

# INVESTIGATING BEST PRACTICE IN MTB-MLE IN THE PHILIPPINES

## PHASE 2 PROGRESS REPORT:

PATTERNS OF CHALLENGES AND STRATEGIES IN THE IMPLEMENTATION OF MOTHER TONGUE AS THE MEDIUM OF INSTRUCTION IN THE EARLY YEARS: A NATIONWIDE STUDY



ACTRC

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Front page image: *Various mother tongue prints in school premises*

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## EXECUTIVE SUMMARY

Phase 2 of the ACTRC MTB-MLE study gathered data from 158 schools across the country to identify the nature of challenges faced and strategies adopted by schools. This phase built on Phase 1 by using the same language contexts (Large language (LL), Small language (SL), Tagalog and Linguistically diverse (LD)) and dimensions of MTB-MLE implementation (Language, Instruction, Materials and Program) to elicit and organise data. Phase 2 revealed that challenges and strategies identified in Phase 1 were largely present on a wider scale, except that in Phase 2, a higher degree of challenges was reported from schools in the LD context, and all contexts reported the use of more Instruction, Materials and Program strategies than were found in Phase 1.

'Challenges,' in this report, refers to difficulties or issues in program implementation, while 'Strategies' refers to activities or means of implementing the program efficiently and effectively, some of which may be deliberate ways of responding to a challenge. Both challenges and strategies presented here are data reported by teachers and school administrators.

The dimensions are as follows: 'Language' refers to understanding of and attitude towards the used mother tongue (MT) as medium of instruction (MOI); 'Instruction' refers to how teaching and learning takes place in the classroom; 'Materials' refers to the development, production, procurement, availability and accessibility of suitable materials to support teaching and learning in the MT; and 'Program' refers to operational logistics that go beyond the classroom, like organization of MT classes, MT selection, and teacher training, among others.

Phase 2 results reveal that, in general, schools are developing strategies to meet the challenges they face in the implementation of MTB-MLE. Challenges for the program are more-or-less homogeneous across contexts, except in distinct environments such as the LD communities, which provide a unique set of challenges.

Many strategies identified from Phase 2 schools can be related to good practice as described in the literature and are consistent with the goals and principles that are the foundation for the implementation of MTB-MLE. Regarding progress in the development of strategies, some issues need to be addressed. In the Language dimension, the use of different varieties of the LLs is an issue that increases the difficulty of standardizing the MOI. Schools in SL contexts experience the same problem and have addressed it through local standardization, but specialist support is needed for quality control in this process.

In the Instruction dimension, DepEd training appears to be influencing teachers to a great extent, as indicated by the match between DepEd training topics and the teachers' reported strategies. That some of these strategies also match what is recognized in the literature as best practice indicates that teachers, generally, are on the right track. Some strategies that appear to be unique to the country are reported as well.

The use in the classroom of translation and other language strategies like code-switching needs further study to explore how it can complement the program's aim of providing the ideal MT immersion to students. Teachers appear to resort to these strategies as a response to the inadequate academic register of some MTs or as a way of coping with their low MT competence. Translanguaging, or transitioning between languages, may be reflective of the way multilingual students and teachers naturally communicate in classes, but this underlines the need for teachers to examine the value of these strategies and their effects on students, and whether they are used strategically to improve communication and instruction.

In the Materials dimension, schools have developed resourceful production strategies. In addition, Phase 2 data reveal that the DepEd portal for instructional materials has been very useful to teachers. However, there remains the problem of how central materials production can deal with different varieties of the same language. Localization and contextualization have been featured in DepEd training, but these have focused on instruction, rather than materials. Since local materials production has been established in some areas and can be expected to continue, its integration with the central provision of materials is something DepEd could fruitfully explore.

In the Program dimension, one area that needs attention is the varied bases of allocation of students to MT classes. Allocation appears to rely partly on identification of the strongest heritage language but is also influenced by linguistic context, as illustrated by a preference in some areas for the regional language as MT, rather than the students' actual MTs. Given the implementation template that is currently in use, schools in the LD context face more challenges. This highlights the need to further understand the extent of linguistic diversity in some areas of the country in order for the program to address the special needs resulting from the complexity of the Philippines' linguistic landscape.

Data on reported addressed challenges, or challenges for which schools had adopted strategies, show that the Instruction dimension has the largest number of addressed challenges, followed by the Materials and Program dimensions, with the Language dimension far behind. The Language dimension is consistently the weakest dimension for all language contexts, and it seems that DepEd training and implementation may not have adequately addressed this dimension.

In considering the implementation of MTB-MLE by context, the LL context schools have the largest number of challenges addressed, followed by the SL context schools. Far behind are the Tagalog context and LD context schools, which need to devise more strategies to deliberately address challenges. Phase 2 data reveal that schools in LD contexts face many more challenges in relation to Language, Materials and Program dimensions than the other contexts, and they also have the smallest overall number of addressed challenges.

In each language context, the schools have addressed more challenges in some dimensions than others. The LL context and LD context schools have addressed more challenges in the Instruction dimension; the SL context schools have addressed more Program challenges; while Tagalog context schools have addressed more challenges in the Materials dimension. It is possible that schools may have other strategies for some reported challenges but were unaware of these and hence failed to report them.

Although data show that much work needs to be done to improve program implementation, it should also be recognised that data were collected in the early years of MTB-MLE implementation. Data also confirm that the groundwork for implementation has been laid and that schools have devised strategies that promptly address challenges. The data also enabled the identification of best practice schools for Phase 3 of the study.

This report includes recommendations made to DepEd Central Office and DepEd coordinators in relation to Language, Instruction, Materials, and Program dimensions.

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## INTRODUCTION

The ACTRC Mother Tongue-Based Multilingual Education (MTB-MLE) project seeks to investigate the implementation of the use of the mother tongue (MT) as the medium of instruction (MOI) in grades K to 3 in DepEd schools in the Philippines as stipulated in DepEd (Department of Education) Memorandum No. 74 (DepEd, 2009). The legislation led to the adoption of MT as MOI in 19 designated languages from school year 2011-12 onwards. The ACTRC project has been investigating the implementation of the program since 2013.

Phase I of the project was a scoping study of eight schools. It identified the range of challenges faced and strategies adopted by schools in four different language contexts: Large language (LL) contexts in which schools use an MT with more than two million speakers (excluding Tagalog), Small language (SL) contexts in which schools use an MT with fewer than two million speakers, Tagalog contexts in which schools use a Tagalog dialect, and Linguistically diverse (LD) contexts where several MTs are used by the schools and the communities. The Phase I Report (ACTRC, 2014) identified challenges and strategies experienced and reported by the eight schools, which had devised strategies for the challenges they experienced – a majority of them the results of the resourcefulness of school staff. The report discussed the extent to which some of these practices were promising or potentially problematic.

Phase 2 of the project, reported here, had two goals: to establish the extent to which the findings of Phase I were replicated across a wider range of schools, and to identify four schools which could be regarded as exhibiting best practice in MTB-MLE for closer study in Phase 3. It sought data from a sample of 200 schools across the country – 50 in each of the four language contexts. This report describes the patterns of challenges and strategies reported by this sample of schools, and so provides a more informed picture of the experiences of schools in implementing MTB-MLE

in all parts of the country. The way in which Phase 2 data were used to identify best practice schools for more detailed investigation in Phase 3 is also described.



## PRINCIPLES OF THE MTB-MLE PROGRAM

The Philippines' adoption of MTB-MLE is motivated by a desire for the achievement of higher educational standards. It is supported by international studies of small-scale MTB-MLE programs in the Philippines, in other South East Asian countries, and in other parts of the developing world (Dekker & Duguiang, 2003; Dekker & Dumatog, 2003; Walter & Dekker, 2008; Kosonen & Young, 2009). This MTB-MLE program is more extensive than similar programs in other countries in terms of nationwide coverage and the number of MTs used. The rationale for the program, which is provided in DepEd order No. 74 of 2009, is briefly summarized in the following principles:

1. Use of the child's home language provides the best foundation for development of initial literacy and learning in the first years of schooling. Ultimately, better educational outcomes result from the use of the MT in the early years, compared to situations in which children are educated in a language which is not their strongest language when they commence formal schooling (Barron, 2012; Kosonen & Young, 2009; Ocampo, 2006).
2. The child's MT in this context can be assumed to be the strongest language of the child, or the language that the child knows best and can use most effectively (DepEd, 2013).
3. Strong MT skills provide a good foundation for subsequent learning of other languages, such as the national language Filipino, and English, which can gradually be introduced into the curriculum in Grades 1 and 2 (Cenoz & Genesee, 1998; Ocampo, 2006).
4. The use of the MT as MOI means extensive exposure to the MT as MOI (Skutnabb-Kangas, 2009) and management of the extent to which other languages are used as MOI in the early years.

