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Teacher Perception of Content Effectiveness in Mother Tongue Based Multilingual Education

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Abstract: Mother Tongue-Based Multilingual Education (MTB-MLE) is recognized as an important approach in improving learners' comprehension, participation, and academic performance. This study aimed to quantitatively evaluate teachers' perceptions of the effectiveness of MTB-MLE in enhancing student learning outcomes at Bugao Central Elementary School, including their level of preparedness, availability of resources, and the challenges encountered in its implementation. Using a quantitative research design, data were collected from 30 teachers through a survey questionnaire and analyzed using descriptive statistics and non-parametric tests. The findings revealed that teachers generally perceived MTB-MLE as very effective in improving student learning outcomes; however, teacher preparedness and resource availability were rated only as moderately effective. Teachers also reported that resources, language use, and training were mostly challenging aspects of the program. Furthermore, no significant differences were found in teachers' perceptions when grouped according to gender and years of teaching experience. Based on these results, the study recommends strengthening teacher training, improving the provision of localized instructional materials, and ensuring continuous monitoring and support to enhance the overall implementation of MTB-MLE.

Keywords: MTB-MLE, Language acquisition, Curriculum relevance, Cultural inclusivity, Linguistic diversity, Classroom implementation, Educational challenges

Introduction

Language is an essential means of communication, influencing how people convey thoughts, emotions, and ideas. It is central to human interaction, facilitating the transfer of culture, knowledge, and societal values over time. In education, language is key to both learning and cognitive growth. Examining how language is acquired and utilized offers important insights into how individuals comprehend and process information. It can also build obstacles in the way of equality or open doors to new opportunities. Even with all of its complexity, language is rarely simple. It is becoming more and more clear that some groups remain behind as numerous development targets are met. These communities are often politically and socially secluded, sometimes even physically separated, due to the languages they speak. By providing everyone with access to high-quality education and, consequently, including every member of the community in their own development, MTB-MLE aims to address this problem.

In the Philippine context, Neokleous, Krulatz, and Xu (2022) examined the impact of teacher education on English teachers' perspectives regarding the use of learners' mother tongues. The study found that while teacher education influences classroom beliefs and practices, teachers' prior experiences also play a significant role. Many participants reported that their training emphasized target-language use, with limited focus on pedagogical strategies for integrating the mother tongue. This finding is relevant to MTB-MLE implementation, as it highlights the need for teacher education programs that explicitly prepare educators for multilingual classroom environments.

A similar concern was identified by Tomas (2023), who assessed the implementation of MTB-MLE in Benguet. The study found that the use of the mother tongue enhanced learners' comprehension, classroom participation, and reading skills. However, teachers also reported potential negative effects, including difficulties in acquiring Filipino and English, challenges in understanding higher-level concepts, and reduced confidence in using second languages. Additionally, significant implementation challenges were identified, particularly the lack of instructional materials and the linguistic diversity of learners and teachers. These findings indicate that while MTB-MLE supports immediate learning outcomes, its implementation becomes more complex in linguistically heterogeneous contexts.

On the other hand, Oliveros (2021), found out that there are challenges on the implementation of MTB-MLE program as a language policy such as: beliefs of the teachers, even the parents; the practices of teachers, students, and parents; and the management of the government on providing needed materials and other resources. Hence, she concluded that MTB-MLE must be revisited in order to provide technical assistance to all. Apolonio, A. (2022) revealed that there is a need to re-evaluate the MTB-MLE in the Philippines since many language acquisition theories stress the learning of English at an early stage and the teaching of English is not the exclusive concern of the English teacher.

Tenorio (2022) further examined MTB-MLE implementation in mathematics instruction and found that teachers often diverge from prescribed policies in actual classroom practice. In a rural Philippine context, teachers frequently employed code-switching and modified instructional guidelines to address practical challenges. The study also revealed generally negative attitudes

toward the policy, influenced by perceived complexity, entrenched colonial language ideologies, and the limited perceived utility of local languages in mathematics instruction. Key challenges included mismatches between learners' language and instructional language, absence of equivalent terminology in the mother tongue, and inadequacies in teaching materials. These findings underscore the reality that teachers actively negotiate policy implementation based on contextual demands rather than strictly adhering to official guidelines.

Mother Tongue-Based Multilingual Education (MTB-MLE) has been widely recognized as an essential approach in improving early grade learners' comprehension, participation, and overall academic performance. The use of the learners' first language as a medium of instruction allows them to better understand concepts, express ideas, and connect learning to their cultural context. Various studies have explored the implementation of MTB-MLE, focusing on teachers' preparedness, instructional competence, teaching strategies, and the challenges encountered in diverse educational settings.

Magno (2025) examined mother tongue-based education as a predictor of multilingual education through a meta-synthesis of qualitative studies conducted from 2010 to 2023 using the PRISMA framework. The study identified key themes such as translanguaging, cultural relevance, multilingual teaching strategies, and curriculum adaptation. More specifically, five overarching themes emerged: transitioning to bilingualism, bridging learning with cultural understanding, linking language to pedagogy, negotiating collaborative learning partnerships, and adapting to curriculum changes. Magno concluded that mother tongue-based education plays a vital role in fostering multilingual competence; however, its sustainability requires continuous

policy refinement, enhanced teacher training, improved instructional resources, and the adoption of inclusive pedagogical approaches. The study further highlighted the importance of ongoing professional development and curriculum innovation to strengthen MTB-MLE implementation.

