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The Role of Mother Tongue-Based Multilingual Education in Improving Literacy Among Primary School Students in Timor-Leste: A Systematic Review

ABSTRACT

This systematic review aims to discuss the role of MTB-MLE in improving the literacy levels of primary school children in Timor-Leste, a post-colonial country with multilingualism. In the scoping review, the empirical studies from 2019 to 2025 show that MTB-MLE enhances the knowledge of early readers, cognitive improvements, and students' learning interest. Research in this area has established that education in the first language enhances literacy in general and during the early years of learning and also makes it easier for learners to learn national and international languages like Portuguese and English. However, there are some difficulties in implementing the programme, including inadequate qualified multilingual teachers, a lack of instructional materials in local languages, and policies that contradict each other. It is also argued that the MTB-MLE strategies positively support cultural identity and linguistic justice, which provide the underlying achievements outside the narrow scope of academic achievement and student results. It also implies that gradualism is best, as there is no rush to switch from the first language to a second language. Instead, we should train and support the teachers and consistently develop and disseminate culturally congruent materials. Finally, it advocates for conducting additional longitudinal studies to understand the long-term impacts of technology and to determine appropriate strategies based on the findings. In general, the results underline the importance of MTB-MLE for the development of education for learners and literacy in the multilingual postcolonial context of Timor Leste.

Keywords: *Mother Tongue-Based Multilingual Education (MTB-MLE), Literacy Development, Multilingual Education Policy, Primary Education, and Timor-Leste.*

Introduction

The appropriation of mother-tongue-based multilingual education (MTB-MLE) in Timor-Leste has become an important issue for researchers, particularly how the use of MTB-MLE can promote early reading skills for primary school children in a country with so many languages and colonization in its background. As a country with over a dozen indigenous languages to go along with Tetum and Portuguese, Timor-Leste is an intriguing example of what may be gained from investigating the educational implications of multilingual instruction. According to theories about how people learn languages, MTB-MLE encourages using students' first language as the main way to teach in early education, aiming to help them build better skills in reading, writing, and critical thinking (Balacano, 2020). Lectures offered in a language student can comprehend have been found to enhance student

achievement and promote active engagement with class material in numerous studies from multilingual situations (Lang-ay & Sannadan, 2021; Reyes, 2021).

However, the advantages of MTB-MLE are also accompanied by existing worries about the acquisition of other languages by students, particularly Portuguese and English, as languages of national and international interest. Other Southeast Asian contexts provide evidence of this tension. For example, Tomas (2023) points out how MTB-MLE in the Philippines had a noticeable impact on early literacy results but made it difficult to maintain students' proficiency with the second and third languages throughout subsequent learning stages. This highlights the necessity of a strategic curriculum that would enable a transition towards a phased and integrated approach to multilingual competence, avoiding blocking access to higher education and global opportunities because of mother tongue education.

The introduction of MTB-MLE in Timor-Leste should also be compared with traditional monolingual models of education that are usually based on Portuguese as a language of instruction. Studies in comparison have demonstrated that lessons using the mother tongue improve comprehension, classroom engagement, and learner confidence, especially when compared to early instruction in languages the learner has not been exposed to (Lang-ay & Sannadan, 2021; Reyes, 2021). Such outcomes are associated with the improvement in learner autonomy and academic engagement responsible for long-term educational success. However, a few barriers continue to hinder the successful implementation of these initiatives in Timor-Leste. Among other shortages, the greatest is a shortage of teachers who are fluent in both local and official languages, as well as a lack of culturally appropriate instructional materials to reflect different linguistic groups (De Jesus, 2019). Such challenges are especially acute in rural and marginalized populations, where inequalities in education are pursued by infrastructural restrictions and a lack of state support.