The literature on MT as MOI advocates a range of teaching methods, which involve the grounding of education in the local context of the child, and providing a concrete and familiar basis for learning. DepEd training for teachers has also identified a number of teaching strategies for use in MT learning, such as the use of primers, small and big books, writing experience stories, use of keywords and pictures, making and breaking of words, and many more that fall under the Two Track Method for Teaching Literacy (DepEd, 2013) which has been adapted from Stringer's Multi-Strategy Method (1992).

## METHOD

### SURVEY INSTRUMENTS

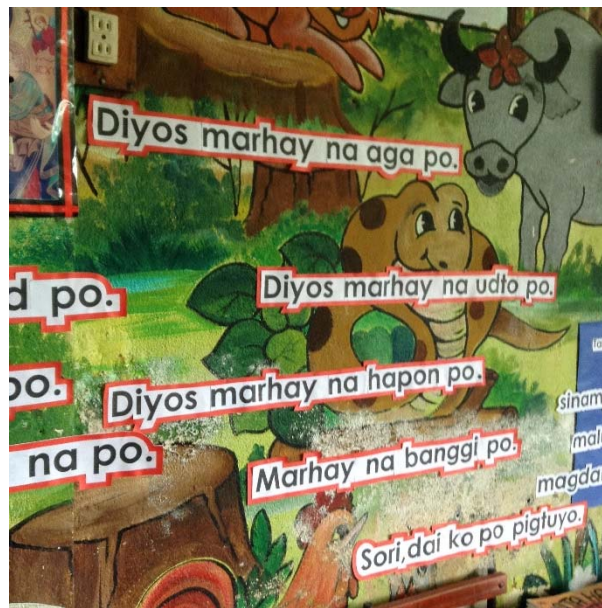
The Phase 2 survey instruments – one for teachers and one for school administrators – elicited information about each school and its MTB-MLE program. The instruments included Likert-style items on the availability of materials, appropriateness of the MT (standardization and intellectualization), teacher training and competencies, parent and community involvement and attitudes towards the program, and classroom practices and pupil attitudes to learning in the MT. School administrators and teachers were also asked open-ended questions to identify how the school was implementing MTB-MLE.

Phase 2 data were collected six-to-eight months after Phase 1, when schools were in their second or third school year of MTB-MLE implementation, depending on when a school commenced. Phase 1 data had been collected in the first or second year of school's implementation of MTB-MLE, so Phase 2 data were collected when schools had more experience of MTB-MLE.

### SAMPLE AND DISTRIBUTION

A sample of 200 schools was drawn from nominations made by Regional and Division MTB-MLE DepEd coordinators who were requested to identify successful MTB-MLE implementing schools in the four language contexts of the study. Coordinators were asked for their criteria for identifying “success”, and it was found that they nominated those that implemented the program at the earliest opportunity, those with strong program support from the school and the community, or those with MT teachers who are also MTB-MLE trainers or materials writers.

The sample was controlled to ensure selected schools represented all official MTs and the three main island groups (Luzon, the Visayas, and Mindanao). A total of 50 schools was selected for each context. In each selected school, the school administrator and 50% of the total number of MT teachers were asked to complete the survey. The distribution of schools is shown in Figure 1.



*Wall display of greetings in the MT (Bikol)*

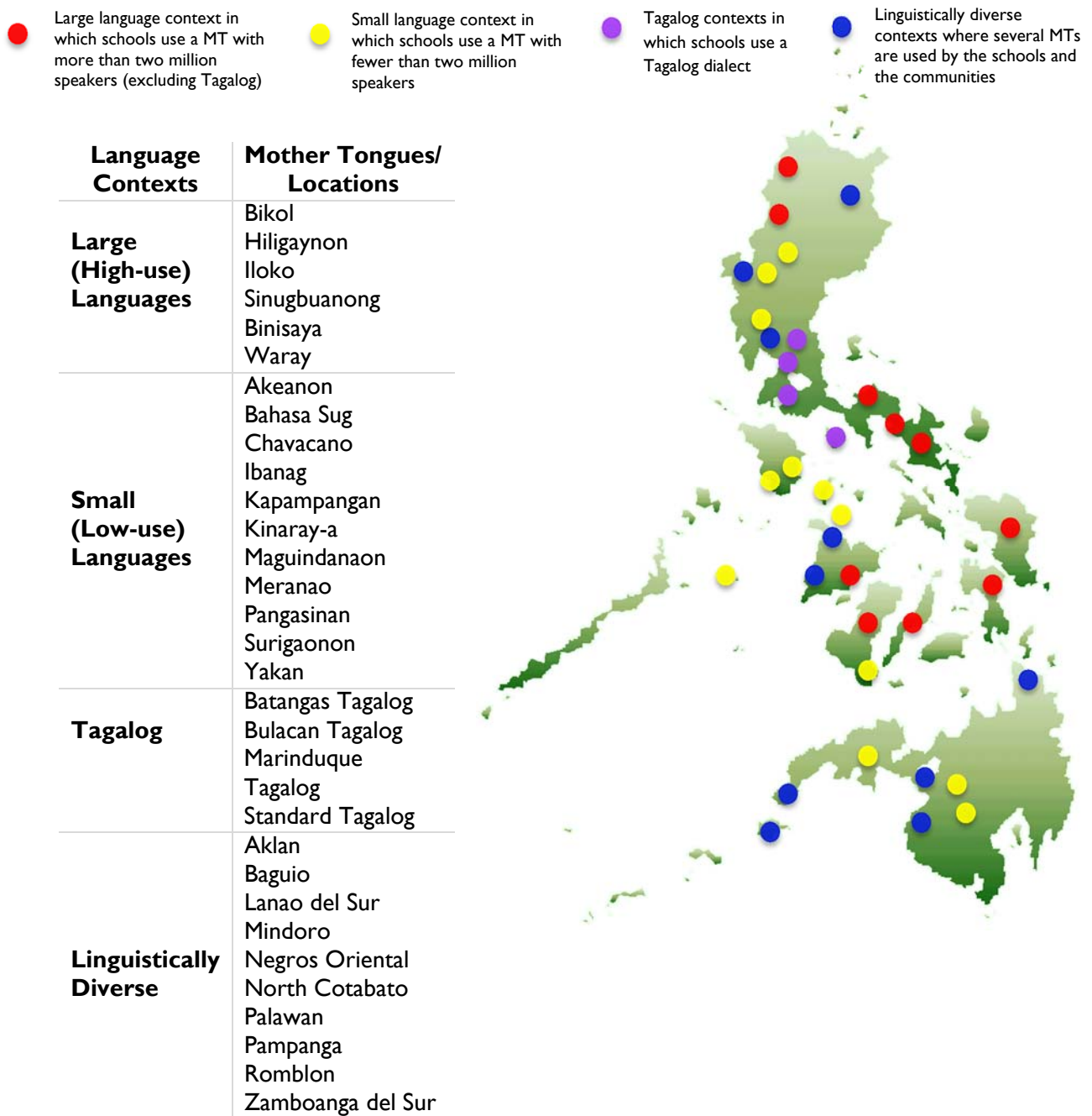


Figure 1 Distribution of respondent schools by language context

## DATA COLLECTION

Survey sheets were mailed to schools in LL, SL, and Tagalog contexts, along with prepaid mailing envelopes addressed to the researchers. Because the linguistic circumstances of schools in the LD contexts were frequently difficult to authenticate, short verification visits to schools anticipated to be in this context were made. For each school, one day of fieldwork was scheduled for the administration of the questionnaires and informal observations of how languages were used in the school. This no doubt contributed to the 100% response rate for this context, and also resulted in a small number of schools being reclassified to LL or SL contexts. Data were obtained from 158 schools, a response rate of 78% of the 200 schools surveyed, with 35 LL context schools, 36 SL context schools, 37 Tagalog context schools and 50 LD context schools. One thousand two hundred forty-eight MTB-MLE teachers completed the instruments, and their replies were related to the data provided by the school administrator to produce a consolidated data set for each responding school.

