- 89 interval or very satisfactory, 9 frequency or 18 percent with 80- 84 or satisfactory, 6 frequency or 12 percent with 90- 100 or outstanding, and 2 frequency or 4 percent with below 75 who did not meet expectation. Highest grade acquired was 92 while the lowest was 70. The computed standard deviation was 5.80 and mean was 81.38 which caused the overall performance to be satisfactory.

**Table 3.** Frequency distribution on the level of academic performance of the respondents in Science.

Subject	Interval	Descriptive interpretation	Frequency (N=50)	Percentage (%)
Science	90-100	Outstanding	6	12.00
	85-89	Very satisfactory	11	22.00
	80-84	Satisfactory	9	18.00
	75-79	Fairly satisfactory	22	44.00
	Below 75	Did not meet expectation	2	4.00
Highest grade		92		
Lowest grade		70		
Standard deviation		5.80		
Mean		81.38		
Over-all description		Satisfactory		

This means that most of the learners were not performing well in Science as evident in the grades that they acquired, because they only earned the minimum grade requirements to pass the subject.

Table 4 shows the frequency distribution on the level of academic performance of the respondents in Mathematics. It can be seen that most of the respondents had a level of academic performance within the interval of 80- 84 or satisfactory (22 or 44.90%);

others had 75- 79 or fairly satisfactory (14 or 28.57%), 85- 89 or fairly satisfactory (9 or 18.37%), and 90- 100 or outstanding (4 or 8.16%). Highest grade was 96 while lowest was 75. The calculated standard deviation was 4.92, and mean was 82.31 which made the overall description to be satisfactory.

**Table 4.** Frequency distribution on the level of academic performance of the respondents in Mathematics.

Subject	Interval	Descriptive interpretation	Frequency (N=49)	Percentage (%)
Mathematics	90-100	Outstanding	4	8.16
	85-89	Very satisfactory	9	18.37
	80-84	Satisfactory	22	44.90
	75-79	Fairly satisfactory	14	28.57
	Below 75	Did not meet expectation	0	0
Highest grade		96		
Lowest grade		75		
Standard deviation		4.92		
Mean		82.31		
Over-all description		Satisfactory		

This denotes that majority of the learners were performing adequately in Mathematics for they acquired grades higher than the minimum requirement to pass the subject but not enough to be described as outstanding.

Table 5 shows the frequency distribution on the level of academic performance of the respondents in Languages. It is shown that most of the students had a grade within the interval of 75-79 or fairly satisfactory (21 or 40.38%); some within the interval of 80-84 or satisfactory (14 or 26.92%), others within the interval of 85-89 or very satisfactory (11 or 21.16%), 90- 100 or outstanding (4 or 7.69%), and below 75 or did not meet expectation (2 or 3.85%). Highest grade attained was 91 while lowest was 72. Standard deviation was 4.84, and mean was 81.29 which resulted to a satisfactory performance.

**Table 5.** Frequency distribution on the level of academic performance of the respondents in Languages.

Subject	Interval	Descriptive interpretation	Frequency (N=52)	Percentage (%)
Mathematics	90-100	Outstanding	4	7.69
	85-89	Very satisfactory	11	21.16
	80-84	Satisfactory	14	26.92
	75-79	Fairly satisfactory	21	40.38
	Below 75	Did not meet expectation	2	3.85
Highest grade		91		
Lowest grade		72		
Standard deviation		4.84		
Mean		81.29		
Over-all description		Satisfactory		

The result implies that most of the learners were not performing well in languages for they just had acquired the least grade requirement to pass the language subjects, as it is stated in the Department of Education guidelines through DepEd Order No.8, series

of 2015 (Department of Education, 2013); the minimum grade needed to pass a specific learning area is 60 which is transmuted to 75 in the report card.

