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Influences on Teachers' Use of the Prescribed Language of Instruction: Evidence from Four Language Groups in the Philippines

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Abstract

In 2009 the Philippines introduced a mother tongue-based multilingual education language policy requiring the “mother tongue” as the language of instruction (LOI) in kindergarten through grade 3. Using teacher classroom language data collected from four LOI groups in 2019, we compared the frequency of teachers’ use of the target LOI in different contexts, including urban versus rural classrooms, classrooms with relatively homogeneous student language backgrounds versus more heterogeneous classrooms, and classrooms with materials in the target language versus classrooms without. We also examined language usage against characteristics of the teacher populations, including language background, years of experience, training, and beliefs about the best language for initial literacy. The results strongly suggest that the most influential levers for increasing teacher usage of a designated LOI in these contexts are ensuring that teachers are assigned to schools where the LOI matches their own first language and providing teaching and learning materials in the target LOI, especially teacher’s guides. These two factors were more strongly and more consistently correlated with teacher use of the LOI than all other variables examined. The linguistic homogeneity of the student population also showed a statistically significant though lower impact on teacher language usage.

Keywords: Language Policy, Language of Instruction, Mother Tongue-Based Multilingual Education, Teacher Practice

1. Introduction

Home to approximately 105 million people and 183 living languages (Eberhard et al., 2019), the Philippines’ dense multilingualism is a rich sociocultural asset but presents logistical challenges in the selection of languages for governing. Filipino, derived from the indigenous language Tagalog, is enshrined by the 1987 Constitution as the “national” language and, along with English, as the “official” language for “purposes of communication and instruction” (1987 Constitution, Article 14 [6, 7]). However, for decades, even as Filipino and English were the languages of instruction (LOI) at school, the Philippines Department of Education (DepEd) experimented with

various models of mother tongue-based instruction.¹ The results of these and other international studies (Dutcher, 1995; Baker, 2001; Benson, 2002) have generally supported the use of the learners' "mother tongue," or first home language (L1), as "the most effective way to bridge learning in all subject areas including the development of future languages" (Ocampo et al., 2006, p. v).

In 2009 DepEd issued Order No. 74, "Institutionalizing Mother Tongue-Based Multilingual Education (MTB-MLE)," prescribing the use of the learners' L1 for improving learning outcomes. By the 2014–2015 school year, all public schools were expected to use the learners' L1 as the primary LOI in kindergarten through grade 3, except in classes where Filipino and English are taught as a second and third language (L2 and L3). Schools are to designate which language to use as the school LOI in accordance with a set of guidelines that prioritize maximizing the match between the LOI and the home language spoken by the majority of students. Then, in addition to other supportive measures, schools are to hire teachers who are proficient in teaching in the designated LOI and provide quality teaching and learning materials (TLMs) in this language. DepEd recognizes that local conditions vary considerably from one school to the next. In anticipation, the policy outlines different strategies for different contexts to accomplish the overarching goal of providing each child the opportunity to build a strong academic foundation through the medium of a familiar language.

In this paper, we present the results of secondary analyses conducted on teacher classroom language data collected from four different school-LOI groups located across four regions in the Philippines in 2019. These data highlight commonalities and differences in how MTB-MLE policy implementation interacts with local contextual factors. These insights can be informative to education stakeholders wanting to refine and maximize the effectiveness and uptake of multilingual education policy in their own contexts.

1.1 Literature Review

The Philippines was one of the first countries in Asia to enact an MTB-MLE policy following long-term advocacy and evidence from pilot projects. Since the policy took effect, several studies have been undertaken to monitor its implementation and effects. For example, Alberto, Gabinete, and Rañola's (2016) study of Hiligaynon teachers; Medilo, Jr.'s (2016) study of Southern Leyte teachers; Aliñab, Prudente, and Aguja's (2018) study of grade 3 mathematics teachers; and De Los Reyes' (2018) study of grade 3 English as a second language classrooms, among others, have all lent evidence that using the students' first language as the LOI is beneficial for both teachers and students.

However, policy implementation has not been without its challenges. Across multiple studies teachers have reported difficulty with teaching language skills such as speaking, listening, reading, writing, grammar, and vocabulary (Alberto et al., 2016; Aliñab et al., 2018; Medilo, Jr., 2016; Metila et al., 2016). In some instances, the teachers were not themselves fluent speakers of the school LOI, or spoke a different dialect of it, or lacked training to use it for instruction (Alberto et al., 2016; Lartec et al., 2014). Furthermore, many studies from different language contexts in the Philippines have highlighted the lack of quality TLMs in the LOI (Alberto et al., 2016; Lartec et al., 2014; Medilo, Jr., 2016; Estremera, 2017; Eslit, 2017). Schools in linguistically diverse contexts face an even greater number of challenges, beginning with the selection of the LOI.