## DATA ANALYSIS

The data relating to challenges and strategies were analysed using the qualitative data analysis software NVivo 10. The data related to many different aspects of the implementation of MT as MOI was also analysed statistically.

The data analysis involved filtering the challenges and strategies reported by the schools. This reduced multiple reporting of challenges or strategies by schools in the same context. If more than one school mentioned the same strategy, or if it was clear that challenges or strategies were essentially the same thing, despite being labeled differently in different schools, they were considered the same. This resulted in lists of *unique* challenges and strategies, that is the challenges and strategies occurring in each language context. This approach provided a means of comparing the challenges and strategies across language contexts, and according to the

dimensions of the study they relate to, despite the different numbers of schools from which data were collected.

## RESULTS

### COMPARISON OF PHASE 1 AND PHASE 2 DATA

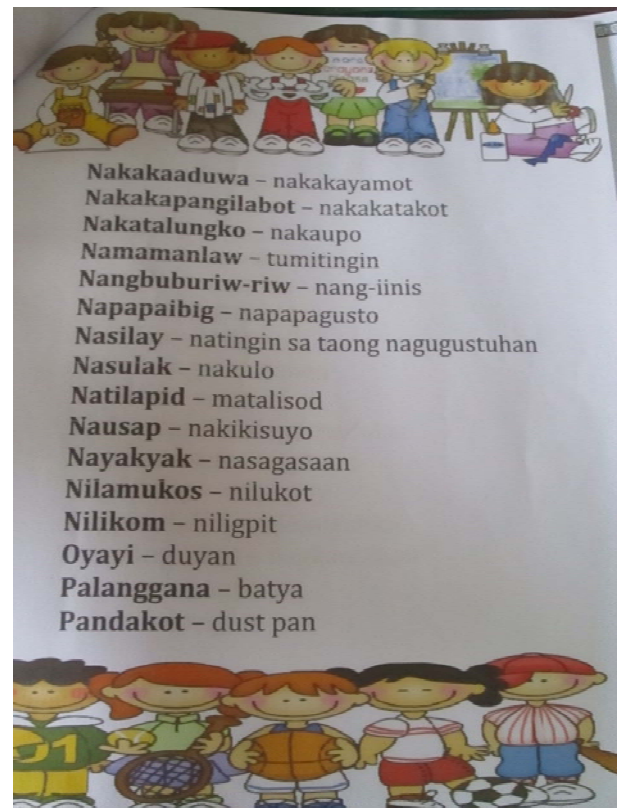
One focus of Phase 2 was to explore the extent to which Phase 1 findings from eight schools were replicated across a broader sample of schools. In Phase 1 the eight schools were investigated through fieldwork and each school was treated as a case study. Phase 2 had a broader scope and used survey data. However, categories developed in Phase 1 were used in designing the instruments for Phase 2 and in the analysis of Phase 2 data. Data collected in both phases were analysed with reference to the four language contexts identified in the study design and classified according to the same four dimensions of MT MOI implementation (Language, Instruction, Materials and Program). This common conceptual framework ensured comparable data across the phases, despite the different methods of data collection.

When the unique challenges and strategies for each context in Phases 1 and 2 were compared, there was considerable similarity across the two phases. Despite the vastly different numbers of schools in Phase 1 (eight schools) and Phase 2 (158 schools) over half of the challenges and strategies reported in Phase 1 were also reported in Phase 2. The overlap ranged from 57% for Instructional strategies to 100% for both Materials strategies and Program challenges.

There were similarities in the distribution of the challenges and strategies in the two phases, suggesting that the different methods used in data collection, and the larger number of Phase 2 schools identified consistent patterns of results in most respects. However, there were two main differences in the Phases 1 and 2 results. In summary, both phases revealed similar patterns of challenges and strategies, except that the LD context reported more challenges related to Language, Materials and Program, and all contexts reported more strategies in all dimensions except Language.

### DISTRIBUTION OF CHALLENGES AND STRATEGIES BY LANGUAGE CONTEXT AND DIMENSION

The Phase 2 data reveal that challenges and strategies were not evenly distributed between the four language contexts or the four dimensions of the study. The distributions can be seen in Figure 2, which shows the frequencies of unique challenges by language context and dimension, and Figure 3, which shows the frequencies of the unique strategies by language context and dimension. The number of unique challenges or strategies is reported, rather than the number of schools reporting a challenge or strategy.



Tagalog MT variety terms with translation equivalents in Filipino

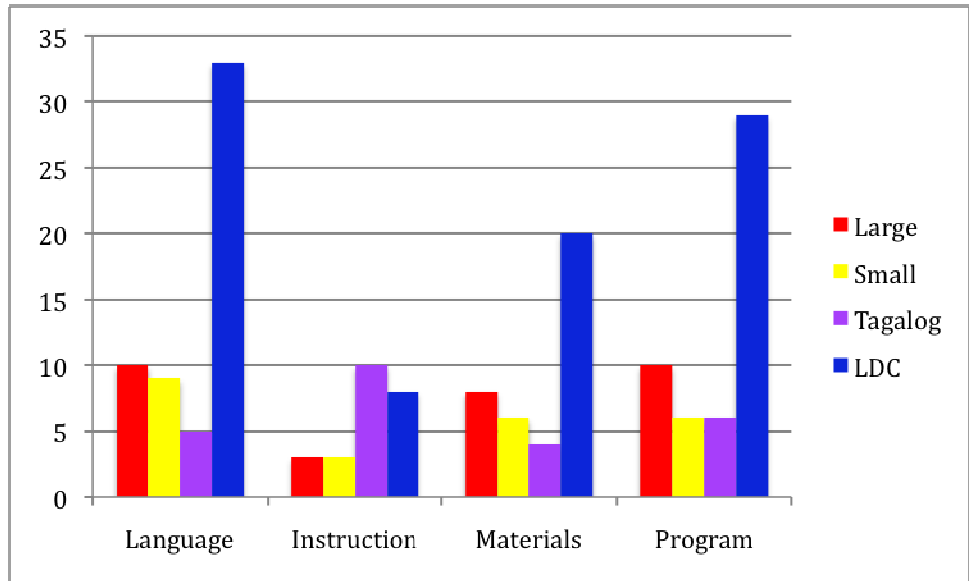


Figure 2 Frequencies of unique challenges by language context and dimension

Phase 2 data:  $N = 158$  schools,  $n = 35$  in LL,  $n = 36$  in SL,  $n = 37$  in Tagalog,  $n = 50$  in LD contexts

The most striking feature of Figure 2 is the high number of challenges reported by the LD context schools in the Language, Materials and Program dimensions in Phase 2. This is a significant increase from Phase I in that context, and is also a much higher number of challenges than the other language contexts. LD context schools had a participation rate about 25% higher than schools in other contexts in Phase 2, but given the method of identifying challenges unique to each context this can account for only a small part of this variance.

The other three contexts reported similar challenges, except that the Tagalog and LD contexts report slightly more instructional challenges than the LL and SL contexts.