The study of Fontanilla (2025) examined the preparedness and instructional competence of Grade 1 and 2 teachers in implementing MTB-MLE. The findings revealed that teachers demonstrated a very high level of preparedness in terms of pupils' readiness, teacher capability, availability of instructional materials, and training support. Teachers were also confident in using the mother tongue as a medium of instruction, which contributed to effective teaching practices. Moreover, the study established a strong positive relationship between preparedness and instructional competence, indicating that well-prepared teachers are more capable of delivering effective instruction. However, despite this high level of preparedness, challenges such as learners' varying fluency, insufficient training, and limited localized materials were still evident. These findings highlight the importance of continuous professional development and resource provision in strengthening MTB-MLE implementation.

Moreover, Autor (2025) explored the practices of MTB-MLE implementation in Paranas, Samar, and found that the use of the mother tongue significantly improves learners' comprehension and engagement. Teachers employed effective practices such as contextualization, language bridging, and integration of cultural relevance in their instruction. These strategies enabled learners to actively participate and express their ideas more confidently. However, the study also identified several challenges, including difficulty in translating technical terms, dialectal variations, limited instructional materials, and insufficient teacher training. While

the study provided valuable insights into classroom practices, it primarily focused on teachers' perspectives and did not examine learner outcomes or the long-term impact of MTB-MLE. These gaps suggest the need for more comprehensive research that includes multiple stakeholders and measures educational outcomes.

In contrast, Purcia and Castante (2023) provided a more critical, teacher-centered perspective by examining perceptions regarding the proposed abrogation of MTB-MLE in Philippine public elementary schools. Their descriptive-correlational study revealed that teachers moderately supported the discontinuation of the program, indicating a level of uncertainty regarding its effectiveness under current conditions. Furthermore, the study found no significant differences in perceptions when respondents were grouped according to profile variables, nor any significant relationship between these variables and their views on policy abrogation. This suggests that concerns about MTB-MLE are broadly shared among teachers and are primarily rooted in common implementation challenges, such as inadequate training, insufficient resources, and structural limitations in classroom application.

The complexities of implementing MTB-MLE in mathematics education are further illustrated in the study of Mula and Estapia (2025), which examined teachers' perceptions of mother tongue-based instruction in relation to the Metrobank-MTAP-DepEd Math Challenge. The findings indicated that teachers generally perceived MTB-based instruction as beneficial in classroom mathematics teaching, particularly in terms of instructional strategies, language competence, availability of teaching materials, and learners' understanding. However, teachers

expressed disagreement regarding its effectiveness in improving pupils' performance in English-based mathematics competitions. This was largely attributed to the language mismatch between mother tongue instruction and the English medium used in assessments. The study highlights the tension between local language instruction and external academic demands, suggesting the need for more effective language transition strategies.

In support of these findings, Barruga (2024) investigated the classroom implementation of MTB-MLE among Masbatenyo teachers and emphasized that the approach enhances learners' comprehension and cultural connection. The study revealed that teachers encounter difficulties such as lack of instructional materials, challenges in translating technical terms, and complexity of the policy. Additionally, the limited scope of the study, which involved only three teachers, restricts the generalizability of its findings. It also focused mainly on teachers' experiences without considering the perspectives of learners, parents, and administrators. These limitations indicate the need for broader studies that incorporate diverse participants and examine both instructional practices and learner outcomes.

Furthermore, Sanchez and Miralles (2025) examined the role of MTB-MLE in enhancing early language development using a mixed-methods approach. The findings showed that MTB-MLE positively influences learners' cognitive, linguistic, and sociocultural development. Learners were able to analyze concepts and apply knowledge in real-life situations, while also developing a stronger sense of cultural identity. However, differences in perceptions among teachers, parents, and administrators were observed, suggesting that stakeholder involvement

plays a crucial role in program implementation. The study emphasized that while MTB-MLE is beneficial, its success depends on adequate teacher training, community involvement, and availability of localized materials.

In the context of numeracy development, Janaban (2025) found that MTB-MLE enhances learners' understanding and engagement in mathematics. Teachers utilized strategies such as differentiated instruction, real-life examples, manipulatives, and visual aids to support learning. The use of the mother tongue enabled learners to better grasp mathematical concepts and apply them in practical situations. However, challenges such as difficulty in translating mathematical terms, varying levels of language proficiency, and limited familiarity with localized number terms were identified. These findings underscore the need for improved instructional materials and teacher training to address subject-specific challenges in MTB-MLE implementation.

The study of Ancheta and Ochoco (2024) highlighted the complexity of implementing MTB-MLE in urban settings. While teachers were aware of the program's objectives, the actual implementation was hindered by linguistic diversity, lack of localized materials, and insufficient support systems. The study pointed out the gap between policy and practice, emphasizing the need for stronger institutional support, including training, funding, and resource allocation. This suggests that effective implementation of MTB-MLE requires not only teacher preparedness but also systemic support.