Teachers' attitudes and beliefs also influence their implementation of policy. In Burton's (2013) study, teachers reported both satisfaction with students' increased understanding when learning in their L1 as well as worries about delaying students' learning in English. Burton noted that teachers "overtly supported the policy in terms of complying with the requirements, yet covert resistance was observed in their words and actions" (Burton, 2013, p. v). Medilo, Jr. (2016) found that while teachers in Southern Leyte perceived that the policy made them more globally competitive, they still considered "English as a preferred language and symbol of intellectual and

¹ For example, these include the First Iloilo Experiment (1948–1954), the Cebu Experiment (pre-1960s), the Antique Experiment (1952), the First Rizal Experiment (1953–1959), another Rizal experiment (1960–1966), the First Language Component Bridging Program Pilot Project in Ifugao (1986–1993), the Lubuagan Multilingual Education Program (1998–), the Lingua Franca Project (1999–2001), the Culture-Responsive Curriculum for Indigenous People–Third Elementary Education Project (2003–2007), the Double Exposure in Mathematics Initiative of Region IV-B (2004–2007), and others.

material superiority” (p. 72). Parba’s (2018) study of teacher attitudes also revealed that teachers were initially antagonistic toward the policy, but that their attitude gradually shifted as they realized the learning benefits of L1 instruction. However, Parba notes that the English-only ideology “has continued to challenge the legitimacy and value of MTB-MLE” (p. 27).

1.2 Theoretical Framework

This study is framed using Spolsky’s (2007) theory of language policy. Language usage entails a continuous series of choices about which language variety (i.e., language, dialect, register, style, etc.) to use at any given moment. Spolsky’s theory seeks “to account for the regular choices made by individual speakers” (p. 1) through three inter-related components: language practices, language beliefs (or ideology), and language management. *Language practices* are “the observable behaviors and choices—what people actually do” (p. 2), which are constrained first and foremost by language proficiency; that is, speakers can only use the language varieties found in their linguistic repertoires. *Language beliefs or ideology* include the value assigned to one language variety over another, as well as beliefs about how children learn language, which languages children should learn and learn in, and what age they should transition from one language to another, among other things. Language ideology also encompasses whether one considers multilingualism an asset or a de-stabilizing force in society, whether one prioritizes individual differentiation or group unity, and how one anticipates the consequences for conforming to versus diverging from an official language policy. *Language management* refers to an authority’s ability to mandate language usage. Such management will interact with pressures from the other two components, and conflicts among the different levels of management are common (p. 8).

In this study, Spolsky’s management component is represented most saliently by the national MTB-MLE policy, though it also includes other social and political forces, as well as leadership at different levels in the education system.² While the Philippines education system is highly centralized with a top-down management of policy decisions, implementation is context-sensitive. Teachers vary in their proficiency, experience, training, and beliefs. Schools vary in the availability of material resources for teaching and learning in the chosen LOI. Communities vary in their linguistic heterogeneity. Spolsky recognized that the school domain comprises especially complex interactions among a number of different actors (e.g., teachers, students, administrators, parents), each bringing with them their own set of proficiencies, ideologies, and relationships to the management. Nonetheless, in the classroom behind closed doors, it is the teachers who are the “final arbiters of [education] language policy implementation” (Menken, 2008, p. 5), wielding the power of choice in their classroom language usage on a daily basis. This study focuses on how teachers’ classroom language practice is influenced and constrained by their own proficiency and material resources, as well as by the language ideology and language management in their context

In addition, we examine the teachers’ practice through the lenses of *appropriation* and *satisficing*. Spolsky was generally pessimistic about the ability of language policy management to successfully impose its desired implementation and achieve its intended results. According to Johnson & Johnson (2014):

Once a policy has been created and put into motion, it is open to diverse interpretations [H]ow a policy is appropriated may or may not reflect the macro-level intent. This view emphasizes how individuals exert agency to shape policy decisions to particular contextual demands. (p. 223)

Some theorists trace the disconnect between policy and practice to the concept of satisficing, where actors make the best decisions they can in an environment characterized by limited knowledge and control (Hoy et al., 2013; Ralaingita & du Plessis, 2019). In reality, those charged with implementing a given policy on the ground rarely operate under optimal conditions. Rather than casting the teachers as “good” or “bad” implementers of the MTB-MLE policy, we both recognize their agency in interpreting and executing the policy and presume that their

² Some of the schools in the sample were located in what is now the BARMM, which was ratified in January-February 2019, just as data collection was taking place. The establishment of the BARMM paved the way for more education authority to be devolved from the national government, and language policy may eventually shift in this region. However, at the time of data collection, and as of this writing, the national MTB-MLE policy was in effect across all the regions in the study.

actions reflect what they deem to be the best course of action within the possibilities and constraints of their own circumstances.

1.3 Research Questions

This study sought to answer the following questions:

1. How did the language policy conditions and implementation in these four language group contexts differ on average?
2. Which factors within each language group, and overall, influenced the frequency of teacher usage of the school LOI in class?
3. What does the teachers' language usage in each of their contexts reveal about how they were appropriating the MTB-MLE policy and satisficing in their implementation of it?

2. Materials and Methods

The data for this analysis come from a larger study conducted in 2019 under the U.S. Agency for International Development- (USAID-) funded All Children Reading–Philippines project. The section below summarizes the original sample and data collection methodology, but readers are advised to refer to the full report for details (Harden et al., 2020).