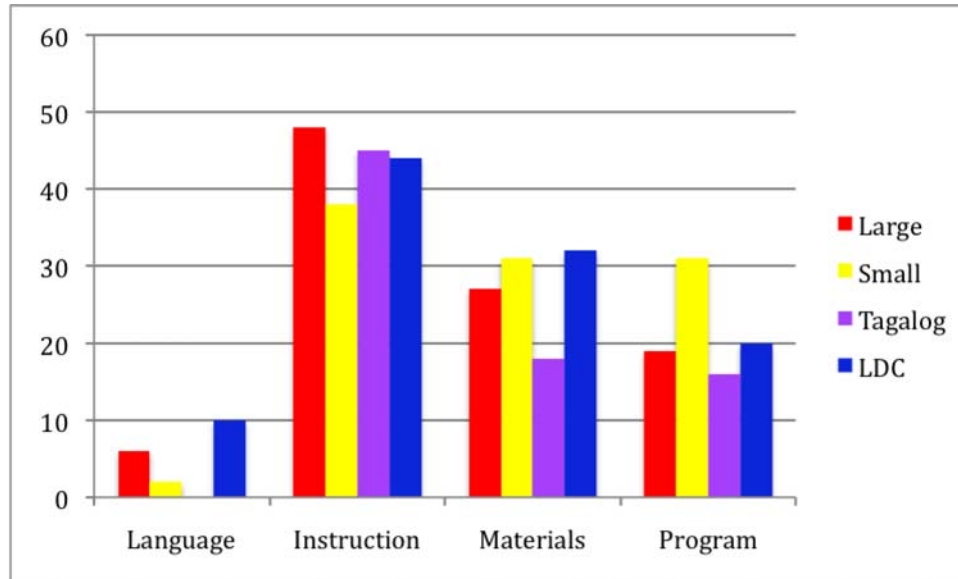


Figure 3 Frequencies of unique strategies by language context and dimension

Phase 2 data:  $N = 158$  schools,  $n = 35$  in the LL,  $n = 36$  in SL,  $n = 37$  in Tagalog,  $n = 50$  in LD contexts

Figure 3 shows that the greatest number of strategies in Phase 2 was in the Instruction dimension. There was a similar number of strategies in the Materials and Program dimensions. All contexts report noticeably fewer Language strategies compared to Materials and Program dimensions. In Phase 2, reported strategies are relatively evenly distributed across the four language contexts.

The main points to emerge from a general overview of the Phase 2 data presented in Figures 2 and 3 are:

- There are larger frequencies of challenges and strategies that were reported in Phase 2 in the Instruction, Materials and Program dimensions than in the Language dimension.
- The largest number of strategies is in Instruction, despite this being the dimension with the smallest number of reported challenges in Phase 2.
- Schools report fewer Language strategies, despite a significant number of challenges in this dimension.
- The LD context reports significantly higher levels of challenges in Phase 2 than the other language contexts, except in the

Instruction dimension. This is true even when totals are adjusted for the higher number of schools in this context.

- There are more challenges reported in the Language and Program dimensions, but these apply mainly in the LD and LL contexts.

## NATURE OF CHALLENGES AND STRATEGIES BY DIMENSION

Phase 2 reported challenges and strategies are listed in Appendices 1 to 12. Each set of challenges and strategies within a dimension has been categorised in order to better represent its nature. This section presents the categories in each appendix listed in descending order as determined by the number of challenges in each. The categories within each dimension, and the number of challenges and strategies within each category are also provided along with an interpretation of what their frequencies imply with regard dimensions. The appendix that provides the match of challenges and strategies is also given. Finally, the corresponding frequencies of reported challenges and addressed challenges within each context are presented along with their corresponding implications.

### LANGUAGE

This dimension relates to understanding of and attitudes towards the MT being taught and used as MOI. Phase 2 data reveal some significant challenges in this dimension, and while some strategies are identified, they do not seem to meet the identified challenges adequately.

**Appendix A** presents the full list of Language challenges grouped into the following categories:

- Status of the MT: how students, parents and teachers perceive the MT in relation to other languages, especially to Filipino and English (13 unique challenges reported)
- Standardization and intellectualization: development of an educational register of the MT for use in the classroom (6 unique challenges)
- Features of the MT: features such as long words or spelling conventions that create difficulties in learning (6 unique challenges)
- Proficiency in the MT: teachers' MT proficiency, and students who do not speak the MT, e.g., because they come

from other provinces (4 unique challenges)

- Variability of the MT: differences between the variety of the MT in DepEd materials and the local variety (3 unique challenges)

**Appendix B** presents the full list of Language strategies grouped into the following categories:

- Standardization and intellectualization: development of an educational register of the MT for use in classes (7 unique strategies reported)
- Attitude to MT: encouragement of the use of the MT, often involving parents (7 unique strategies)
- Orthography: identification of an orthography for the language (2 unique strategies)
- Access to MT literature: use of written and spoken forms of the language, such as MT textbooks and radio broadcasts (2 unique strategies)

(For the frequencies that show multiple reports of the same Language challenges and strategies in each category for each language context, see **Appendix C.**)

There are fewer strategies reported in the Language dimension than in the other dimensions. As the challenges relate to factors beyond the school environment, such as the nature of the MTs themselves and attitudes towards them, there is a question as to whether school-level strategies will be adequate in this dimension, and whether DepEd needs to develop broader strategies to support schools facing these challenges. Schools report strategies to deal with the challenges of standardization. However, as considered in the discussion below, this may best be done on a broader scale with expert input. The challenge of teachers' competence in the MT may also require a response that is beyond the individual or school level.

**Appendix D** presents the table of matched challenges and strategies that schools within each context reported. That is, schools identified



challenges for which they have strategies. In some cases, one challenge is addressed by one strategy only, while some are addressed by multiple strategies. From a total of 32 reported Language challenges across all contexts (see Appendix 1), only four (13%) were addressed by strategies. The LL, SL, and LD contexts each addressed two challenges with corresponding strategies.

Relatively minor Language challenges are addressed such as the unfamiliarity with deep or difficult words, teacher confusion with spelling, high variability of the MT, and teachers' low MT proficiency. Among these, the challenge on

teachers' low MT proficiency had the largest number of strategies, all of which are individually done by teachers, and did not involve any formal support from DepEd or other institutions. Teachers' initiative to improve in the MT is evident here, but the lack of standard technical training from recognized institutions can also pose some problems. This issue is later on discussed in the section on Issues and Implications.

Figure 4 provides the total number of Language challenges across contexts and the number of challenges addressed by reported strategies in each.

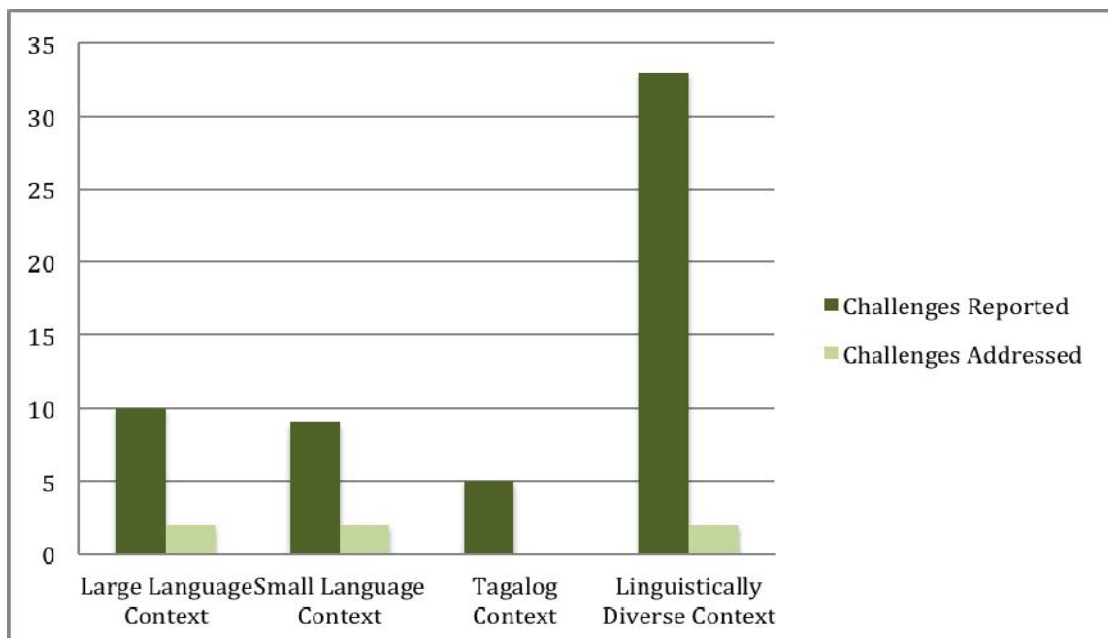


Figure 4 Frequencies of language challenges reported and addressed across language contexts

Figure 4 shows that the SL context has the highest percentage of addressed challenges (22%), followed by the LL context at 20%. The LD context has the largest number of reported challenges but only 6% of these were addressed by strategies. The Tagalog context has five reported challenges, but none of these were addressed by a strategy.