Moreover, Heraña and Azarias (2024) identified key teaching strategies used in MTB-MLE classrooms, summarized as TRIP: Translating, Remediating Instruction, Indigenizing

Instructional Materials, and Peer Learning. These strategies demonstrate teachers' adaptability and creativity in addressing linguistic and contextual challenges. The findings highlight that teachers play a crucial role in the success of MTB-MLE by developing context-sensitive approaches that enhance learner engagement and comprehension.

In addition, Azura (2025) examined the relationship between MTB-MLE implementation and teaching competence and found a significant positive correlation between the two variables. The study revealed that teachers who effectively implement MTB-MLE tend to exhibit higher levels of teaching competence, particularly in lesson planning and language proficiency. This supports the findings of Fontanilla (2025), reinforcing the idea that preparedness and proper implementation are key factors in improving instructional quality.

On the other hand, the study of Berame, Mercado, and Bulay (2023) focused on the implementation of MTB-MLE in an indigenous context and identified major challenges such as teacher unpreparedness, difficulty in instruction, language endangerment, and lack of contextualized materials. These findings highlight the disparities in MTB-MLE implementation across different contexts, particularly in marginalized communities where resources and support are limited. The study emphasizes the need for culturally responsive materials, adequate training, and stronger support systems to ensure effective implementation.

The Present Study

This study aims to quantitatively evaluate teachers' perceptions of the effectiveness of Mother Tongue-Based Multilingual Education (MTB-MLE) in improving student learning

outcomes. Specifically, it seeks to describe the profile of the respondents in terms of their gender and years of teaching experience. Furthermore, the study examines the extent to which teachers perceive the effectiveness of MTB-MLE in relation to student learning outcomes, teacher preparedness, and the availability of resources.

In addition, the study investigates whether there is a significant difference in the perceptions of the respondents when they are grouped according to their profile. It also identifies the common challenges encountered in the implementation of MTB-MLE, particularly in terms of resources, language, and training. Finally, based on the findings of the study, recommendations are proposed to enhance the implementation and effectiveness of MTB-MLE.

Overall, the reviewed studies consistently show that MTB-MLE has significant benefits in enhancing learners' comprehension, engagement, and cultural identity. Teachers' preparedness and instructional competence are critical factors in the successful implementation of the program. However, common challenges such as insufficient training, lack of localized instructional materials, language diversity, and limited stakeholder involvement continue to hinder its effectiveness. Furthermore, gaps in existing research, such as the lack of focus on learner outcomes, limited sample sizes, and absence of multiple stakeholder perspectives, highlight the need for more comprehensive studies.

In connection to the present study, these gaps will be addressed by examining not only teachers' preparedness and instructional competence but also incorporating broader perspectives and exploring additional variables that may influence the effectiveness of MTB-MLE

implementation. Through this, the study aims to contribute to a more holistic understanding of MTB-MLE and provide insights for improving its implementation in diverse educational contexts.

The researchers highlight that this research may reveal the need to address the challenges faced by teachers in this regard if MTB-MLE is to succeed and fulfill its promise of having an impact on student achievement. Also, to identify the issues that need to be addressed for teachers who are encountering difficulties in teaching MTB-MLE, based on their perspectives and experiences in implementing it.

Theoretical Framework

This study is anchored on Lev Vygotsky's Sociocultural Theory, which emphasizes that learning occurs through social interaction and language. According to this theory, language plays a crucial role in the development of thinking and understanding among learners. (Vygotsky,1978)explains that children learn best when they are taught using a language that is familiar to them. Through interaction with teachers and peers, learners are able to construct meaning, express their ideas, and actively participate in the learning process.

This highlights the importance of using the mother tongue as a medium of instruction, especially in early education.In the context of this study, Mother Tongue-Based Multilingual Education (MTB-MLE) supports learners in developing better comprehension, participation, and academic performance because they can easily understand the lessons delivered in their first language. Furthermore, this theory also emphasizes the role of teachers in guiding learners

within their Zone of Proximal Development (ZPD). This means that teacher preparedness and availability of resources are essential in helping learners achieve better learning outcomes.

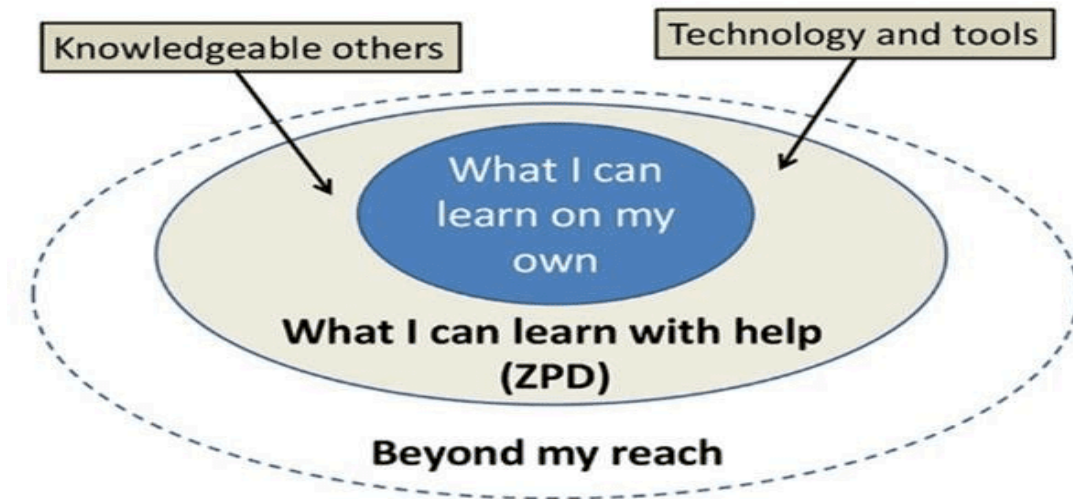


Figure 1. *Lev Vygotsky's Sociocultural Theory*

Conceptual Framework

This study is anchored on the premise that the effectiveness of Mother Tongue-Based Multilingual Education (MTB-MLE) is influenced by key factors related to teachers and the learning environment.