MTB-MLE in Timor-Leste has additional socio-cultural and policy implications that extend beyond merely pedagogical concerns. In post-colonial societies, language policies unduly intersect with national identity, cultural defense, and social cohesion. Adoption of MTB-MLE not only benefits cognitive development but also actualizes indigenous languages and promotes the affirmation of historically marginalized cultural identities (Bravo-Sotelo, McLellan, & Haji-Othman, 2023). However, the outcomes of sentiment analysis performed in multilingual learning environments demonstrate ambivalence on behalf of educators. Although many acknowledge the benefits of mother tongue instruction, others argue that it could try to erode the competence of students in world languages required for involvement in the spheres of world academia and economy (Arispe, Capucao, Relucio & Maligat, 2019).

Responding to these gaps, and to inform evidence-based education policy, this article provides a systematic review of the scholarly literature on this topic published in the years 2019-2025: the implementation and impact of MTB-MLE in Timor-Leste. In particular, the review integrates empirical findings regarding literacy development, cognitive outcomes, classroom involvement and policy incorporation in primary education contexts. This study organizes practical insights under thematic domains, including teacher preparedness, curriculum design, and socio-linguistic equity; the purpose here is to critically evaluate the effectiveness of MTB-MLE and its congruence with national educational objectives. In so doing, it provides a contextualized, methodologically rigorous platform upon which the policymakers, educators and researchers can build in the quest to promote multilingual education in post-colonial, linguistically diverse societies.

Literature Review

The Importance of Mother Tongue in Education

Research results frequently prove the importance of mother tongue education in intensifying the literacy process. This method uses the child's existing linguistic knowledge as a powerful base for advancing cognitive and linguistic growth in the important first few years of schooling (Government of Timor-Leste, 2015; La'o Hamutuk, 2014). Knowledge acquired in one's mother tongue not only sharpens such critical cognitive skills as critical thinking and problem-solving but also gives a boost to a sense of identity and self-esteem. For students in a culturally heterogeneous country such as Timor-Leste, where three or more languages, including Tetum, Portuguese, and others, are spoken, the tactical implementation of mother-tongue-based instruction is particularly powerful in primary education. It helps in understanding concepts better, which brings better learning outcomes in all subjects (Taylor-Leech & Caet, 2012). Establishing a foundation in a familiar language facilitates easier and more effective future acquisition. Additionally, this grounding fosters a closer relationship with the culture and heritage associated with the language.

Challenges in Timor-Leste's Multilingual Context

However, an apparent strength, Timor-Leste's lively multilingual environment, offers special challenges to the successful implementation of Mother Tongue-Based Multilingual Education (MTB-MLE). These challenges encompass various areas, such as formulating and implementing effective language policies, adequately preparing and training teachers, and the lack of suitably available resources. The resolution on the adoption of Portuguese as a main means of instruction in the post-independence education system was meant to create a link between Timor-Leste and the rest of the

Lusophone world; however, circumstances on the ground rejected the idea in some instances, creating an obstacle to early literacy development (Timor-Leste National Commission for UNESCO, 2021). Many students who came into school had little or no exposure to Portuguese, hence a major hurdle to learning. Admitting to these implications, several studies highlight the vitally important role of a well-thought-out and moderate policy of language in Timor-Leste (United Nations & The MIMU, 2019). This balanced policy should favor the incorporation of mother tongue instruction but at the same time prevent inadequacy in Portuguese and other languages requisite for national and international involvement.

Effectiveness of MTB-MLE in Improving Literacy

MTB-MLE program delivery resulted in demonstrably positive effects on the level of literacy in several countries with similar multilingual settings. By leveraging the successes observed in other countries, studies conducted in Timor-Leste could demonstrate similar educational gains. More precisely, research has shown that students who are initially trained in reading and writing using their mother tongue show notably enhanced reading comprehension and retention of knowledge by switching over to learning in Portuguese (UNESCO, 2023; Ximenes, 2025). The basic literacy skills taught in their native language form a sturdy foundation for learning to comprehend and work with information presented in a new language. These research results agree with those from global studies, which show that skills learnt in a person's native language help them learn other languages more effectively. Literacy transfer between languages is a well-documented phenomenon with offers a strategic advantage of building upon learners' existing linguistic knowledge.