The Tagalog context reported five Language challenges but no strategy was given for these. Three of the five given challenges were about standardization and intellectualization, and one challenge each was reported for status of the MT and teachers' proficiency in the MT. The Tagalog context did not report any challenge concerning MT variability and features of the MT. In comparison with other contexts, it appears that the Tagalog context is the least affected by Language challenges, which could be a benefit derived from its similarity with Filipino. Implementers may be prioritising dimensions that need their attention and the Language dimension is relatively a minor concern. A large number of challenges in this dimension was reported by the LD context. Language challenges in the LD context cut across all categories for this dimension, often composing the great majority of the challenges in a category. However, only 6% of the total LD context unique Language challenges are addressed by strategies. With 21 reported unique Language challenges (in comparison with two in the LL context, and one each for the SL and Tagalog contexts), LD context schools are clearly in great need of assistance for solving their Language challenges.

There are 14 Language strategies in LD context, half of which fall under the category, attitude towards the MT. LD context appears to be responding to Language challenges, like low MT status. However, the same cannot be said for other Language challenges. The LD context reported experiencing four challenges related to teachers' MT proficiency, but there was no reported strategy for any of these. It is possible that the large number of challenges is overwhelming for implementers. Given the large

number of Language challenges in LD context, schools should be supported to produce more strategies.

## INSTRUCTION

This dimension relates to the way teaching and learning takes place in classrooms. It has the largest number of strategies and the smallest number of challenges.

**Appendix E** presents the full list of Instruction challenges in their categories:

- Communication: clarification of meaning and contextualization of language (5 unique challenges reported)
- Use of the MT in the classroom: adjustment of children to use of MT in the classroom and, in the Tagalog context, lack of clarity about the distinctiveness of the MT and Filipino (5 unique challenges)
- Teachers' skills: teachers' knowledge and skills in teaching in the MT (4 unique challenges)
- Assessment: translation of tests and the fact that some tests and competitions are not administered in the MT (2 unique challenges)
- Use of instructional materials: the time involved in preparation of materials (1 unique challenge)

**Appendix F** presents the full list of Instruction strategies in their categories:

- Activities: specific learning tasks, such as storytelling, games and puzzles, show and tell, and so on (15 unique strategies reported)
- Focus on language: focus on the mechanics and form of the MT (13 unique strategies)
- Use of instructional materials: the use of different types of materials such as big books, small books, photos and so on (13 unique strategies)
- Connection with local community and culture: using resources and materials

derived from the local community (11 unique strategies)

- Communication strategies: facilitation of effective communication in the classroom (10 unique strategies)
- Literacy skills: a focus on development of students' reading and writing skills (10 unique strategies)
- Experience strategies: the use of students' own experiences as a basis for learning (7 unique strategies)
- Organization strategies: organization of different modes of learning, such as group work, in the classroom (5 unique strategies)

(For the frequencies that show multiple reports of the same Instruction challenges and strategies in each category for each language context, see **Appendix G.**)

There are some similarities in the Instruction strategies used across the different language contexts. Several of the strategies are those featured in DepEd-organized training, which suggests that training input has reached to the classroom. The MT curriculum presents teaching principles and strategies for implementation, and these are standard topics in DepEd teacher training. Many of these strategies are also consistent with practices advocated in the international literature on MTB-MLE, as reported in the Phase I progress report. However, the many strategies and fewer challenges in the Instruction dimension suggest that schools and teachers are also confidently innovative in their instructional practices in relation to MT as MOI. While DepEd training and official documents present a standard set of principles and pedagogy for Philippine MTB-MLE, the program also encourages innovation and adaptation through the localization principle. This aspect of the program appears to have been embraced by teachers.

**Appendix H** provides the matched Instruction challenges and strategies that schools within each context reported. A total of 17 Instruction challenges across contexts were reported (see

Appendix 4) and only 8 (47%) of these were addressed by strategies. All language contexts used one or some of the eight strategies: four were used in LD context, three in the LL context, two in the Tagalog context, and one in the SL context. Among the eight addressed challenges are those related to classroom communication and the use of the MT in the classroom.

Challenges that were not addressed include those about teachers' pedagogical skills and the use of instructional materials.

The following figure provides the total number of Instruction challenges per context and the corresponding number of challenges that were addressed by reported strategies.

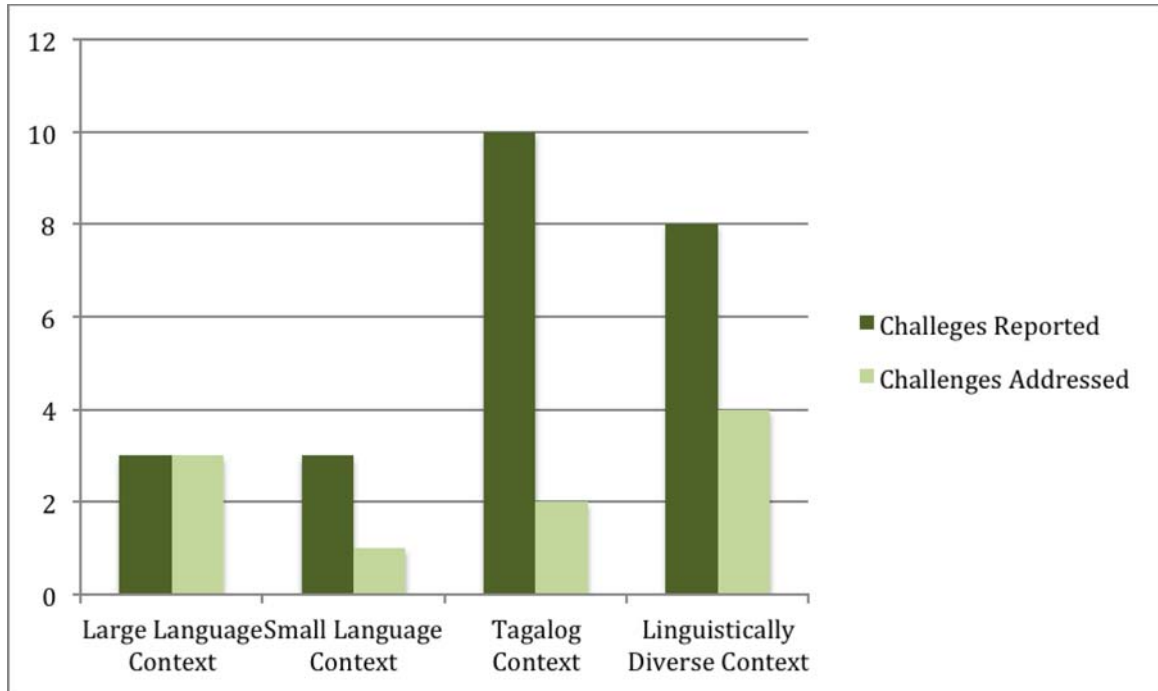


Figure 5 Frequencies of instruction challenges reported and addressed across language contexts

The figure shows that the schools in the LL context had strategies for their reported Instruction challenges. A noticeable result is the small number of reported challenges in the LL and SL contexts, and the relatively larger number of challenges in the Tagalog context and LD context. The LL context responded to 100% of all reported challenges, followed by the 50% addressed by the LD context. The Tagalog context had the largest number of challenges and the smallest number of challenges addressed, indicating the need for more attention to the Instruction dimension of the program.

### MATERIALS

This dimension covers the development, production, procurement, availability and accessibility of suitable materials to support teaching and learning in the MT.

**Appendix I** presents the full list of Materials challenges in their categories:

- Procurement: delays or difficulties in finding, requesting and receiving MT materials (5 unique challenges reported)

- Contextualization: the relation of materials to the local context (4 unique challenges)
- Language used: the use of words in materials that may not be familiar to students and parents (4 unique challenges)
- Development of materials: errors in materials or mismatches between Teacher’s Guides and Learner’s Materials (4 unique challenges)

**Appendix J** presents the full list of Materials strategies in their categories:

- Materials development and production in school: school staff producing materials for use in the MT classroom (14 unique strategies reported)
- Localization: sourcing of materials from the local community or adapting them so they relate better to the local community (13 unique strategies)
- Materials acquisition in addition to official procurement: obtaining MT materials by use of teachers’ own money, borrowing from other schools, etc. (12 unique strategies)

- Official procurement: obtaining MT materials from DepEd through official channels (4 unique strategies)

(For the frequencies that show multiple reports of the same Materials challenges and strategies in each category for each language context, see **Appendix K.**)

**Appendix L** gives the matched Materials challenges and strategies that schools within each context reported. A total of 17 challenges were reported for the Materials dimension (see **Appendix 7**), and 6 (35%) of these were addressed by strategies, all of which were implemented across contexts.