Table 6 shows the frequency distribution on the level of academic performance in terms of the general weighted average. It is shown that majority of the respondents, about 67 or 44.37% had a general weighted average of 75- 79 or fairly satisfactory; 43 or 28.47% had 80- 84 or satisfactory; 29 or 19.21 % had 85- 89 or very satisfactory; 9 or 5.96% had 90- 100 or outstanding; and 3 or 1.99% had below 75 or did not meet expectation. Highest grade acquired was 92 while lowest was 71. The computed standard deviation was 4.84, and mean was 81.17 that caused the performance to be satisfactory. This infers that most of the learner respondents were not performing well in school as evident in their general weighted average which was only enough to pass and be promoted to the next grade level. Further, according to Calaguas (2011), general weighted average serves as an indicator of student's academic achievement in a given school year. Most of the learners had just attained the floor grade which means they had an overall poor school performance.

**Table 6.** Frequency distribution on the level of academic performance in terms of the General Weighted Average.

Subject	Interval	Descriptive interpretation	Frequency (N=151)	Percentage (%)
GWA	90-100	Outstanding	9	5.96
	85-89	Very satisfactory	29	19.21
	80-84	Satisfactory	43	28.47
	75-79	Fairly satisfactory	67	44.37
	Below 75	Did not meet expectation	3	1.99
Highest grade		92		
Lowest grade		71		
Standard deviation		4.84		
Mean		81.17		
Over-all description		Satisfactory		

**Performance of the respondents in the core subjects when given in their Mother Tongue, Filipino and English**

Table 7 shows the frequency distribution on the level of academic performance in Science in terms of the medium of instruction. It can be seen that when mother tongue is used as a medium of instruction, majority of the respondents (25 or 50%) got the score of below six or did not meet expectation. Highest score was 9 while lowest was zero. The standard deviation was 1.81, mean was 5.48, and the overall description was did not meet expectation.

**Table 7.** Frequency distribution on the level of academic performance in Science in terms of the medium of instruction.

Subject	Interval	Descriptive interpretation	Frequency (N=50)	Percentage (%)
Mother tongue	9	Outstanding	2	4.00
	8	Very satisfactory	4	8.00
	7	Satisfactory	9	18.00
	6	Fairly satisfactory	10	20.00
	Below 6	Did not meet expectation	25	50.00



Highest score			9		
Lowest score			0		
Standard deviation			1.81		
Mean			5.48		
Over-all description			Did not meet expectation		
Filipino	9	Outstanding	1	2.00	
	8	Very satisfactory	6	12.00	
	7	Satisfactory	11	22.00	
	6	Fairly satisfactory	9	18.00	
	Below 6	Did not meet expectation	23	46.00	
Highest score			10		
Lowest score			1		
Standard deviation			1.97		
Mean			5.54		
Over-all description			Did not meet expectation		
English	9	Outstanding	1	2.00	
	8	Very satisfactory	3	6.00	
	7	Satisfactory	4	8.00	
	6	Fairly satisfactory	2	4.00	
	Below 6	Did not meet expectation	40	80.00	
Highest score			9		
Lowest score			0		
Standard deviation			2.13		
Mean			3.90		
Over-all description			Did not meet expectation		

Further, when Filipino was used as a medium of instruction, most of the learners (23 or 46%) had scores of below 6 or did not meet expectation. Highest score was 10 while lowest was 1. The standard deviation was 1.97, with a mean of 5.54, and described as did not meet expectation. With regards to English as a medium of instruction, most of the respondents (40 or 80%) got scores of below 6 or fairly satisfactory. Highest score acquired was 9 while lowest was 0. The standard deviation was 2.13, mean was 3.90, and the overall description was did not meet expectation.

The results denote that majority of the pupils got scores of below 6 in three different mediums of instruction and had a did not meet expectation level of academic performance. This was because they did not have a good foundation of the subject due to the fact that the lessons were taught to them using a mother tongue that was very different from what they were using and which they hardly understood. There was no smooth transition of learning from home to school for they were taught by their parents of the basic knowledge and skills at home using Palaw'an but they were taught in school using Tagalog.

Further, Pasco and Guhao (2016) stated that if a child does not understand the language of instruction in the early grades, he/ she would not be able to count, read and learn the other subjects, but he will be a performer if he/she will be taught using the language he could understand.

### ***Level of academic performance in Mathematics in terms of the medium of instruction***

Table 8 shows the frequency distribution on the level of academic performance in Mathematics in terms of the medium of instruction. When mother tongue was used as a medium of instruction, majority of the respondents (35 or 71.43 %) got below 6 or did

not meet expectation. Highest score was 8 while lowest was 0. The standard deviation was 2.13, mean was 3.90, and overall description was did not meet expectation.