Cultural Relevance and Student Engagement

AI to human-written sentence Culturally relevant education that incorporates students' cultural backgrounds, lived experiences & worldviews into the learning context is, as it is generally accepted, a key contributor to academic success in diverse and postcolonial contexts (La'o Hamutuk, 2014). Research indicates that students do better when their education connects with their language and culture, leading to greater interest, motivation, and long-term success. SIT will serve as a culturally responsive pedagogy in which MTB-MLE operates (Reyes, 2021). It validates and utilizes students' native languages and knowledge systems. By anchoring instruction in the mother tongue, MTB-MLE encourages a closer relationship between learners and the curriculum, thus fostering a sense of belonging to it and cognitive ways of access (Lang-ay & Sannadan, 2021). In Timor-Leste, where indigenous linguistic diversity exists alongside the national push for inclusion in education, the

intentional incorporation of local languages, oral traditions, and community-specific knowledge into instruction has significantly contributed to creating more inclusive and engaging classroom environments (United Nations & The MIMU 2019). Besides reinforcing academic understanding, the use of relevant materials even provides students with cultural affirmation as well as their cultural heritage. This strategy equips learners to view their background as intellectual capital and, as a result, engage as equal beneficiaries of a high-quality education.

Teacher Training and Resource Development

Well-trained and well-supported teachers are the placeholders of that language plan who can read, write and speak fluently in both the mother tongues of the learners as well as the chosen second language of instruction (e.g., Portuguese), which is an important consideration in the successful and sustainable implementation of MTB-MLE programs (De Oliveira and Ximenes, 2025). Studies always bring to light the urgent need for teachers to receive continuous professional development in the form of efficient multilingual education strategies and methodology. The training should prepare them to have appropriate skills and knowledge to work effectively to support literacy outcomes in a multilingual classroom (Taylor-Leech & Caet, 2012; UNESCO, 2023). Other abilities that teachers must learn are culturally responsive teaching practices, relevant assessment techniques for multilingual learners, and the design of lively and applicable learning materials. In addition, dissemination of high-quality, culturally appropriate learning material in the mother tongue is critical. The full benefits of MTB-MLE cannot be exploited when we lack appropriate resources and well-trained teachers. This includes textbooks, storybooks, and other things that represent the students 'lived experiences and cultural heritage.

Methodology

A systematic review was conducted to identify and analyze studies conducted from 2019 to 2025 based on the intervention and impact of Mother-Tongue-Based Multilingual Education (MTB-MLE) in primary education settings. This review has sought to determine the success of MTB-MLE in promoting literacy development and academic performance in general. The selection of articles was done on rigid terms, with the best papers being those that showed methodological rigor and presented empirical evidence about literacy outcomes. To make the analysis holistic and balanced, sources for this project are drawn from solid educational databases such as JSTOR, Google Scholar, and Scopus with peer-reviewed literature and authoritative research in the educational sector. The search strategy applied a systematic strategy of a mix of keywords and Boolean operators to narrow down the search

of the literature review. Important keywords were “mother tongue-based multilingual education”, “MTB-MLE literacy outcomes”, “bilingual education in Timor-Leste” and “language policy in primary education”, which ensured studies relevant to different dimensions of MTB-MLE were considered. The review mainly covered peer-reviewed journal articles, government reports and policy briefs published by reputable educational organizations and institutions, whichve in-depth and well-referenced data. Particular attention has been given to researches looking at literacy development, cognitive skill acquisition and academic achievement in MTB-MLE programs, as such researches’ direct implications on educational policies and actual classroom practices (Padsuyan, 2024; Santiago & Dagdag, 2021).