2.1 Sample

The original study was conducted across four regions: the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), Region IX, Region X, and Region XII. The sample comprised a total of 160 schools, 40 with each of four languages–Bahasa Sug, Chavacano, Magindanawn, or Mëranaw³–as the designated LOI. These language groups were chosen to provide implementation data from diverse contexts to inform an upcoming curriculum review by DepEd as well as to identify areas for potential donor support. In each school, one classroom per grade from kindergarten through grade 3 was observed, and in each classroom, five different 30-minute lesson periods were observed (mother tongue, Filipino, English, mathematics, and social studies or science). For this analysis we excluded the Filipino and English lessons where the school LOI was not expected to be used, leaving a total of 2,142 lesson observations. Additionally, one teacher per class was interviewed, for a total of 638 teacher interviews.

As described in detail in Harden et al. (2020), the sample methodology followed a three-stage random sample of schools, classrooms, and students. Schools were first separated by language group. Schools were then sorted by region, division, and combined grade 2 and grade 3 enrollment. A total of 160 schools were selected (40 for each language group) with probability proportional to the combined grade 2 and 3 enrollment. For each selected school, two replacement schools were automatically selected in case the originally selected school did not meet the requirements as defined by the population criteria. The replacement schools were selected to best represent the originally selected school with regard to location (region and division) and enrollment. Within each selected school, one classroom for each grade was randomly selected with equal probability.

2.2 Instruments

Data were collected using the following instruments:

1. A *classroom observation protocol*, in which a trained observer recorded which language the teacher was using every 2 minutes for each 30-minute lesson period.
2. A *classroom inventory* of the materials available in the classroom and the languages they were written in. This instrument also surveyed the students' home languages.

³ The authors recognize that many alternative language names and spellings exist in the Philippines. Those used here were in use by DepEd at the time of writing and do not reflect any preference by the authors.

3. A *teacher interview*, an orally administered questionnaire on the teacher's background, comfort levels in language usage, and language attitudes and beliefs.

2.3 Training and Data Collection

Sixty-five experienced data collectors were selected by DepEd and trained on the use of the instruments from January 28 through 31, 2019. Data collection took place from February 17 through March 7, 2019, during the fourth quarter of the 2018–2019 school year.

2.4 Model Construction

Following the theoretical framework, five main constructs of language practice and beliefs were identified as constraints on the teachers' language choices in the classroom: the teacher's general language proficiency, the teacher's language proficiency for teaching, the availability of teaching and learning resources in the school LOI, the students' language proficiency, and the teacher's beliefs about the LOI. Variables reflecting each of these categories were identified from the teacher interview and classroom inventory tools. Given that this was secondary analysis on an existing data set, the variables available were constrained by the original study; in particular, items related to teacher beliefs and attitudes were very limited. Correlation analysis was conducted on the variables within the same category to identify which variables should be retained for regression modeling (Table 1). In addition, control variables were included to account for the grade of the classroom and the urban or rural designation of the barangay where the school was located. Finally, linear regression models were constructed using the selected variables for the four language groups overall and for each language group individually. These models and all pre-analyses were weighted using the sample weights derived during sample selection.

Table 1: Variable inclusion in the regression model

Construct	Variable	Inclusion or Reason for Omission from Model
Practice	Student language proficiency	Percentage of students in classroom whose primary home language matches the LOI Included
	Teacher general language proficiency	Teacher L1 matches the LOI Included
		Teacher's most frequent home language matches the LOI Omitted due to high correlation with teacher L1–LOI match
	Teacher language proficiency for teaching	Teacher comfort using LOI Included
		Teacher ease speaking the LOI both informally and for teaching Omitted due to correlation with teacher comfort using LOI
		Teacher ease reading in the LOI
		Teacher ease writing in the LOI
		Teaching training to teach literacy in the LOI Included
	Availability of TLMs	Teacher years of teaching experience using the LOI Included
		Teacher has teacher's guide in the LOI Included
	Students have textbook in the LOI Included	
Beliefs	Teacher beliefs about their students' ability in the LOI Teacher believes that their students can understand them "very well" in the LOI Included	
	Teacher beliefs about the best language for first literacy Teacher believes that their students should learn to read first in the school LOI Included	

Construct	Variable	Inclusion or Reason for Omission from Model
Teacher beliefs about relative importance of the school LOI	Teacher believes that the school LOI was the most important language for their students to know	Omitted due to correlation with teacher belief about language for first literacy
Additional factors that may influence	Urban/rural classification ^a	Included
Controls teacher's use of the mother tongue in the classroom	Grade	Included

^a This classification was taken from the Philippines Statistical Authority (2021) based on the barangay where the school was located.

3. Results

3.1 How did the language policy conditions and implementation in these four language group contexts differ on average?

While DepEd sets the language policy at the national level (i.e., Spolsky's management element), practice and beliefs vary considerably by locality. As shown in Table 2, these four language groups present a study in contrasts. As a reminder, the expected practice according to the national policy is that the language selected by the school as the LOI should be used as the primary medium of instruction in all the subject areas except L2 Filipino and L3 English language classes.⁴ The data showed that of the four groups, teachers in the Chavacano-LOI schools used their school LOI in class the most frequently—91% of the time (Table 2). Magindanawn-LOI school teachers used the school LOI the least—only 50% of the time—relying heavily on Filipino instead. In comparison, Bahasa Sug- and Mëranaw-LOI teachers both used their respective school LOI 81% of the time.