**Table 8.** Frequency distribution on the level of academic performance in Mathematics in terms of the medium of instruction.

Subject	Interval	Descriptive interpretation	Frequency (N=49)	Percentage (%)
Mother tongue	9	Outstanding	0	0
	8	Very satisfactory	3	6.12
	7	Satisfactory	3	6.12
	6	Fairly satisfactory	8	16.33
	Below 6	Did not meet expectation	35	71.43
Highest score		8		
Lowest score		0		
Standard deviation		2.13		
Mean		3.90		
Over-all description		Did not meet expectation		
Filipino	9	Outstanding	0	0
	8	Very satisfactory	1	2.05
	7	Satisfactory	4	8.16
	6	Fairly satisfactory	6	12.24
	Below 6	Did not meet expectation	38	77.55
Highest score		8		
Lowest score		0		
Standard deviation		1.86		
Mean		3.88		
Over-all description		Did not meet expectation		
English	9	Outstanding	1	2.05
	8	Very satisfactory	1	2.05
	7	Satisfactory	2	4.08
	6	Fairly satisfactory	10	20.40
	Below 6	Did not meet expectation	35	71.42
Highest score		9		
Lowest score		0		
Standard deviation		1.88		
Mean		4.20		
Over-all description		Did not meet expectation		

Further, when Filipino was used as a medium of instruction, most of the pupils (38 or 77.55%) had attained scores of below 6 or did not meet expectation. Highest score was 8 while lowest was 0. It had a standard deviation of 1.86, mean of 3.88, and an overall description of did not meet expectation. With regards to English as a medium of instruction, majority of the learners (35 or 71.42%) got below 6 or did not meet expectation. Highest score recorded was 9 while lowest was 0. The computed standard deviation was 1.88, mean was 4.20, and the overall description was did not meet expectation.

The results indicate that majority of the learners got low scores and had a did not meet expectation level of academic performance in Mathematics because they did not have a strong foundation of the subject due to the fact that the lessons in Mathematics were taught using Tagalog instead of Palaw'an since it was the medium of instruction used by parents to teach the basic numerical literacy at home.

Further, Espada et al. (2017) mentioned that pupils who are exposed to mother tongue are superior when tested with skills with other subjects and that the most basic concepts and literacy skills can be taught best in the child's native language.

***Level of academic performance in Languages in terms of the medium of instruction***

It is shown in *Table 9* that when mother tongue was used as a medium of instruction, the greatest number of respondents (45 or 86.54%) had the scores of below 6 or did not meet expectation. Highest score was 7 while lowest was 0. The computed standard deviation was 1.64; mean was 3.65; and overall description was did not meet expectation.

***Table 9. Frequency distribution on the level of academic performance in Languages in terms of the medium of instruction.***

Subject	Interval	Descriptive interpretation	Frequency (N=52)	Percentage (%)
Mother tongue	9	Outstanding	0	0
	8	Very satisfactory	0	0
	7	Satisfactory	1	1.92
	6	Fairly satisfactory	6	11.54
	Below 6	Did not meet expectation	45	86.54
Highest score		7		
Lowest score		0		
Standard deviation		1.64		
Mean		3.65		
Over-all description		Did not meet expectation		
Filipino	9	Outstanding	0	0
	8	Very satisfactory	0	0
	7	Satisfactory	1	1.92
	6	Fairly satisfactory	9	17.31
	Below 6	Did not meet expectation	42	80.77
Highest score		7		
Lowest score		0		
Standard deviation		1.58		
Mean		3.90		
Over-all description		Did not meet expectation		
English	9	Outstanding	0	0
	8	Very satisfactory	0	0
	7	Satisfactory	1	1.92
	6	Fairly satisfactory	2	3.85
	Below 6	Did not meet expectation	49	94.23
Highest score		7		
Lowest score		0		
Standard deviation		1.46		
Mean		2.52		
Over-all description		Did not meet expectation		

With regards to Filipino as medium of instruction, majority of the respondents (42 or 80.77%) got the score of below 6 or did not meet expectation. Highest score acquired was 7 while lowest was zero. The calculated standard deviation was 1.58, mean was 3.90, and the overall description was did not meet expectation. Further, when English

was used as a medium of instruction, most of the respondents (49 or 94.23%) had scores of below 6 or did not meet expectation. Highest score obtained was 7 while lowest was 0. Standard deviation was 1.46, mean was 2.52, and overall description was did not meet expectation.