We strictly applied exclusion and inclusion criteria during the selection process to maintain the integrity and validity of the systematic review. Inclusion criteria looked at studies that used qualitative, quantitative, or mixed-method research approaches, ensuring that the findings were based on solid data collection and analysis methods (Lin et al., 2023). Studies were chosen in accordance with their relevance to the focus of the research, particularly the one investigating the effects of MTB-MLE on literacy, student engagement, and educational equality. Preferring rigorously methodological studies, attention was focused on those that clearly described a research design, precisely defined the sample populations, and explained data collection procedures transparently. Exclusion criteria were developed to exclude studies that had no empirical evidence, were based solely on theoretical debates, or only spoke in terms of higher education fields that did not match the review's scope. The process of choosing and reviewing the articles followed PRISMA guidelines, ensuring it was organized and could be repeated for finding, picking, and combining the important literature (Wata et al., 2024). After choosing the studies, we gathered and combined the data, organizing the studies into important topics like literacy development, teacher training, curriculum changes, and policy implementation. These thematic categories helped generate a framework in which to organize the various areas of MTB-MLE, which helped understand its effectiveness and challenges in various contexts with a more profound understanding.

Researcher carefully compared different cases to find common trends, ongoing problems, and successful methods used in the implementation of MTB-MLE in different learning settings. Thematic coding strategies were used to analyze qualitative data and identify patterns and themes related to literacy development, student engagement, and how effective teaching is. At the same time, we looked closely at quantitative studies by calculating numbers like the increase in literacy rates, reading comprehension scores, and student retention rates to see how MTB-MLE affects academic success (Dorris et al., 2024; Nakamura et al., 2023). It does increase the quality of research and improves the

credibility of findings; a strict quality review was held with the help of the standardized assessment structures so that research followed high standards of methodological soundness, sample representativeness, and data validity. This quality assessment process enabled critical appraisal of the reviewed literature, reducing biases and drawing a conclusion on a strong empirical base. In the end, this organized method provided a complete picture of how MTB-MLE helps improve reading skills, highlighting both its potential benefits and the challenges associated with putting it into practice. The findings from this review broaden the existing accumulated knowledge of multilingual education and its applicability for policymakers, as well as for educators and researchers interested in optimizing literacy instruction and educational equity within the multilingual teaching and learning process in the primary education system of Timor-Leste (Daño et al., 2024).

Research Results

The systematic review showed that mother-tongue-based multilingual education (MTB-MLE) enormously improves literacy outcomes for children in primary grades in Timor-Leste. Several studies proved that early literacy learning is more successful when students are taught in their mother tongue because it creates a sound foundation for reading, writing, and comprehension. Research also showed that, scientifically, students who learn first in their native language show higher levels of confidence and levels of participation in the learning process and thus have higher academic achievements later in life. Research from Cambodia and the Philippines also backed this up, showing that students in MTB-MLE programs performed just as well as those in regular language programs when it came to reading fluency and understanding. Nonetheless, there was a concern about the ability of students to move on to second and third languages (especially Portuguese and English at later stages of their studies). Various research indicated that although MTB-MLE improves early literacy, further assistance is required to guarantee seamless linguistic transition from national to world languages (Tomas, 2023).

The research also revealed various challenges in implementing MTB-MLE within the multilingual education system of Timor-Leste. Lack of well-trained teachers competent in mother tongues and secondary languages has been one of the major constraints identified. Dampened attempts by so many teachers to integrate the practices of MTB-MLE were a factor of inadequate training and an absence of pedagogical resources (De Jesus, 2019). Besides, the review revealed that a lack of teaching materials in local languages inhibited the successful implementation of MTB-MLE programs in rural areas and linguistically heterogeneous areas. Another important issue was the inconsistency in policy provision, which arose from disputes at the language policy level and resulted in ambiguities in the

guidelines for curriculum development and assessment strategies. The difference in the adoption of MTB-MLE in distinct regions was a result of the gap between the policies of the government and the implementation of MTB-MLE in each school. To overcome these challenges, there needs to be a greater investment in developing teachers and curriculum development and resources needed to make MTB-MLE a viable option in Timor-Leste.