In this framework, teacher preparedness and availability of resources are identified as the independent variables, as they directly affect how teachers implement MTB-MLE in the classroom. Teacher preparedness includes knowledge, skills, and training, while availability of resources refers to instructional materials and support systems.

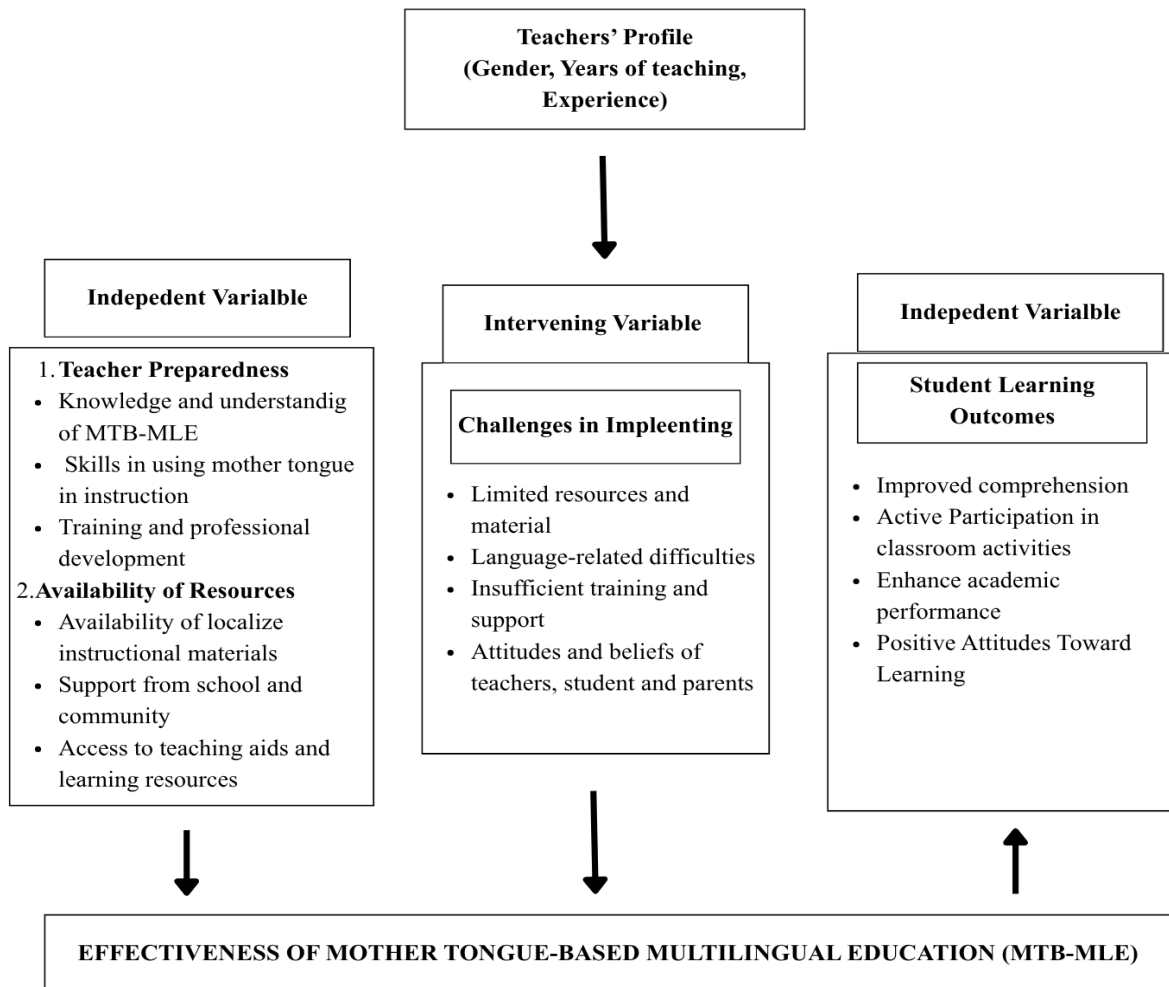


Figure 2. *Research Paradigm*

The dependent variable is student learning outcomes, which include learners' comprehension, participation, and academic performance. This reflects the overall effectiveness of MTB-MLE. Meanwhile, teachers' profile (gender and years of teaching experience) is treated as a moderating variable, as it may influence teachers' perceptions and implementation of the program. Additionally, challenges in implementation (such as issues in resources, language, and

training) serve as an intervening variable, which may affect the relationship between the independent and dependent variables.