The results imply that most of the learners got low scores and had a “Did not meet expectation” level of academic performance because they had a shallow understanding of the subject matter. This was because they were taught using Tagalog instead of Palaw’an. Further, Cruz (2015) mentioned that children understood the subject matter much more easily and effectively in their mother tongue. Corpuz and Salandanan (2015) also stated that the use of mother tongue as the language of learning from grades 1-3 facilitates the child’s comprehension of academic content that leads to lesson mastery, creative, and critical thinking.

***The challenges encountered by the grade three teachers of Brooles’ Point South District***

It can be seen in the table that the most encountered challenges of the teachers (rank 2) were individual differences, learner’s interest and needs, and integrating MTB-MLE to other subjects. It is followed by handling different pupils from different ethnicity and support from parents (rank 4.5); learning style of every pupil, keeping their interest in MTB-MLE subject, developing discipline through MTB-MLE, being promoted to grade three even if they were non- reader (due to mass promotion), absenteeism, and distance (home-school) (rank 8.5); and providing instructional materials which were locally available, establishing harmonious relationship with the learners and avoiding discrimination, teaching strategies and materials, lack of follow-up at home, lack of resources and weather condition (rank 14.5) (Table 10).

**Table 10.** Frequency distribution on the level of academic performance in Mathematics in terms of the medium of instruction.

Statement	Frequency (N=7)	Percentage (%)	Rank
Individual Differences	4	57.14	2
Learners' interests and needs	4	57.14	2
Integrating MTB- MLE to other subjects	4	57.14	2
Handling different pupils from different ethnicity	3	42.86	4.5
Support from parents	3	42.86	4.5
Learning style of every pupil	2	28.57	8.5
Keeping their interest in MTB-MLE subject	2	28.57	8.5
Developing discipline through MTB-MLE	2	28.57	8.5
Other pupils are promoted to grade three even if they are non-reader (due to mass promotion)	2	28.57	8.5
Absenteeism	2	28.57	8.5
Distance (Home-school)	2	28.57	8.5
Providing instructional materials which are locally available	1	14.29	14.5
Establishing harmonious relationship with them and avoiding discrimination	1	14.29	14.5
Teaching strategies and materials	1	14.29	14.5
Lack of follow-up at home	1	14.29	14.5

Lack of resources	1	14.29	14.5
Weather	1	14.29	14.5

The results indicate that most of the teachers had difficulty in dealing with learners' individual differences, interest and needs as well as integrating MTB- MLE to other subjects because they were not aware of the communities' beliefs, culture and languages. This is because they belong to a different ethnicity, and were not residents of the barangays where they were deployed to teach. Further, according to Quinton (2013), if teachers don't know anything about the everyday lived experiences of the students; their cultural backgrounds, dialects, family, home, and community, connections will not be made. A culturally responsive pedagogy starts with the premise that race and class matter. It makes sure that all students feel valued by finding ways to bring students' heritage and community into the classroom, and hold students to a high academic standard.

***Relationship between the demographic profile of the learners to the academic performance***

Testing the significant relationship between the learners' demographic profile and their academic performance; number of siblings, family structure, and family income has positive computed t-values which are less than their corresponding tabular t-values. This means that the variables are not correlated with the learners' academic performance, thus, they have no significant relationship. Age, dialect spoken at home, ethnicity, residency, have negative computed t-values which are all greater than their corresponding tabular t- values. This means that the variables are not correlated with the learners' academic performance, thus, they have no significant relationship (*Table 11*).

**Table 11.** Pearson Moment Correlation Coefficient *r* showing significant relationship between the demographic profile of the learners and their academic performance.