For contextual differences, the Chavacano- and Bahasa Sug-LOI schools were predominantly urban, while Mëranaw- and Magindanawn-LOI schools were predominantly rural. The linguistic profiles of the students in Chavacano-LOI classrooms were the most heterogeneous, with only 66% of the students reporting Chavacano as their most frequent home language, compared to the most homogeneous Mëranaw-LOI classrooms, where 97% of the students reported the same for Mëranaw. However, urbanicity did not align perfectly with heterogeneity; the Bahasa Sug-LOI school sample, with greater urbanicity, also had higher student linguistic homogeneity in the LOI (88%) than its more rural counterpart in Magindanawn-LOI schools, whose linguistic homogeneity was at only 78%.

The degree of match between the teachers' personal L1 and the school LOI also varied widely, ranging from a high of 97% in the Mëranaw-LOI schools to a low of 56% in the Magindanawn-LOI schools. Teachers' comfort levels in using the LOI for teaching were lower and less variable, but their relative levels generally tracked with the percent of native speakers. Chavacano-LOI teachers had the highest rates of having received training for teaching literacy in the LOI at 58%, compared to a low of only 29% of teachers in Bahasa Sug-LOI schools. Mëranaw-LOI teachers had the most years of experience teaching in the LOI (6.7 years on average), while Magindanawn had the least (3.8).⁵

TLM availability showed the least variability among the groups; it was very low across the board, with no more than 25% of teachers in any group having a teacher's guide in the LOI for the given subject, and no more than 15% of classes having student textbooks in the LOI.

⁴ Outside of the L2 Filipino and L3 English subject classes (which were excluded from this analysis), the policy tightly constrains teachers' use of any LOI other than the designated LOI to when "academic language (i.e., terminologies) are in English" (Philippines Department of Education, 2019, p. 127), and this concession applies only to grade 3. The policy guidelines state that "the teacher should consistently use the [school LOI] as the [medium of teaching and learning]; translation is not advisable unless this forms part of the learning objectives and is used as a teaching strategy in bridging" (p. 126).

⁵ At the time of data collection, the policy was in its seventh year of national implementation.

As for teacher beliefs, on average only about half of the teachers stated that they agreed with the policy that students should learn to read first in their school's LOI. The Bahasa Sug- and Mëranaw-LOI teachers had the highest rates of agreement, though still at only 60% and 58% respectively, and Magindanawn the lowest at 37% (Table 2).

Table 2: Variability in the variables of interest

Construct	Variable	Chavacano	Bahasa Sug	Mëranaw	Magindanawn	Overall
Teacher's use of the school LOI	Mean percentage of class observation timepoints when teacher used the school LOI	91%	81%	81%	50%	72%
Urban/rural classification	Percentage of schools located in an urban area	76%	58%	3%	12%	41%
Students' language proficiency	Mean percentage of students in classroom whose primary home language matched the LOI	66%	88%	97%	78%	84%
Teacher's general language proficiency	Mean percentage of teachers whose L1 matched the LOI	71%	67%	97%	56%	74%
Teacher's language proficiency for teaching	Mean percentage of teachers who felt "very comfortable" using the LOI	52%	44%	60%	43%	50%
	Mean percentage of teachers who had received training to teach literacy in the LOI	58%	29%	36%	31%	41%
	Mean number of teachers' years of teaching experience using the LOI as LOI	4.8 years	4.1 years	6.7 years	3.8 years	5.0 years
TLM availability	Mean percentage of teachers who had a teacher's guide for the subject written in the LOI	25%	24%	18%	20%	22%
	Mean percentage of classes in which students had a textbook for the subject written in the LOI	15%	14%	14%	7%	13%
Teacher's beliefs about the school LOI	Mean percentage of teachers who believed that their students could understand them "very well" in the LOI	39%	46%	63%	47%	48%
	Mean percentage of teachers who believed that their students should learn to read first in the school LOI	51%	60%	58%	37%	52%

3.2 Which factors in each language group, and overall, influenced the frequency of teacher usage of the school-designated LOI in class?

3.2.1 Chavacano

The Chavacano-LOI sample stood out for its high urbanicity (76%) and low linguistic homogeneity in the student population (66%) (Table 2). The majority of Chavacano-LOI schools in this sample were located in the highly urbanized Zamboanga City in Region IX. Zamboanga City is home to at least eight language groups, but for political reasons in 2012 the mayor issued an executive order decreeing the exclusive use of Chavacano as the LOI in the early primary grades regardless of the students' L1, under the reasoning that the use of different LOIs in different schools would be socially divisive (Natividad, 2014). In our theoretical framework, this is a case of local management overriding national management, fueled by differences in language ideology and local politics, and it explains the high student language heterogeneity in the Chavacano-LOI classrooms. Not surprisingly, given this heterogeneity, only 39% of the teachers believed their students could understand them well in Chavacano, the lowest rate of the four groups.

As shown in Table 2, in addition to high urbanicity and low student linguistic homogeneity, Chavacano-LOI teachers had the highest rates of training to teach literacy in the school LOI and the highest rate of TLM provisioning (though still low). For the remaining variables, however, they were close to the overall average of the four groups in the study.