Materials and Method

Research Locale

This study was conducted at Bugao Central Elementary School, a public elementary school located in the municipality of Bagamanoc, in the province of Catanduanes, Region V (Bicol Region), Philippines. See the map below

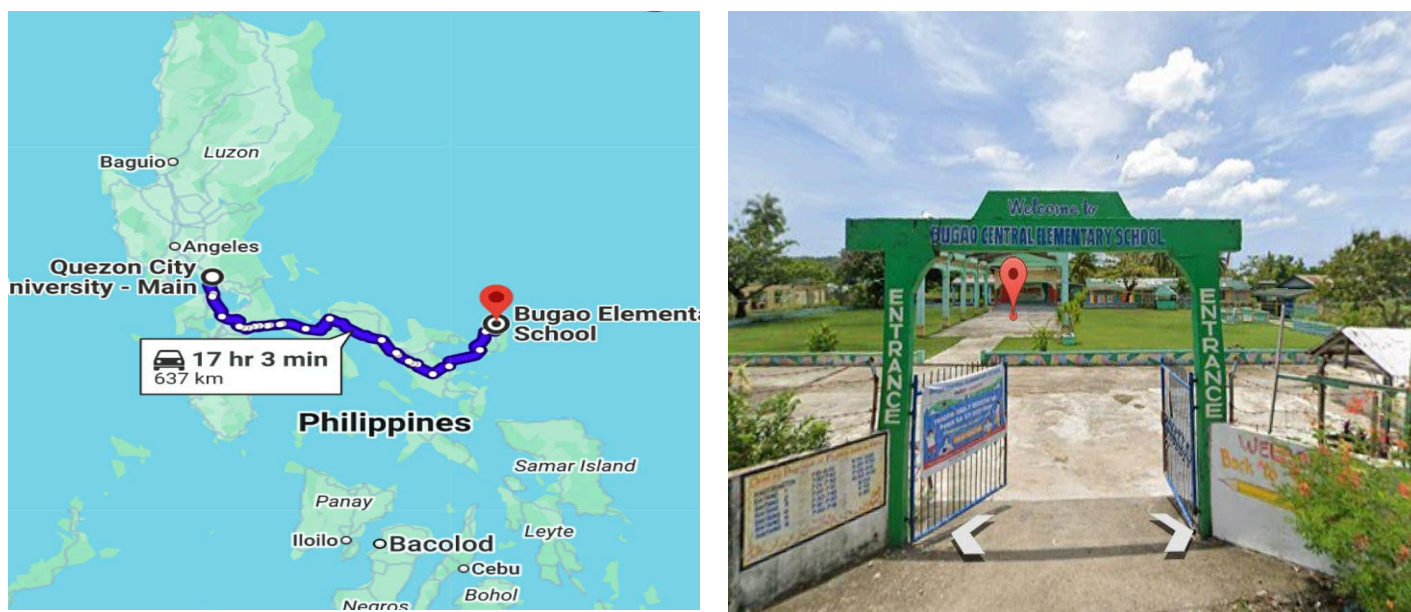


Figure 3. Map showing the location of Bugao Central Elementary School

Participants of the Study

The participants of this study were teachers from Bugao Central Elementary School. A total of thirty (30) teachers were selected as respondents. The researchers identified all eligible teachers in the school and employed simple random sampling to determine the participants. This sampling technique ensured that each teacher had an equal opportunity to be selected, thereby minimizing selection bias and enhancing the representativeness of the sample. The use of simple random sampling allowed the researchers to obtain a group of respondents that reflects the diversity of the teacher population. Consequently, the findings of the study may provide reliable insights into teachers' perceptions of the effectiveness of Mother Tongue-Based Multilingual Education (MTB-MLE) content.

Research Design and Instrument

This study utilized a quantitative research design to systematically collect and analyze numerical data regarding teachers' perceptions of the effectiveness of MTB-MLE content. This design was chosen because it allows for objective measurement and statistical analysis, making it suitable for identifying patterns, trends, and generalizable findings. The primary instrument used in this study was a structured survey questionnaire composed of predetermined items. The

questionnaire was designed to gather standardized data from respondents, ensuring consistency in responses. It focused on measuring teachers' perceptions of MTB-MLE content effectiveness in improving student learning outcomes.

Procedure

The researchers followed a structured procedure in conducting the study. First, permission to conduct the research was secured from the appropriate school authorities at Bugao Central Elementary School. After approval was granted, a list of all teachers was obtained to serve as the sampling frame. Using simple random sampling, thirty (30) teachers were selected as participants. The researchers then informed the selected respondents about the purpose of the study and ensured that their participation was voluntary. Consent was obtained prior to the administration of the survey. The questionnaires were distributed to the respondents, who were given sufficient time to complete them. Upon completion, the researchers collected the questionnaires and checked them for completeness before organizing the data for analysis.

Data Analysis

The data gathered from the survey questionnaires were analyzed using descriptive statistics. Frequency counts and percentages were used to summarize the distribution of responses, while measures of central tendency such as the mean,

median, and mode were computed to describe the overall perceptions of the respondents. Descriptive statistics provided a clear and concise summary of the data, allowing for easier interpretation of the findings. According to Hayes (2024), descriptive statistics are used to describe and explain the characteristics of a dataset by presenting summarized measures such as the mean, median, and mode. In this study, these statistical tools enabled the researchers to determine the level of effectiveness of MTB-MLE content as perceived by teachers.