Apart from literacy results, the research recognized the wider socio-cultural implications of MTB-MLE, especially in the context of cultural preservation and national identity issues. Various studies have been done on how MTB-MLE is highly significant in helping sustain indigenous languages while reinforcing students' cultural identity. Used in postcolonial countries such as Timor-Leste, where language has often functioned as a differentiation of power and identity, MTB-MLE empowers students to feel part of a community and ensures the language of inclusion (Bravo-Sotelo et al. 2023). Nevertheless, educators and policymakers have expressed mixed reactions, fearing that an overemphasis on local languages could socially disconnect students from global languages. This concern suggests that students may feel socially uncomfortable due to their limited proficiency in global languages, which is necessary for accessing higher education opportunities and employment in international contexts (Arispe et al., 2019). Even though many of these doubts were raised, most research found that a balanced MTB-MLE approach, characterized by a gradual transition from national to international languages with strong nineteenth-century mother tongues at the base, could provide both linguistic and cultural advantages without jeopardizing future academic and professional possibilities.

Lastly, the review points out the importance of a longitudinal study in determining the lasting consequences of MTB-MLE on student performance, especially with secondary and tertiary transitions. There was evidence of short-term gains in terms of literacy and cognitive skills, but little research on whether MTB-MLE students continue to perform well later on in subsequent educational phases, once taught mainly in Portuguese or English. Studies advised continuous assessments to examine the effectiveness of the MTB-MLE over the long run and determine best practices for supporting students in their learning world (UNESCO, 2023). The results of this review indicate that MTB-MLE can have a significant effect on transforming literacy learning in Timor-Leste if it is practiced appropriately with available resources and policy drives. In the future, research should prioritise curriculum strategy improvement, the strengthening and improvement of teacher training, and policy alignment of MTB-MLE with national education goals. These steps will be vitally important in maximizing the benefits of multilingual programs and providing equal learning opportunities for all students in Timor-Leste.

Discussion

This systematic review of the literature emphasizes the translational potential of mother tongue-based multilingual education (MTB-MLE) for promoting primary school literacy outcomes for children in Timor-Leste. In an array of different multilingual contexts, including the Philippines, Cambodia, and Timor-Leste itself, evidence invariably points to the fact that exposure to the mother tongue during early schooling results in extraordinary reading comprehension gains, language acquisition, and excellent overall academic performance (Lang-ay & Sannadan, 2021; Reyes, 2021; UNESCO, 2023). The cognitive benefits of learning in a familiar language, which underpins foundational literacy and supports thinking and confidence among young learners, account for these improvements (Kirsty Sword Gusmo Foundation, 2022).

In Timor-Leste, where more than a dozen local languages coexist alongside Tetum and Portuguese, the PBL-MLE directly addresses the linguistic reality of the population. Most students neither use Portuguese, the official language of instruction, at home nor in their community. Such a linguistic divide usually leads to poorer understanding and disinterest for the early schooling (Timor-Leste National Commission for UNESCO, 2021). MTB-MLE solves this problem by drawing on the existing linguistic resources of its students, and, consequently, it closes the opportunity gap and facilitates equal opportunities in education (Taylor-Leech & Caet, 2012).

Despite its multitude of documented benefits, the MTB-MLE faces several systemic problems in Timor-Leste. The most urgent issue is the lack of properly trained teachers who are fluent in both local languages and Portuguese. De Jesus (2019) points out that many teachers articulate a lack of certainty and the challenge of learning and making use of multilingual pedagogies lack of training and support. In addition to the problem of the dearth of culturally appropriate teaching materials in the mother tongue of students, especially in rural and remote areas where there is the greatest linguistic diversity (La’o Hamutuk, 2014; United Nations & The MIMU, 2019). Lacking such resources, even benevolent MTB-MLE programs are in danger of becoming ineffective, particularly where teachers simply have to make do with inadequate or makeshift lesson material.