Among the addressed challenges, lack of Teacher's Guides and Learner's Materials in the MT attracts the most strategies. All the contexts had strategies for this challenge, but what is notable is the wide range of Materials strategies. Strategies ranged from those that involved teachers (using personal money for instructional materials production), other teachers in the school (teachers share their pool of resources), the school (conducting Learning Action Cell sessions and in-service trainings), DepEd offices (making requests to the Division Office), parents

(parents buy printer for the class), and other stakeholders (tapping the help of the LGU and other organisations). Teachers' resourcefulness is also apparent in some of the strategies (use of books from the old curriculum, use of objects found in the immediate environment). The number of strategies for the challenge, and the high involvement of other stakeholders in addressing the challenge, shows that schools appear to know or expect this particular challenge, and they have anticipated it and learned to respond to it in various ways. It is possible too that the large number of employed strategies could be due to the scale or magnitude of the challenge; that is, it is one that is not easily solved by a few strategies only. It can also imply that the problem requires the use of multiple strategies employed simultaneously. However, the fact that the lack of materials is still reported as a challenge indicates that the strategies employed, no matter how many, may still be inadequate in addressing the problem. The strengthening of local materials production is one way of responding to this challenge with the long-term benefits in mind.

Figure 6 provides the total number of Materials challenges per context and how many among these were addressed by reported strategies.

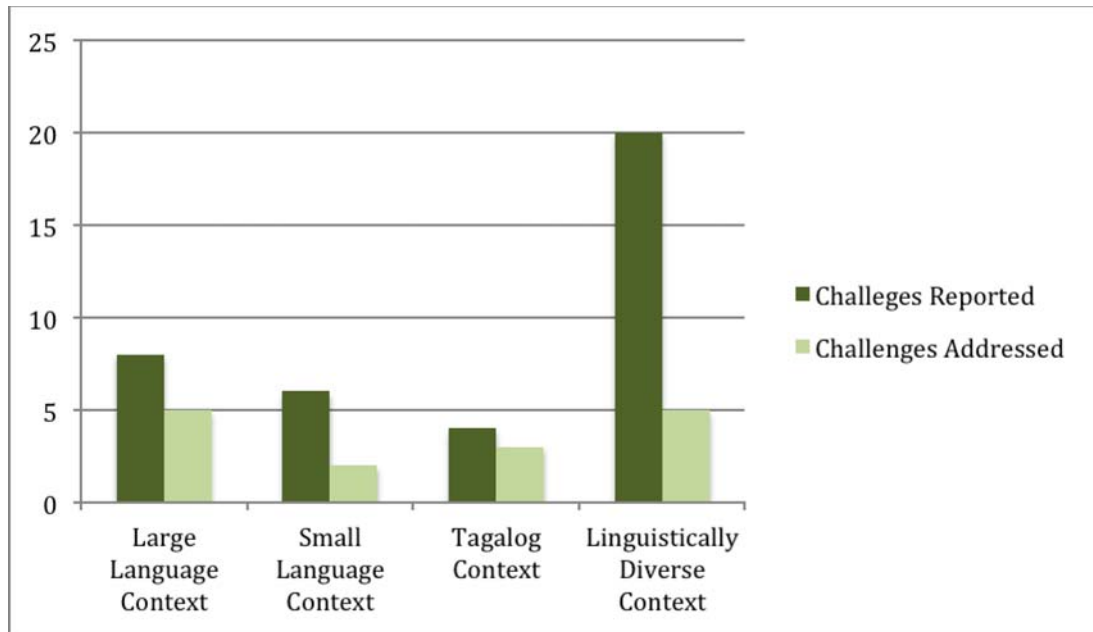


Figure 6 Frequencies of materials challenges reported and addressed across language contexts

Figure 6 shows that schools in the Tagalog context addressed 75% of their reported Materials challenges. This was followed by the LL context (63%). The schools in the SL context and LD contexts addressed 33% and 25% respectively of their reported Materials challenges.

Among the challenges addressed, the one about lack of materials received the largest number of reported strategies: 17 in the LL context, 12 in the SL context, and 11 in both Tagalog context and LD context. This shows that materials scarcity was addressed in multiple ways, indicating the immensity of the challenge and the need to utilize multiple strategies possibly employed simultaneously. The number could also be indicative of the efficiency and resourcefulness of the system in addressing the lack.

Data show that delayed materials procurement was reported in the LL, SL, and LD contexts but only the LL and LD contexts had strategies for this challenge. This indicates the need for a more proactive or dynamic problem-solving approach from the SL context, which can possibly still be in the process of discovering a strategy for the problem.

The LD context registered the largest number of challenges and the smallest number of challenges

addressed, showing that linguistic diversity possibly gives rise to Materials challenges. While all challenges are widely distributed across contexts, it is worrisome that LD context reported 14 unique Materials challenges while the LL context reported only one and the Tagalog context two. This heightens the need to understand the LD context even more, as it appears that the sharing of Materials strategies from other contexts will not alleviate the majority of Materials challenges that are distinct to the LD context.

## PROGRAM

This dimension refers to the organization of MT classes, including the selection of the MT to be taught, the way children are allocated to MT classes, and the selection and training of teachers.

**Appendix M** presents the full list of Program challenges in their categories:

- Design: difficulties or issues in the structure of MT programs, or difficulties in implementing MTB-MLE policy (9 unique challenges reported)
- Staff training: difficulties in accessing training (4 unique challenges)
- Staff selection: issues in the selection of teachers to teach in MT (4 unique challenges)
- Connection with local community and culture: communication with stakeholder groups, disagreements in the community about implementation of the program, or lack of understanding of the program among parents (4 unique challenges)

**Appendix N** presents the full list of Program strategies in their categories:

- Connection with local community and culture: bringing in parent or community volunteers, parents' clubs, and links with Local Government Units (12 unique strategies reported)
- Design: the structure of MT classes including allocation of children, the choice of languages, the selection of MT teachers (10 unique strategies)
- Staff training: access to DepEd trainings, local training, and meetings to share strategies and discuss challenges (10 unique strategies)
- Advocacy: production and dissemination of information to parents and the community about the use of MT in the school (8 unique strategies)
- Monitoring and evaluation: ways of monitoring student progress, support and supervision of teachers by senior or more

experienced school staff (6 unique strategies)

(For the frequencies that show multiple reports of the same Language challenges and strategies in each category for each language context, see **Appendix O**.)

**Appendix P** gives the matched Program challenges and strategies that schools within each context reported. A total of 21 unique Program challenges were reported across contexts (see Appendix 10), and seven (33%) of these were addressed by strategies from all contexts, with the majority coming from LD context. Schools in LD context experienced all of the reported challenges. Among these, the diversity in learners' MT and having non-MT speaking students are the ones that were addressed by multiple strategies, almost all of which (9 out of 10) came from schools in LD context. Strategies ranged from those involving MT use in the classroom (teachers use the different MTs, translating from one language to another, use of Filipino in explaining the lesson) to the utilization of class models (formation of classes based on students' MT) and in-class groupings (grouping students based on their MT). The challenge of having non-MT speaking students was also addressed in different ways, some of which involved a more formal means (offering remedial MT classes) or involvement of the family (Parents are advised to use the MT at home). The strategies reflect the ingenuity of implementers in responding to Program challenges. As shown in Figure 7, the schools in LD context reported the largest number of challenges, and the data on matched challenges and strategies show that there are efforts devoted to solving problems. However, the total reported Program challenges in the LD context may imply major issues with program design, staff selection, and involvement with local community.

Figure 7 provides the total number of Materials challenges per context and how many among these were addressed by reported strategies.