Results and Discussions

This study aims to quantitatively evaluate teachers' perceptions of the effectiveness of Mother Tongue-Based Multilingual Education (MTB-MLE) in improving student learning outcomes. Specifically, the study seeks to address the following research questions:

Table 1

Median, IQR, and Shapiro-Wilk of the teachers' perception of the effectiveness of MTB-MLE in terms of students learning outcomes (n=30)

Student Learning Outcomes Characteristics	Median	IQR	Shapiro-Wilk		Interpretation
			W	p	
SLO1	5.00	1.000	0.700	<.001	Very effective
SLO2	4.50	1.000	0.754	<.001	Very effective
SLO3	4.00	1.000	0.829	<.001	Moderately effective

SLO4	4.00	1.000	0.796	<.001	Moderately effective
SLO5	5.00	1.000	0.656	<.001	Very effective
Overall	4.30	0.800	0.916	0.021	Very effective

The findings indicate that MTB-MLE is generally effective in enhancing student learning outcomes, with an overall median score of 4.30, interpreted as “Very Effective.” Several indicators, such as SLO1 (median = 5.00) and SLO5 (median = 5.00), were rated as “Very Effective,” reflecting strong positive outcomes in these areas. However, other indicators, including SLO3 and SLO4 (median = 4.00), were evaluated as “Moderately Effective.” This suggests that although MTB-MLE contributes significantly to improving student learning, certain aspects may still require further enhancement to maximize its overall effectiveness.

Table 2

Median, IQR, and Shapiro-Wilk of the teacher's perception of the effectiveness of MTB-MLE in terms of teachers' preparedness (n=30)

Teachers' preparedness Characteristics	Median	IQR	Shapiro-Wilk		Interpretation
			W	p	
TP1	4.00	1.750	0.829	<.001	Moderately effective
TP2	4.00	1.000	0.845	<.001	Moderately effective
TP3	4.00	0.000	0.828	<.001	Moderately effective
TP4	4.00	1.000	0.818	<.001	Moderately effective
TP5	4.00	1.000	0.876	0.002	Moderately effective
Overall	3.90	0.750	0.967	0.450	Moderately effective

The results show that teacher preparedness in implementing MTB-MLE is at a moderate level, with an overall median score of 3.90, interpreted as “Moderately Effective.” All indicators, from TP1 to TP5, consistently fall within this category, indicating a uniform assessment across different aspects of preparedness. These findings suggest that while teachers demonstrate a certain level of readiness in implementing MTB-MLE, there remain notable gaps that may be addressed through additional training, professional development, and improved access to instructional resources.

Table 3

Median, IQR, and Shapiro-Wilk of the teacher's perception of the effectiveness of MTB-MLE in terms of resources (n=30)

Resources Characteristics			Shapiro-Wilk		Interpretation
	Median	IQR	W	p	
R1	4.00	1.750	0.857	<.001	Moderately effective
R2	3.50	1.000	0.877	0.002	Moderately effective
R3	3.50	1.000	0.883	0.003	Moderately effective
R4	4.00	1.500	0.847	<.001	Moderately effective
R5	4.00	2.000	0.853	<.001	Moderately effective
Overall	3.80	0.800	0.973	0.631	Moderately effective

The findings reveal that the availability and adequacy of resources for MTB-MLE implementation are at a moderate level, with an overall median score of 3.80, interpreted as “Moderately Effective.” Specific indicators, such as R1 (median = 4.00) and R3 (median = 3.50),

further reflect existing limitations in resource provision. These results indicate that while resources are somewhat sufficient, there are still notable challenges that may hinder the full implementation of MTB-MLE. This underscores the need for enhanced support and improved allocation of instructional materials to strengthen the overall effectiveness of the program.

Table 4

Mann-Whitney U test, and p-values of the teacher's perception of the effectiveness of MTB-MLE in terms of student learning outcomes when grouped according to gender (n=30)

Student Learning Outcomes Characteristics		Statistic U	P	Interpretation
SLO1	Mann-Whitney U	35.0	0.694	Not significant
SLO2	Mann-Whitney U	31.5	0.514	Not significant
SLO3	Mann-Whitney U	24.0	0.235	Not significant
SLO4	Mann-Whitney U	22.0	0.162	Not significant
SLO5	Mann-Whitney U	19.5	0.110	Not significant
Overall	Mann-Whitney U	21.5	0.195	Not significant

Note. $H_a \mu_{\text{female}} \neq \mu_{\text{male}}$

The table presents the results of the Mann–Whitney U test used to determine whether there is a significant difference in teachers’ perceptions of the effectiveness of Mother Tongue-Based Multilingual Education (MTB-MLE) in terms of student learning outcomes when grouped according to gender. The findings reveal that all computed p-values for the five student learning

outcome indicators (SLO1 to SLO5) and the overall result are greater than the standard significance level of 0.05.