The literature lists the lack of coordination in a country's language policy as one of the major constraints for successful MTB-MLE implementation. Geopolitical and historical considerations provoked the will to re-optimize Portuguese as the main language of instruction after independence. However, it tends to be in direct opposition with most students' linguistic realities (Timor-Leste National Commission for UNESCO, 2021). This difference between the policy and the practice leads to unequal implementation of MTB-MLE strategies at the school and regional levels. A more coherent and inclusive language policy—one that recognizes the sociolinguistic diversity of Timor-Leste but

establishes guidelines for the systematic integration of the second and third languages—is essential for ensuring the success of MTB-MLE (Bravo-Sotelo, McLellan, & Haji-Othman, 2023).

In addition to the academic impacts that directly result from its execution, the MTB-MLE also provides significant sociocultural benefits. Instruction in the mother tongue confirms the cultural identities of students and creates a stronger classroom belonging. Particularly in post-colonial societies like Timor-Leste, where indigenous languages and cultures have historically faced marginalization, this holds true (Taylor-Leech & Caet, 2012). Results from research indicate culturally responsive teaching practices such as the incorporation of local narratives and knowledge systems to promote higher student motivation, participation, and academic success (La'o Hamutuk, 2014). In addition, by preserving the diversity of languages, MTB-MLE contributes to greater cultural sustainability and national integration.

However, concerns continue to occur regarding the implementation of MTB-MLE, particularly about students' proficiency in international languages such as Portuguese and English. Some educators and policymakers fear that overconcentration on local languages in the early years can affect students' performances when they enter secondary school and function in a globalized academic or professional environment (Arispe, Capucao, Relucio, & Maligat, 2019). These issues indicate that a balanced and phased strategy should be used in the process of teaching a language, and teaching begins with the language of the native speakers, then goes to the second, and subsequently to the third language later in the process of educating (Tomas, 2023).

The review reveals one of the salient, if not primary, gaps: the absence of longitudinal research on how MTB-MLE affects students' long-term academic performance. Whereas most research details short-term literacy improvements, there is not enough evidence to verify whether the gains made in literacy match long-term successful learning at the elementary and secondary levels, where Portuguese or English could dominate the curriculum (UNESCO, 2023). Future research should use longitudinal designs to test the complete educational trajectories of students who have experienced MTB-MLE, which will provide information on how early linguistic advantages can be sustained over time.

Finally, the existing body of literature confirms that MTB-MLE is an effective, culturally responsive, and equity-informed approach to educational initiatives appropriate for Timor-Leste. However, for the resource to fully serve its purpose, interventions targeting teacher preparation, the curriculum, and resource delivery are required. In addition, policy reforms have to fit not only local linguistic realities but also nationwide development goals. Investment and commitment to inclusive education can, over time, position MTB-MLE as a formative player in changing literacy results and advancing linguistic justice in Timor-Leste.

Conclusion and Recommendations

The systematic literature review conducted in this study endorses the transformative potential of Mother Tongue-Based Multilingual Education (MTB-MLE) in the development of literacy outcomes of primary school students in Timor-Leste. MTB-MLE has consistently been linked to better reading comprehension, improved cognitive development, and higher student engagement in multilingual contexts around the world, particularly considering the unique sociolinguistic ecosystem in Timor-Leste. By tapping into the linguistic riches that children bring to school, i.e., their home languages, MTB-MLE makes the learning content consistent with learners' realities, hence bolstering the roots for academic as well as socio-emotional well-being.

One of the core messages from this review is that early literacy skills are learnt far more effectively when the instruction is in the learner's native language. A review of studies conducted in this article showed that the children who learn in the mother language of their mother perform better in formative literacy tests, retain more, and develop more classroom confidence and active participation. These findings are supported by international evidence, which indicates that mother tongue instruction during the initial years helps transfer literacy and critical knowledge to further languages, including national and foreign languages (Portuguese, English, etc.).