Variable	Pearson <i>r</i>	Computed t-value	Tabular t-value ( $\alpha=0.05$ )	Decision
Age	-0.12	-1.43	-1.96	H <sub>0</sub> : accept
Gender	-0.34*	-4.47	-1.96	H <sub>0</sub> : reject
Number of siblings	0.04	0.52	1.96	H <sub>0</sub> : accept
Dialect spoken at home	-0.14	-1.75	-1.96	H <sub>0</sub> : accept
Ethnicity	-0.08	-0.93	-1.96	H <sub>0</sub> : accept
Residency	-0.07	-0.89	-1.96	H <sub>0</sub> : accept
Family structure	0.02	0.29	1.96	H <sub>0</sub> : accept
Family income	0.08	0.99	1.96	H <sub>0</sub> : accept

This indicates that the demographic profile of the learners except for gender did not affect the academic performance of the learners. This means that the pupils' age, number of siblings, dialect spoken at home, ethnicity, residency, family structure, and family income had nothing to do with their performance for it was due to the learning foundation that they had. Gender on the other hand has correlation with the learners' academic achievement for it has a computed t- value of -4.47 which is less than the tabular t- value of -1.96. This indicates that there was a difference in the academic performance of boys and girls. Since the computed t-value is negative, this means that girls performed better than boys.

***Relationship between the learners’ academic performance and the use of the medium of instruction***

Testing the significant relationship between the learners’ academic performance in Science and medium of instruction, it can be seen in *Table 12* that the computed t-values of all the variables are greater than the tabular values which means that there is a correlation between the learners’ academic performance in Science and mediums of instruction, thus, there is a significant relationship between the two.

**Table 12.** *Pearson Moment Correlation Coefficient r showing significant relationship between the learners’ academic performance in Science and medium of instruction.*

Variable	Pearson <i>r</i>	Computed t-value	Tabular t-value ( $\alpha=0.05$ )	Decision
Mother tongue	0.43	3.31	1.96	H <sub>0</sub> : reject
Filipino	0.42	3.18	1.96	H <sub>0</sub> : reject
English	0.49	3.95	1.96	H <sub>0</sub> : reject

This implies that the learners’ academic performance in Science was influenced by the medium of instruction used. UNESCO (2018) stated that a lack of the knowledge of instruction or the classroom language hinders the ability of students to engage, learn, and communicate. Further, Reilly (2012) stated that children gain knowledge best when they use what they already know from their experience, particularly use a language they are familiar with.

Testing the significant relationship between the learners’ academic performance in Mathematics and medium of instruction, *Table 13* shows that the computed t- values of all the variables are greater than the tabular values which mean that the two are correlated with each other, thus, they have a significant relationship.

**Table 13.** *Pearson Moment Correlation Coefficient r showing significant relationship between the learners’ academic performance in Mathematics and medium of instruction.*

Variable	Pearson <i>r</i>	Computed t-value	Tabular t-value ( $\alpha=0.05$ )	Decision
Mother tongue	0.52	4.18	1.96	H <sub>0</sub> : reject
Filipino	0.44	3.36	1.96	H <sub>0</sub> : reject
English	0.49	3.86	1.96	H <sub>0</sub> : reject

The result implies that the learners’ academic performance in Mathematics was influenced by the medium of instruction. Further, Daby (2015) stated that the language of instruction in schools largely determines the academic performance of learners because fluency and literacy in the first language establishes a strong foundation for second language acquisition, for improved learning and reading aptitude, and for further studies.

Testing the significant relationship between the learners’ academic performance in Languages and medium of instruction, it can be seen in *Table 14* that the computed t-value for mother tongue is greater than the tabular value which means it has a correlation and significant relationship with learners’ academic performance.

**Table 14.** *Pearson Moment Correlation Coefficient r showing significant relationship between the learners’ academic performance in Languages and medium of instruction.*

Variable	Pearson <i>r</i>	Computed t-value	Tabular t-value	Decision
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			$(\alpha=0.05)$	
Mother tongue	0.40	3.12	1.96	H <sub>0</sub> : reject
Filipino	0.16	1.17	1.96	H <sub>0</sub> : accept
English	0.14	0.99	1.96	H <sub>0</sub> : accept

This implies that the learners' academic performance in language subjects was influenced by mother tongue as a medium of instruction. Navarro et al. (2016) mentioned that when mother tongue is implemented as the medium of instruction; learner ends up being better thinker and better learner in both first and second language. Further, the computed t-values for Filipino and English are less than the tabular values and therefore not correlated and have no significant relationship with learners' academic performance. The result implies that the performance of the learners in language subjects was not influenced by Filipino and English as mediums of instruction.