Given some of these contextual characteristics, especially the low linguistic homogeneity, it is perhaps surprising that Chavacano-LOI teachers nonetheless used their school LOI in class more frequently than any other group in the study, 91% of the time, in high conformity to the policy. In the regression model, two variables showed a statistically significant association with these teachers' Chavacano usage: the teacher's personal L1-LOI match and the degree of student linguistic homogeneity (Table 3). Specifically, teachers whose L1 was Chavacano used Chavacano on average for 9% more of the time than did teachers whose L1 was not Chavacano ($p=0.005$). Also, for every 10 percentage point increase in the number of students with Chavacano as their home language, the teachers used Chavacano on average for just 2% more of the time ($p=0.021$). While both associations were statistically significant, the results suggest that the Chavacano teachers' own L1 had a much larger influence on their use of Chavacano in the classroom than did the linguistic backgrounds of their students. None of the other variables examined was statistically significant in the Chavacano group.

Table 3: Regression output for Chavacano-LOI teachers' frequency of use of Chavacano in class

Variable	<i>n</i>	Beta	<i>P</i> -value
Percentage of students present with Chavacano as their most frequent home language	571	0.180	0.021*
Teacher's L1 was Chavacano	No	176	0.000
	Yes	395	8.980
Teacher felt "very comfortable" using Chavacano as LOI	No	275	0.000
	Yes	296	3.660
Teacher received training to teach reading in Chavacano	No	226	0.000
	Yes	345	-0.790
Teacher's years of experience teaching using Chavacano as LOI	571	-0.470	0.147
Teacher had a teacher's guide for that subject in Chavacano	No	428	0.000
	Yes	143	2.030
Students had a textbook for that subject in Chavacano	No	484	0.000
	Yes	87	-2.410
Teacher believed that their students could understand them "very well" in Chavacano	No	350	0.000
	Yes	221	-2.040
Teacher believed that their students should learn to read first in Chavacano	No	278	0.000
	Yes	293	3.160

Variable		<i>n</i>	Beta	<i>P</i> -value
School was located in rural area	No	442	0.000	0.109
	Yes	129	2.840	
Grade level	Kindergarten (reference)	201	0.000	0.870
	Grade 1	121	-0.620	
	Grade 2	120	-3.940	
	Grade 3	129	2.390	

Note. *=significant at $p < 0.05$; **=significant at $p < 0.01$.

3.2.2 Bahasa Sug

In contrast to the Chavacano sample, the Bahasa Sug-LOI schools could be characterized as both predominantly urban (58%) and linguistically homogeneous (88%). The schools in the sample were located in multiple provinces and cities in BARMM and Region IX. As shown in Table 2, for most of the teacher variables examined, Bahasa Sug-LOI teachers fell slightly below the average of the four groups. One exception is that they reported the highest rate of personal belief that their students should learn to read first in the school LOI (60%).

In practice, Bahasa Sug-LOI teachers used Bahasa Sug in class 81% of the time. In the regression model, of all variables examined, only one showed a statistically significant association with the teachers' Bahasa Sug usage: the availability of a teacher's guide written in Bahasa Sug (Table 4). That is, teachers with a teacher's guide in Bahasa Sug used the language for 19% more of the time than did teachers without this resource ($p = 0.000$).

Table 4: Regression output for Bahasa Sug-LOI teachers' frequency of use of Bahasa Sug in class

Variable		<i>n</i>	Beta	<i>P</i> -value
Percentage of students present with Bahasa Sug as their most frequent home language		534	0.010	0.857
Teacher's L1 was Bahasa Sug	No	142	0.000	0.147
	Yes	392	9.170	
Teacher felt "very comfortable" using Bahasa Sug as LOI	No	288	0.000	0.077
	Yes	246	9.260	
Teacher received training to teach reading in Bahasa Sug	No	359	0.000	0.412
	Yes	175	4.220	
Teacher's number of years of experience teaching using Bahasa Sug as LOI		534	0.120	0.805
Teacher had a teacher's guide for that subject in Bahasa Sug	No	413	0.000	0.000***
	Yes	121	18.910	
Students had a textbook for that subject in Bahasa Sug	No	457	0.000	0.437
	Yes	77	4.680	
Teacher believed that their students could understand them "very well" in Bahasa Sug	No	285	0.000	0.191
	Yes	249	6.880	
Teacher believed that their students should learn to read first in Bahasa Sug	No	225	0.000	0.369
	Yes	309	5.290	
School was located in rural area	No	339	0.000	0.867
	Yes	195	-0.960	
Grade level	Kindergarten (reference)	166	0.000	0.423
	Grade 1	121	-4.350	
	Grade 2	121	-0.760	
	Grade 3	126	-1.000	

Note. ***=significant at $p < 0.001$.