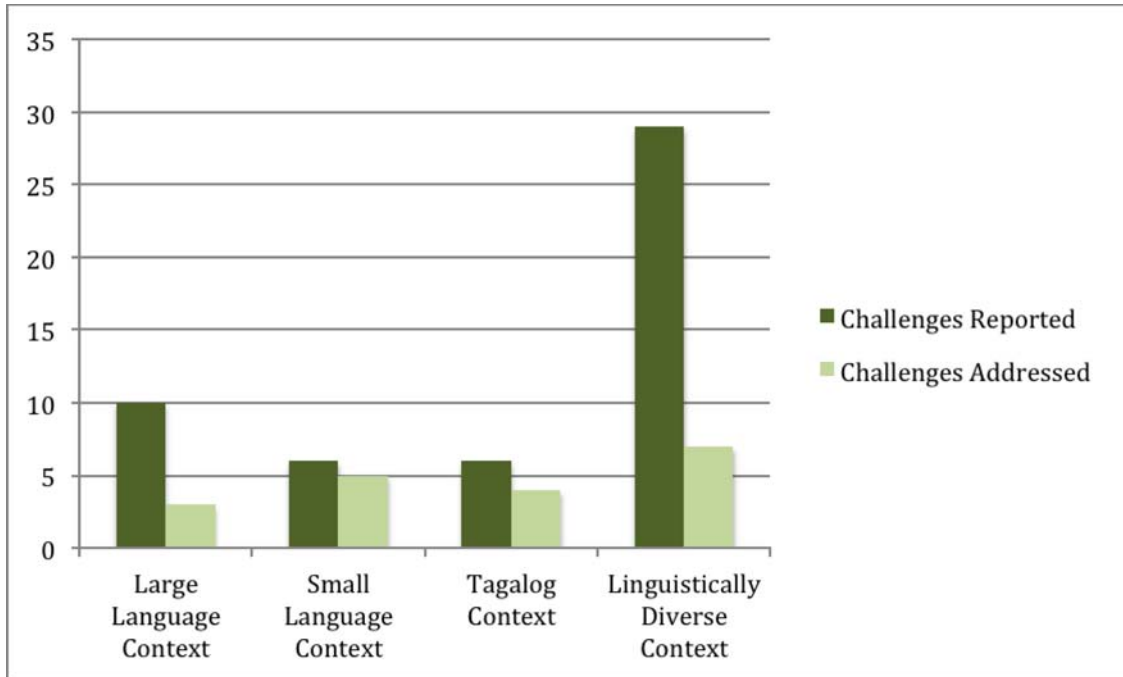


Figure 7 Frequencies of program challenges reported and addressed across language contexts

Figure 7 shows the schools in the SL context addressed 83% of their reported Program challenges. The rest of the contexts responded to less than half of their reported challenges, 33% in the Tagalog context, 30% in the LL, and 24% in LD contexts.

The SL context appears to be faring well in addressing challenges and it also has the largest number of reported Program strategies, 20 of which are unique to this context.

Particularly, the LD context has the largest number of reported Program challenges and the smallest number of challenges addressed. The context also reported 21 unique Program challenges, in comparison with only three in the LL, two in the SL, and one in the Tagalog context. This big disparity affirms that the LD context experienced problems that are largely different from other areas. Hence, simple strategy sharing across contexts will not benefit the LD context much. While context analysis is important to all contexts, the need to is greatest in LD context.

A review of the Program challenges in LD context showed that the problem of diversity in learners' MT was addressed by eight strategies, all of which

are implemented individually by teachers. The challenge of having non-MT-speaking students is met with six strategies, indicating the use of multiple strategies for overcoming a challenge. Most of these strategies involved only the teachers and not other stakeholders. Considering the number of Program challenges in LD context, it is better to respond through various strategies, which involve relevant stakeholders in addressing problems.

A summary of the total challenges addressed is shown in Figure 8.



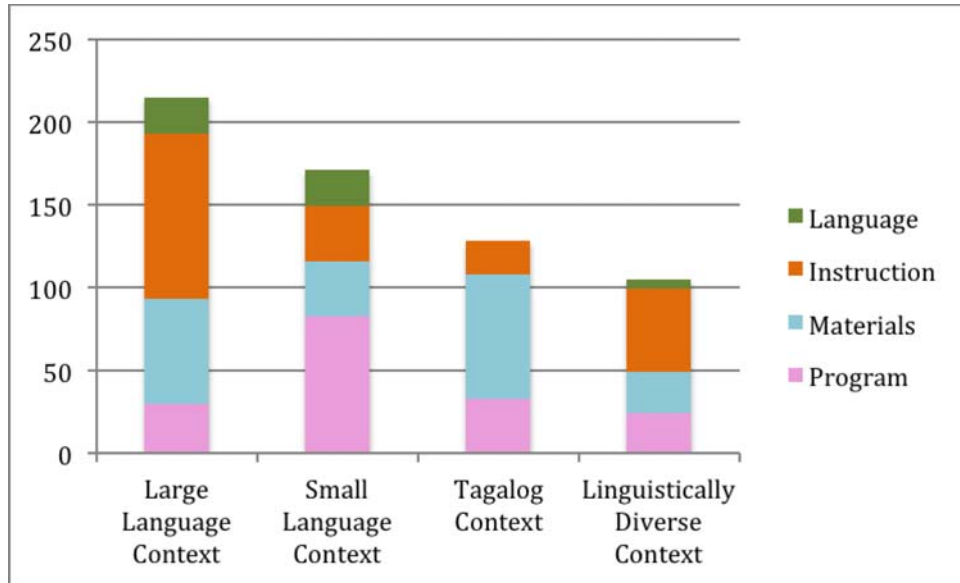


Figure 8 Frequency of challenges addressed by language context and dimension

In terms of context, the LL context had the highest percentage of addressed challenges at 53%. This is followed by the SL context (43%), Tagalog context (32%), and the LD context (26%). Only the LL context was able to address more than half of its overall challenges. The SL context is close to addressing half of its challenges, but the Tagalog and LD context have much smaller percentages, below 50%.

Data also show that each context has a strong response to a particular dimension. The LL context and LD context are strong in addressing Instruction challenges. For the LD context, this can be due to the conscious effort of the schools

to address the diversity of students in their classes. For both LD and LL contexts, this strength can be reflective of the way DepEd training has affected the strategies that teachers use. The strength of the SL context is the Program dimension, and this can be due to the stronger links with the community that schools in SLs contexts have. The smaller communities in this context appeared to be more tightly knit than those in other contexts, and this contributed to closer links with other stakeholders. The Tagalog context is strong in the Materials dimension, and this can be due to the larger number of Tagalog supplementary materials, which are also more accessible than those in other local languages.

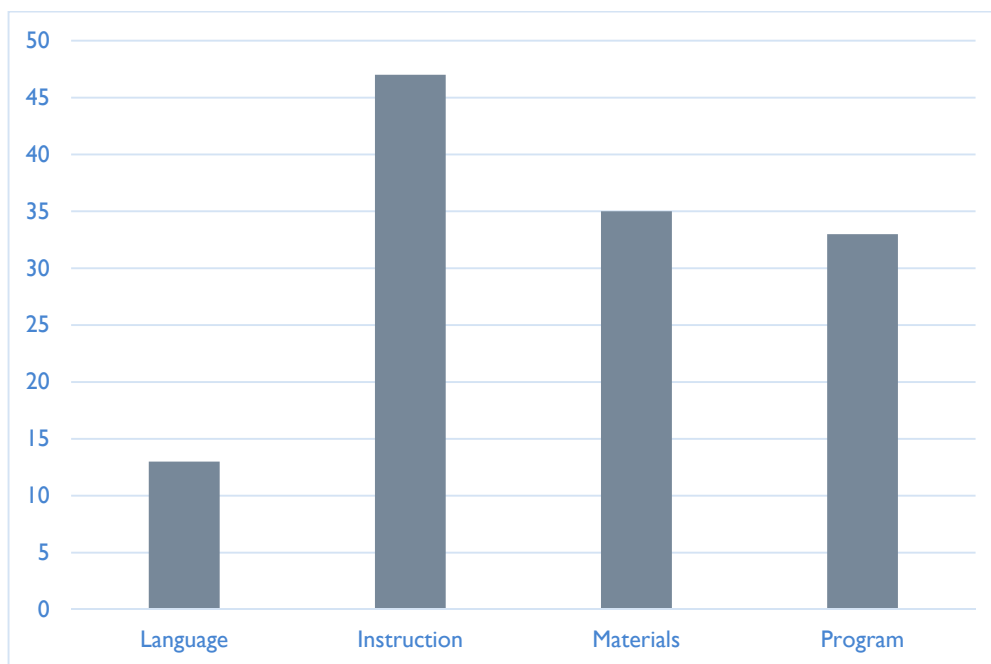


Figure 9 Percentage of challenges addressed by dimension

Figure 9 shows that among all the dimensions, Instruction has the largest percentage of challenges addressed, while the Language dimension has the smallest percentage of addressed challenges.