Testing the significant relationship between the learners' general weighted average and medium of instruction, it can be seen in *Table 15* that the computed t-values of the variables which are all greater than the tabular values reveals that there is a significant relationship between the two for they are correlated with each other. This implies that the learners' general weighted average was influenced by the medium of instruction.

**Table 15.** Pearson Moment Correlation Coefficient *r* showing significant relationship between the learners' general weighted average and medium of instruction.

Variable	Pearson <i>r</i>	Computed t-value	Tabular t-value $(\alpha=0.05)$	Decision
Mother tongue	0.42	5.59	1.96	H <sub>0</sub> : reject
Filipino	0.31	3.97	1.96	H <sub>0</sub> : reject
English	0.41	5.55	1.96	H <sub>0</sub> : reject

### ***The significant difference in the performance of the respondents in the core subjects as to the medium of instruction used***

The significant difference in the performance of the respondents in the core subjects as to the medium of instruction used was analyzed using Analysis of Variance.

In *Table 16*, the f-value of 11.09 is greater than the critical value of 3.05, thus, the null hypothesis that there is no significant difference between the learners' academic performance in Science and medium of instruction is rejected. This implies that the performance of the respondents in Science differ in terms of the medium of instruction used. There was a difference in the test scores of the learners in three different mediums of instruction but, all were low because they had weak foundation of the subject.

**Table 16.** ANOVA showing significant difference between the learners' academic performance in Science and medium of instruction.

Source of variation	SS	Df	MS	F	F crit
Between groups	86.49	2	43.25	11.09	3.05
Within groups	573.40	147	3.90		
Total	659.89	149			

As shown in *Table 17*, the f- value of 0.43 is smaller than the critical value of 3.05, thus, the null hypothesis that there is no significant difference between the learners' academic performance in Mathematics and the medium of instruction is accepted. This

implies that the performance of the learners in Mathematics did not differ in terms of the medium of instruction used.

**Table 17.** ANOVA showing significant difference between the learners' academic performance in Mathematics and medium of instruction.

Source of variation	SS	Df	MS	F	F crit
Between groups	3.28	2	1.64	0.43	3.05
Within groups	553.71	144	3.85		
Total	556.99	146			

As shown in *Table 18*, the f-value of 11.61 is greater than the critical value of 3.05, thus the null hypothesis that there is no significant difference between the learners' academic performance in languages and medium of instruction is rejected. This implies that the performance of the learners in languages differ in terms of the medium of instruction used. There was a variation in the test scores of the learners in three mediums of instruction but, all were low due to the shallow understanding of the subject matters.

**Table 18.** ANOVA showing significant difference between the learners' academic performance in Languages and medium of instruction.

Source of variation	SS	Df	MS	F	F crit
Between groups	56.63	2	28.31	11.61	3.05
Within groups	373.27	153	2.44		
Total	429.90	155			

## Conclusion

Based on the findings, the conclusions were made by: (1) the performance of the learners was not affected by age, number of siblings, dialect spoken at home, ethnicity, residency, family structure, and family income; (2) girls perform better than boys; (3) the learners' academic performance in Science was influenced by the medium of instruction; (4) the learners' academic performance in Mathematics was influenced by the medium of instruction; (5) The learners' performance in language subjects was influenced by mother tongue as a medium of instruction; (6) The learners' performance in language subjects was not influenced by Filipino and English as mediums of instruction; (7) the learners' general weighted average was influenced by the medium of instruction; (8) the performance of the respondents in Science differ in terms of the medium of instruction used but all were low because they had weak foundation of the subject; (9) the performance of the learners in Mathematics do not differ in terms of the medium of instruction used; and (10) the performance of the learners in languages differ in terms of the medium of instruction used but all were low due to the shallow understanding of the subject matters.

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