3.2.3 Mëranaw

Located in the Lanao del Norte province in Region X and Lanao del Sur province in BARMM, the Mëranaw-LOI sample was characterized by extremes in both rurality (97%) and linguistic homogeneity, with 97% of both teachers and students speaking Mëranaw as their L1. These characteristics coincided, not surprisingly, with a relatively high rate of teachers feeling “very comfortable” teaching in Mëranaw and believing that their students could understand them well when they did, as well as believing that Mëranaw should be the first language of literacy for their students (Table 2). Mëranaw-LOI teachers also had the most years of experience teaching in the LOI but were below average in the percent having received training to teach literacy in it. They were the least likely to possess a teacher’s guide written in the LOI.

Mëranaw-LOI teachers used Mëranaw in class 81% of the time. Regression analysis showed that their usage was influenced by grade level and the availability of material resources in Mëranaw (Table 5). That is, compared to kindergarten teachers, grade 1 to grade 3 teachers used Mëranaw for 14% to 26% less of the time with each subsequent grade level ($p=0.000-0.001$). In classrooms equipped with TLMs written in Mëranaw, teachers used Mëranaw for about 14% more of the time than did teachers in classrooms without TLMs ($p=0.000$). The data also show a relationship between the teacher’s Mëranaw usage and the teacher L1–LOI match, as well as with the rurality of the school; however, the sample size of non-Mëranaw L1 teachers and non-rural schools was so small that these relationships should be interpreted with caution.

Table 5: Regression output for Mëranaw-LOI teachers’ frequency of use of Mëranaw in class

Variable		<i>n</i>	Beta	<i>P</i> -value
Percentage of students present with Mëranaw as their most frequent home language		514	-0.090	0.209
Teacher’s L1 was Mëranaw	No	15	0.000	0.009**
	Yes	499	21.300	
Teacher felt “very comfortable” using Mëranaw as LOI	No	218	0.000	0.226
	Yes	296	-2.810	
Teacher received training to teach reading in Mëranaw	No	327	0.000	0.226
	Yes	187	4.200	
Teacher’s number of years of experience teaching using Mëranaw as LOI		514	-0.360	0.133
Teacher had a teacher’s guide for that subject in Mëranaw	No	415	0.000	0.000***
	Yes	99	13.970	
Students had a textbook for that subject in Mëranaw	No	444	0.000	0.000***
	Yes	70	13.430	
Teacher believed that students could understand them “very well” in Mëranaw	No	204	0.000	0.678
	Yes	310	-1.240	
Teacher believed that their students should learn to read first in Mëranaw	No	204	0.000	0.778
	Yes	310	1.180	
School was located in rural area	No	14	0.000	0.004**
	Yes	500	-9.210	
Grade level	Kindergarten (reference)	162	0.000	
	Grade 1	118	-13.500	0.001**
	Grade 2	114	-17.880	0.000***
	Grade 3	120	-26.000	0.001**

Note. **=significant at $p<0.01$; ***=significant at $p<0.001$.

3.2.4 Magindanawn

The Magindanawn-LOI sample was characterized by high rurality (88%) and moderate student homogeneity

(78%). The schools in this sample were located in the Maguindanao and Sultan Kudarat provinces in BARMM, and the Cotabato province in Region XII. Compared to the teachers in the other groups, the Magindanawn-LOI teachers reported exceptionally low language proficiency in the LOI; only 56% considered Magindanawn their L1, and only 43% felt “very comfortable” using Magindanawn for teaching. They also had the lowest number of years of experience teaching in the LOI, the second lowest level of training, the lowest support for the LOI as the best language for initial literacy for their students, and the lowest availability of student textbooks in the LOI (Table 2). However, the linguistic homogeneity of the Magindanawn school students, and likewise their teachers’ belief in their students’ ability to understand them in Magindanawn, were both close to average.

Not surprisingly, given the compounding of conditions not amenable to the use of Magindanawn in class, Magindanawn teachers only used it 50% of the time, far less than their counterparts in the other groups used their respective LOIs. Regression analysis revealed that the L1–LOI match and the availability of a teacher’s guide in Magindanawn had a statistically significant relationship with the teachers’ usage of Magindanawn (Table 6). Teachers with Magindanawn as their L1 used it for 34% more of the time than did teachers with other L1s ($p=0.000$). Similarly, teachers who had a teacher’s guide in Magindanawn used the language for 24% more of the time than those who did not ($p=0.000$). Finally, similar to results in the Chavacano group, on average every 10 percentage point increase in the number of L1 Magindanawn students corresponded with a 2% increase in the amount of time the teachers used Magindanawn in class ($p=0.039$).

Table 6: Regression output for Magindanawn-LOI teachers’ frequency of use of Magindanawn in class

Variable		<i>n</i>	Beta	<i>P</i> -value
Percentage of students present with Magindanawn as their most frequent home language		490	0.180	0.039*
Teacher’s L1 was Magindanawn	No	209	0.000	0.000***
	Yes	281	33.640	
Teacher felt “very comfortable” using Magindanawn as LOI	No	268	0.000	0.343
	Yes	222	7.480	
Teacher received training to teach reading in Magindanawn	No	317	0.000	0.595
	Yes	173	-3.170	
Teacher’s number of years of experience teaching using Magindanawn as LOI		490	0.300	0.467
Teacher had a teacher’s guide for that subject in Magindanawn	No	388	0.000	0.000***
	Yes	102	23.710	
Students had a textbook for that subject in Magindanawn	No	458	0.000	0.168
	Yes	32	11.000	
Teacher believed that their students could understand them “very well” in Magindanawn	No	252	0.000	0.829
	Yes	238	1.290	
Teacher believed that their students should learn to read first in Magindanawn	No	303	0.000	0.846
	Yes	187	1.040	
School was located in rural area	No	77	0.000	0.243
	Yes	413	-6.600	
Grade level	Kindergarten (reference)	133	0.000	
	Grade 1	119	-5.540	0.461
	Grade 2	114	-18.130	0.017*
	Grade 3	124	-12.540	0.116

Note. *=significant at $p<0.05$; ***=significant at $p<0.001$.