Table 5

Kruskal-Wallis test, and p-values of the teacher's perception of the effectiveness of MTB-MLE in terms of student learning outcomes when grouped according to years in teaching (n=30)

Student Learning Outcomes Characteristics	χ^2	df	p	Interpretation
SLO1	4.67	3	0.198	Not significant
SLO2	1.62	3	0.655	Not significant
SLO3	1.10	3	0.776	Not significant
SLO4	1.61	3	0.656	Not significant
SLO5	2.95	3	0.400	Not significant
Overall	1.28	3	0.734	Not significant

Similarly, the results of the Kruskal–Wallis test revealed no significant differences in responses when grouped according to years of teaching experience. This implies that both novice and experienced teachers demonstrate a comparable level of understanding regarding the impact of MTB-MLE, suggesting a uniform perspective across different experience levels.

Table 6

Mann-Whitney U test, and p-values of the teacher's perception of the effectiveness of MTB-MLE in terms of teachers' preparation when grouped according to gender (n=30)

Teachers' preparedness	Statistic U	P	Interpretation
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Characteristics				
TP1	Mann-Whitney U	17.5	0.099	Not significant
TP2	Mann-Whitney U	27.5	0.353	Not significant
TP3	Mann-Whitney U	20.0	0.124	Not significant
TP4	Mann-Whitney U	37.0	0.817	Not significant
TP5	Mann-Whitney U	32.5	0.581	Not significant
Overall	Mann-Whitney U	23.0	0.235	Not significant

Note. $H_a \mu_{female} \neq \mu_{male}$

The table shows the results of the Mann–Whitney U test used to examine whether there is a significant difference in teachers’ views on the effectiveness of Mother Tongue-Based Multilingual Education (MTB-MLE) in terms of their preparedness when grouped according to gender. The results indicate that all p-values for the five indicators (TP1 to TP5) and the overall measure are higher than the 0.05 level of significance.

Table 7

Kruskal-Wallis test, and p-values of the teacher's perception of the effectiveness of MTB-MLE in terms of teachers’ preparation when grouped according to years in teaching (n=30)

Teachers’ preparedness Characteristics	χ^2	df	p	Interpretation
TP1	2.444	3	0.486	Not significant
TP2	1.280	3	0.734	Not significant

TP3	1.656	3	0.647	Not significant
TP4	5.063	3	0.167	Not significant
TP5	0.745	3	0.863	Not significant
Overall	1.965	3	0.580	Not significant

The results of the Kruskal-Wallis test, examining whether teachers' years of teaching experience influence their perceptions of MTB-MLE effectiveness in terms of preparation. All p-values for individual indicators (TP1-TP5) and the overall result are greater than 0.05, indicating no significant difference. This means that teachers with varying lengths of service share similar views regarding their preparedness.

Table 8

Mann-Whitney U test, and p-values of the teacher's perception of the effectiveness of MTB-MLE in terms of resources when grouped according to gender (n=30)

Resources Characteristic s	Statistic U	P	Interpretation	
R1	Mann-Whitney U	28.5	0.397	Not significant
R2	Mann-Whitney U	34.0	0.659	Not significant
R3	Mann-Whitney U	35.0	0.715	Not significant
R4	Mann-Whitney U	39.0	0.941	Not significant
R5	Mann-Whitney U	19.0	0.125	Not significant
Overall	Mann-Whitney U	36.0	0.781	Not significant

Note. $H_a \mu_{\text{female}} \neq \mu_{\text{male}}$

The table shows the results of the Mann-Whitney U test, analyzing if gender affects perceptions of resource effectiveness. Similarly, all p-values for resource indicators (R1-R5) and the overall measure exceed 0.05, also interpreted as not significant. This implies that male and female teachers perceive resources in the same way.

Table 9

Kruskal-Wallis test, and p-values of the teacher's perception of the effectiveness of MTB-MLE in terms of resources when grouped according to years in teaching (n=30)

Resources Characteristics	χ^2	df	p	Interpretation
R1	4.46	3	0.216	Not significant
R2	7.41	3	0.060	Not significant
R3	3.77	3	0.287	Not significant
R4	2.61	3	0.456	Not significant
R5	1.81	3	0.613	Not significant
Overall	4.51	3	0.211	Not significant

The results of the Mann–Whitney U test revealed no significant differences in responses regarding the effectiveness of MTB-MLE when grouped according to gender across all aspects, including student learning outcomes, teacher preparedness, and resources. This indicates that both male and female teachers demonstrate similar perspectives on the effectiveness of the program.

Table 10

Median, IQR, and Shapiro-Wilk of the teachers faced challenges in the implementation of MTB-MLE in terms of resources (n=30)

Resources Characteristics	Shapiro-Wilk				Interpretation
	Median	IQR	W	p	
CR1	4.00	1.750	0.829	<.001	Mostly challenging
CR2	4.00	1.000	0.845	<.001	Mostly challenging
CR3	4.00	0.000	0.828	<.001	Mostly challenging
CR4	4.00	1.000	0.818	<.001	Mostly challenging
CR5	4.00	1.000	0.876	0.002	Mostly challenging
Overall	3.90	0.750	0.967	0.450	Mostly challenging

Teachers identified resources as a significant challenge, with a median score of 3.90, interpreted as "Mostly Challenging." All indicators (CR1 to CR5) pointed to moderate to high levels of difficulty in acquiring and utilizing resources needed for effective implementation.