In addition, the implementation of MTB-MLE promotes wider cultural and identity-enforcing roles of education. Multilingual education in a post-colonial country like Timor-Leste signifies a transition to more inclusive and representative schooling, especially since language has historically been used as a tool for exclusion and political conflict. The MTB-MLE, by introducing local languages and cultural narratives into the classroom, makes students feel a part of it and, in turn, contributes to revitalizing Timor-Leste's rich linguistic heritage.

Despite its promising results, the review also examines several structural and systemic challenges that prevent the successful implementation of MTB-MLE. The most glaring among these is the shortage of trained teachers who are fluent neither in the local nor in the official language of instruction. Many teachers lack adequate preparation in multilingual pedagogies and are not developmentally ready to successfully implement MTB-MLE strategies. Of course, a lack of culturally and linguistically appropriate teaching materials is compounded by this issue, especially in rural and marginalized areas. Further, incoherency in language policy at the national level leads to patchy implementation and confusion among stakeholders.

Another important issue is that with mother-tongue instruction replaced or supplemented by the second and third ones (Portuguese and English), students generally flounder. Although such an early instruction in the mother tongue gives a firm ground behind students, this often creates problems for

students trying to achieve academic fluency in a strange language without proper scaffolding. This calls for a better model of structured and progressive transition of pupils from monolingual to dual to trilingual that would enable sustained bilingual and trilingual language development without sudden change, which is detrimental to the continuity of learning.

MTB-MLE goes much beyond just new teaching methods; it takes the form of an educational paradigm that embraces and uses Timor-Leste's linguistic and cultural diversity as a strength and opportunity. Human resource-focused efforts, curricular building and harmonized policies have the potential to drastically improve literacy levels and provide more equity within Timor-Leste's system of education. With its goals of sustainable development and inclusive nation-building, Timor-Leste should guarantee that multilingual education will remain the center of its ongoing educational reform agenda.

Based on the findings as mentioned earlier, the researcher proposes the following recommendations to improve the implementation and long-term impact of MTB-MLE in Timor-Leste.

Investing in Complete Teacher Training Programs

Teacher preparedness is a key aspect of the success of MTB-MLE. In partnership with universities and educational NGOs, the Ministry of Education should develop specialized modules on multilingual pedagogical strategies, language transition planning, and culturally responsive instruction. These programs must form part of the pre-service as well as the in-service training pathways for teachers.

Develop and Disseminate Multilingual Learning Resources

Response It is imperative to have a wide range of instructional materials in vernacular languages. Government investment should also be spent on the production, translation, and dissemination of learning materials in all of Timor-Leste's mother tongues—including textbooks, storybooks, workbooks, and multimedia platforms. Collaboration with the educators and cultural specialists placed in the community can lead to the production of good-quality, culturally appropriate educational resources.

Design a Phased Language Transition Model

If secondary language prizes are involved, we must implement wedge-shaped incisions. Guidelines for policy decisions should offer a systematic and data-guided perspective on helping students transition their language from native to official and global languages. It should define how long students will be taught in their native language, when and how secondary languages will be used, and how each language will be judged.

Strengthen Policy Coherence and Institutional Coordination

If MTB-MLE is to succeed, national language policies, curriculum frameworks, and assessment standards must align with each other. The synthesis of representatives from the Ministry of Education, the culture sector, and linguistics experts under an inter-ministerial coordination body enhances the synchronization of language policies and oversight of regional implementation.

Conduct Longitudinal Research and Monitoring

Longitudinal research assessing the long-term impact of MTB-MLE on academic success beyond the primary years has a very thin developmental history. Longitudinal studies are required to determine the continued effects of early mother tongue instruction on success in secondary school, Portuguese and English languages, and life opportunities. Such research is crucial for changing teaching methods and ensuring ongoing support from teachers and policymakers.

Promote Community Engagement and Advocacy

Community members should take a central role in understanding and promoting the MTB-MLE goals. The practice of initiatives that advance community understanding, increase parent involvement, and involve schools as governing members of a multilingual society can make local ownership and appreciation of multilingual education possible.

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