3.2.5 Overall

Running the same regression model on the aggregated data, and controlling for all of these factors, we observed a statistically significant difference between language groups in the percentage of time teachers used the school

LOI in class (Table 7). That is, compared to teachers in the Bahasa Sug group, teachers in the Chavacano group used their LOI on average for 12% more of the time, and Magindanawn teachers for 22% less. These results suggest the presence of other latent variables not accounted for in this regression model that would further differentiate the language groups. For example, local norms related to language ideology, accountability, or general language practices could also be contributing to these differences in language usage between the language groups in ways that the data were not able to capture.

Despite these differences, some significant influences are apparent in the aggregated model. First, the single largest factor in teachers' language usage in the classroom is the teacher L1–LOI match. On average, across all four language groups, teachers with an L1 that matched their school's LOI used the LOI for 26% more of the time than did teachers without an L1–LOI match ($p=0.000$). In contrast, the teacher's self-reported comfort level in the LOI showed no association with their usage of it, neither in the overall model nor in any single group.

Second, on average the presence of a teacher's guide written in the LOI was associated with a 16% increase in the teacher's use of the LOI ($p=0.000$), and student textbooks with an increase of 7% ($p=0.007$).

Third, for every 10 percentage point increase in the number of students who spoke the school LOI as their most frequent home language, teachers used the LOI on average for 2% more of the time ($p=0.002$). These results suggest that while the linguistic makeup of the class showed some relationship with the teachers' practices, it was a much weaker influence than the teachers' own L1 and the availability of TLM in the LOI. Moreover, the actual rate of student linguistic homogeneity appeared to be more influential than the teachers' subjective judgments about their students' ability to understand them.

The overall model also showed that teachers generally decreased their use of the LOI in favor of Filipino and English as the students progressed through the grades; that is, grade 1 teachers used it less than kindergarten teachers, and grade 2 and grade 3 teachers less than grade 1.

The following factors did not show any statistically significant relationship to the teachers' language practices in either the overall model or any individual group: the teachers' self-reported comfort level teaching in the LOI, the teachers' belief about their students' ability to understand them in the LOI, whether the teacher had received training to teach literacy in the LOI, the teachers' number of years of experience teaching in the LOI, the teachers' belief about whether their students should learn to read first in the LOI, and (except for Mëranaw) whether the school was in an urban or rural setting.

Table 7: Regression output for teachers' frequency of use of the LOI in class (overall)

Variable	<i>n</i>	Beta	<i>P</i> -value	
Bahasa Sug LOI (reference)	534	0.000		
Chavacano LOI	571	12.380	0.000***	
Magindanawn LOI	490	-21.900	0.000***	
Mëranaw LOI	514	-5.990	0.108	
Percentage of students present with the school LOI as their most frequent home language	2109	0.160	0.002**	
Teacher's L1 was the school LOI	No	542	0.000	
	Yes	1567	25.720	0.000***
Teacher felt "very comfortable" using the LOI	No	1049	0.000	
	Yes	1060	2.670	0.278
Teacher received training to teach reading in the LOI	No	1229	0.000	
	Yes	880	1.040	0.659
Teacher's number of years of experience teaching in the LOI	2109	0.030	0.898	
Teacher had a teacher's guide for that subject in the LOI	No	1644	0.000	
	Yes	465	15.620	0.000***
Students had a textbook for that subject in the	No	1843	0.000	0.007**

LOI	Yes	266	6.730	
Teacher believed that students could understand them “very well” in the LOI	No	1091	0.000	
	Yes	1018	0.680	0.797
Teacher believed that their students should learn to read first in the school LOI	No	1010	0.000	
	Yes	1099	3.230	0.178
School was located in rural area	No	872	0.000	
	Yes	1237	-3.050	0.251
Grade level	Kindergarten (reference)	662	0.000	
	Grade 1	479	-8.930	0.002**
	Grade 2	469	-14.020	0.000***
	Grade 3	499	-13.300	0.002**

Note. **=significant at $p<0.01$; ***=significant at $p<0.001$.

4. Discussion

What does the teachers’ language usage in each of their contexts reveal about how they were appropriating MTB-MLE policy and satisficing in their implementation of it?

The teachers’ language practices in these case studies gave evidence for the following.