Table 11

Median, IQR, and Shapiro-Wilk of the teachers faced challenges in the implementation of MTB-MLE in terms of language used (n=30)

Language Used Characteristics	Shapiro-Wilk				Interpretation
	Median	IQR	W	p	
CLU1	4.00	1.750	0.872	0.002	Mostly challenging
CLU2	4.00	2.000	0.867	0.001	Mostly challenging

CLU3	4.00	1.750	0.843	<.001	Mostly challenging
CLU4	4.00	0.750	0.757	<.001	Mostly challenging
CLU5	4.00	1.000	0.835	<.001	Mostly challenging
Overall	4.00	1.100	0.879	0.003	Mostly challenging

The findings indicate that the use of language in MTB-MLE is generally considered “Mostly Challenging,” with an overall median score of 4.00. Specific indicators, such as CLU1 and CLU2 (median = 4.00), reflect consistent difficulties in adapting to the multilingual demands of the program. These results suggest that language-related factors remain a significant challenge in the implementation of MTB-MLE, highlighting the need for additional support in language proficiency and instructional strategies.

Table 12

Median, IQR, and Shapiro-Wilk of the teachers face challenges in the implementation of MTB-MLE in terms of training (n=30)

Training Characteristics	Shapiro-Wilk				Interpretation
	Median	IQR	W	p	
CT1	4.00	1.00	0.790	<.001	Mostly challenging
CT2	4.00	2.00	0.848	<.001	Mostly challenging
CT3	4.00	2.00	0.858	<.001	Mostly challenging
CT4	4.00	2.00	0.870	0.002	Mostly challenging
CT5	4.00	2.00	0.848	<.001	Mostly challenging
Overall	4.00	1.50	0.930	0.048	Mostly challenging

Training challenges were similarly rated as "Mostly Challenging," with an overall median score of 4.00. Teachers reported difficulties in accessing and applying adequate training, as seen in indicators CT1 to CT5, all rated similarly.

Discussions

The findings of the study present an overview of teachers' perceptions regarding the effectiveness of Mother Tongue-Based Multilingual Education (MTB-MLE) in improving student learning outcomes at Bugao Central Elementary School. The respondents were predominantly female, comprising 90% of the participants, which reflects the common gender distribution in elementary education. In terms of teaching experience, the group represented a balanced mix of novice and veteran educators, with the largest portion (33.3%) having more than 20 years of teaching experience. This diverse range of experience suggests that the perceptions gathered were informed by both long-term practice and relatively recent exposure to educational reforms.

Overall, teachers perceived MTB-MLE as very effective in enhancing student learning outcomes, as indicated by the high median scores across most indicators. Teachers observed that students were able to understand lessons more easily, participate more actively, and express themselves with greater confidence when taught in their mother tongue. However, some aspects of student learning were only rated as moderately effective, suggesting that certain learning skills or transitions to additional languages may still require improvement.

Despite the positive perception of student outcomes, teachers rated their own preparedness and the availability of instructional resources as only moderately effective. This indicates that while teachers recognize the benefits of MTB-MLE, they may still experience challenges in

implementing it due to limited training, insufficient teaching materials, and the added responsibility of developing localized resources. These factors may affect the consistency and quality of program delivery in the classroom.

Furthermore, the study found no significant difference in teachers' perceptions when grouped according to gender, indicating that both male and female teachers shared similar views regarding the effectiveness of MTB-MLE. This suggests that perceptions of the program are more closely related to professional experience and classroom context rather than demographic characteristics.

In summary, the results show that MTB-MLE is widely regarded by teachers as an effective approach to improving student learning, particularly in supporting comprehension and participation. However, the moderate ratings in teacher preparedness and resource availability highlight the need for continued professional development, stronger institutional support, and improved access to localized instructional materials to ensure the successful and sustainable implementation of the program.

Conclusions and Recommendations

The study revealed that Mother Tongue-Based Multilingual Education (MTB-MLE) is generally perceived by teachers as a highly effective approach in improving student learning outcomes. Learners demonstrate better comprehension, increased participation, and greater confidence when instruction is delivered in their mother tongue. This confirms that MTB-MLE plays a significant role in facilitating meaningful learning, particularly in the early grades. However, despite its positive impact on students, the study also shows that teachers'

preparedness and the availability of instructional resources are only at a moderate level. This indicates that while the program is effective in principle, its full potential is not yet fully realized in practice. Additionally, the absence of significant differences in teachers' perceptions when grouped according to gender and years of teaching suggests that these views are consistent across different demographic profiles, reflecting a shared understanding of both the strengths and limitations of the program. Furthermore, the challenges identified—particularly in terms of resources, language use, and training—highlight persistent barriers that affect the effective and consistent implementation of MTB-MLE in the classroom.

Based on these findings, it is recommended that educational authorities strengthen support systems for teachers by providing continuous and targeted professional development programs focused on MTB-MLE strategies, language proficiency, and instructional adaptation. Schools should also prioritize the development, distribution, and accessibility of localized and culturally relevant instructional materials to address resource gaps. In addition, there is a need for sustained training initiatives that equip teachers with the necessary skills and confidence to manage multilingual classrooms effectively. Collaboration among teachers, school leaders, and stakeholders should be encouraged to share best practices and develop context-appropriate solutions. Lastly, future research may explore other factors influencing the effectiveness of MTB-MLE, such as learner diversity, parental involvement, and community support, to further enhance the implementation and sustainability of the program.

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