Language proficiency and, secondarily, TLMs mattered. Spolsky identified language proficiency as the first constraint on language choice; if one does not know a language, one simply cannot use it. The strong association in the data between the teachers’ L1–LOI match and their use of the LOI lends evidence to the critical role of teacher language proficiency in LOI policy implementation. We recognize that teachers can be multilingual and speak languages other than their L1 comfortably; they can also be native speakers of a language yet feel underequipped to use it for teaching. It is interesting therefore to note that while the teachers’ L1–LOI match had such a significant association with their LOI usage across the board, their self-reported comfort level in the LOI did not. It could be that their L1 status was simply a better indicator of their actual proficiency than was their subjective self-judgment, at least in response to the wording of that particular item on the questionnaire,⁶ and/or possibly that their social identification with the LOI ethnolinguistic group encouraged greater appropriation of a policy promoting that language.

In addition, TLM resources serve as an indirect support to language proficiency, providing teachers with the academic language that they need for the specialized domain of school, something that none of the teachers learned in their own experience at school as children, before these languages were used as LOIs.

The Magindanaw-LOI teachers demonstrate this most vividly. They had the lowest usage of the LOI, but also the lowest rate of L1–LOI match, as well as, like everyone else, low TLM provisioning. Low proficiency therefore constrained the teachers’ ability to use the LOI even if they wanted to. In the absence of these essential inputs, the Magindanaw teachers showed evidence of satisficing by doing the next best thing, which in their case, meant reverting to the national language, Filipino. Note that while the teacher’s L1–LOI match and the availability of a teacher’s guide in the LOI were generally influential variables across all the groups, they were the most influential on this group of teachers, whose fundamental ability to implement was much more precarious.

The Mēranaw-LOI teachers also demonstrated the importance of the TLMs. While their use of their LOI in class was relatively high, it could have been even higher (as the Chavacano group demonstrated). Although the teachers were almost all native speakers of the LOI, they may have still lacked ease with the subject-specific

⁶ The question was: “How comfortable do you feel teaching using [the school LOI] as the medium of instruction?” to which the teacher chose a response from “Very comfortable,” “Somewhat comfortable,” “Somewhat uncomfortable,” or “Very uncomfortable.”

academic terminologies. Unfortunately, they had the lowest rate of possession of a teacher's guide in the LOI, but those who did have a guide used Mëranaw on average for 14% more of the time, and the presence of student textbooks showed a similar association. In contrast to the other groups, Mëranaw teachers were working in conditions generally more conducive to policy implementation (e.g., high teacher L1–LOI match, high student homogeneity, supportive language ideology, etc.), yet even so, the low availability of TLMs acted as a constraint on their classroom practice. When lacking academic resources in the LOI, they may have satisfied by reverting to Filipino or English.

The students' language proficiency mattered too, but much less so than the teachers'. Overall, the greater the percentage of students who spoke the school LOI as their most frequent home language, the more their teachers used the LOI in class. However, the Chavacano example demonstrates the limitations of this association. Local political conditions and language ideology resulted in relatively high student linguistic heterogeneity in the Chavacano-LOI schools. While the data showed that the Chavacano teachers did react somewhat to their students' linguistic backgrounds, the heterogeneity did not prevent them from using Chavacano in high conformity to policy overall, in fact at the highest rate of all the groups. In other words, the Chavacano teachers demonstrated a high rate of appropriation of the Chavacano-LOI policy despite the linguistic heterogeneity of their environment. One takeaway is that the students' linguistic profiles are far from absolute determinants in teachers' ability or willingness to use a given LOI, and, for better or worse, high teacher LOI usage is possible even in linguistically heterogeneous classrooms.

Teachers' language usage was somewhat sensitive to the grade level of the students. In the overall model, teachers generally increased their use of Filipino and English in class as the students progressed through the grades. It may be that as part of the teachers' appropriation of the policy, they see the need to prepare their students for the impending transition to Filipino and English LOI, slated for grade 4. Another possible explanation is that as the subject matters increase in complexity, in the absence of academic resources in the LOI, teachers satisfy by relying more on resources in Filipino and English.

The influence of language ideology on practice was complex. On average only half of the teachers personally agreed with the policy that their students should learn to read first in the LOI. Yet their actual execution of the policy was much higher, and their personal beliefs did not track in any statistically identifiable way with their execution. Even their beliefs about their students' ability to understand them did not appear to hold any significant sway over their own language choices. The data suggested that for the teachers in this study, other beliefs and values not captured in these data were more influential than the ones captured. Other influential beliefs could include a more nuanced view of the pros and cons of teaching in the school LOI than the questionnaire allowed, the teachers' sense of professional duty to adhere to policy, social norms and expectations about what constitutes acceptable classroom practice, and the anticipated consequences associated with conformity versus divergence.

5. Conclusion

These case studies illustrate how teachers working under different conditions implemented LOI policy differently. Despite these differences, some common influences emerge in the data. Teacher language proficiency, and secondarily, material resources in the target language appear to have acted as the foremost influences on teacher language usage. Regardless of context, the better the teachers were equipped in L1 proficiency and/or resources in the LOI, the more they used the LOI. These two factors outweighed all other variables examined in this study, including the students' language backgrounds and the teacher's training, years of experience, and beliefs about the best language for initial literacy. The results of this study suggest that if education stakeholders in these and similar contexts want to increase teacher usage of a designated LOI, the most influential levers at their disposal are ensuring that teachers are assigned to schools where the LOI matches their L1, as well as providing TLMs for each subject written in the target LOI.

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