Generally, the Language dimension and the LD context have the smallest percentages of addressed challenges. The Instruction dimension and the LL context have the largest percentages of addressed challenges. It appears that the strength of the program lies in the Instruction dimension, which is a very good affirmation for the teacher training conducted by DepEd. The Language dimension, on the other hand, appears to have more unaddressed challenges. Since this dimension requires a different field of expertise, teachers possibly feel unprepared for solving some Language challenges that require a technical background. This is a need that DepEd can address in collaboration with associations with technical linguistic background.

Generally, much effort still has to be done to raise the percentage of addressed challenges in dimensions per context. Although implementers are devising strategies to meet challenges, and this is reflected in the data for the LL context and the

Instruction dimension, data show that much is yet to be done. Considering that data represent the initial years of implementation in a national level, results show that the groundwork for the program has been laid, and that schools have promptly responded to challenges encountered. Naturally, some challenges remain, and these are likely to be the more daunting ones that require the greatest effort and work. It appears that the more complicated context and dimension experience more challenges — the LD context with its linguistic diversity, and the Language dimension with its inherent relationship with standardization, intellectualization, language attitudes, hierarchy, and politics.

## STATISTICAL DIFFERENCES IN PHASE 2 DATA

The following significant differences between categories of data were found:

- A one-way ANOVA,  $F(3, 151) = 8.973$ ,  $MSE = 23.308$ ,  $p = .000$ , demonstrated statistically significant differences in the availability of MT materials in schools in the four language contexts. Table 1 shows the means and standard deviations. The number of available MT materials is significantly higher in the Tagalog context schools than in SL context schools ( $p = .002$ ) and LD context schools ( $p = .000$ ), while the LL context schools had significantly more MT materials than the LD context schools ( $p = .009$ ).

Table 1 Means and standard deviations of number of MT materials available in schools by language context

Language Context	<i>M</i>	<i>SD</i>	<i>n</i>
Large	3.71	1.296	35
Small	2.80	1.410	36
Tagalog	4.19	1.998	37
Linguistically Diverse	2.56	1.623	50

- A statistically significant difference was identified by one-way ANOVA,  $F(3, 1242) = 8.716$ ,  $MSE = 5.539$ ,  $p = .000$ , in the average number of training sessions attended by teachers in the four language contexts. Table 2 shows the means and standard deviations. Teachers in the LL context had undergone more training than those in the Tagalog context ( $p = .000$ ) and LD context ( $p = .049$ ) while the number of teacher trainings attended in the SL context did not differ significantly from the other contexts.

Table 2 Means and standard deviations of the average number of teacher training by language context

Language Context	<i>M</i>	<i>SD</i>	<i>n</i>
Large	1.32	.822	35
Small	1.17	.877	36
Tagalog	1.01	.785	37
Linguistically Diverse	1.17	.729	50

- A one-way ANOVA ( $p = .000$ ) revealed statistically significant differences among the four language contexts in the responses of schools to the Likert-type statements of the Phase 2 instrument. These are presented, with their corresponding means and standard deviations (in parentheses) in Table 3. Higher means are indicative of stronger agreement with the statements. Teachers from the LD context schools reported the lowest level of agreement with all the statements in Table 3, particularly on the usefulness of the MT in providing subject-specific terms. Teachers in the SL context reported the highest agreement with the statement that the MT MOI provides useful math and science terms. These statements elicited statistically significant differences in responses between the LL and SL contexts ( $p = .000$ ). Teachers from the Tagalog context schools reported the highest level of agreement with all the other statements in Table 3. The ANOVA summary tables are presented in **Appendix Q**.

Table 3 Means and standard deviations (in parentheses) of the level of agreement with Likert-type statements, by language context

Statement	Language Context			
	Large	Small	Tagalog	Linguistically Diverse
<i>The MT provides useful math terms</i>	.12 (1.119)	.52 (.943)	.44 (1.130)	-.13 (1.139)
<i>The MT provides useful science terms</i>	.06 (1.100)	.45 (.923)	.39 (1.055)	-.10 (1.071)
<i>The MT has a formality level that is appropriate for classroom use</i>	.60 (.927)	.81 (.749)	.97 (.783)	.18 (1.101)
<i>As an MT teacher, I was chosen based on a set criteria</i>	.70 (.800)	.93 (.712)	.95 (.866)	.59 (.901)
<i>As an MT teacher, I am proficient in the MT</i>	.97 (.780)	1.12 (.743)	1.35 (.542)	.82 (.879)
<i>As an MT teacher, I avoid indiscriminate code-switching</i>	.88 (.673)	.96 (.719)	1.13 (.515)	.75 (.781)
<i>As an MT teacher, I use strategies shared in MTB-MLE trainings</i>	1.00 (.549)	1.09 (.599)	1.23 (.519)	.86 (.779)
<i>As an MT teacher, I support the MTB-MLE program</i>	1.07 (.756)	1.18 (.682)	1.29 (.665)	.73 (.933)
<i>As an MT teacher, I use the assigned MT during instruction</i>	1.17 (.531)	1.25 (.574)	1.35 (.595)	.91 (.757)
<i>As an MT teacher, I am confident about teaching in the MT</i>	1.03 (.731)	1.09 (.749)	1.41 (.627)	.64 (1.043)
<i>Parents and community members were informed about the MTB-MLE program and its goals through various means</i>	.98 (.648)	1.16 (.707)	1.20 (.664)	.82 (.911)
<i>Parents and community members understand the rationale and process involved in the MTB-MLE program</i>	.85 (.699)	1.00 (.738)	1.06 (.564)	.62 (.883)
<i>Parents and community members support the use of the MT in school</i>	.94 (.724)	1.00 (.728)	1.22 (.611)	.57 (.973)
<i>Parents and community members participate in activities for the MTB-MLE program</i>	.90 (.664)	.92 (.800)	1.14 (.705)	.62 (.868)
<i>Parents and community members have a high regard for the MT</i>	.94 (.666)	1.08 (.740)	1.24 (.660)	.59 (.892)

## NOTABLE RESULTS BY LANGUAGE CONTEXT

### LARGE LANGUAGE CONTEXT

In the LL context, there were more challenges related to language standardization than might be expected. LLs have more speakers, enjoy higher utility, and are likely to be more standardized, but schools in the context still reported more challenges pertaining to limited standardization in comparison with all other contexts (see Appendix I). This may be because LLs also have greater geographical coverage, increasing the likelihood of diverse populations developing different varieties of the language. The Phase 2 data reveal that different varieties of LL MTs are used in the homes of students, which may explain the extent of standardization challenges recorded in the large or high-use language context.

### SMALL LANGUAGE CONTEXT

Data for the SL context point to a potential challenge in relation to the Materials dimension. The number of instructional materials available (Teacher's Guides, Learner's Materials, big books, small books, newspapers, etc.) for schools in this context is significantly less than the number for schools in LL, Tagalog, or LD contexts. This is not surprising since the relatively smaller number of speakers of the SLs means that there is lower demand for books and other lesson resources. Phase 2 data show that schools in this context are dealing with this challenge through strategies in materials acquisition and materials development and production.

The SL context is also interesting in relation to the Program dimension, where it has the highest frequency of recorded strategies. Schools in this context may be pre-empting Program challenges by developing Program strategies. It is also possible that due to the relatively small number of MT speakers in this context, schools and communities are more close-knit, making them

more conducive to and encouraging of Program strategies.

### TAGALOG CONTEXT

The Tagalog context is of particular interest due to the close similarity between the Tagalog MT and Filipino. The uniqueness of the context is reflected in the Language and Instruction dimensions, in both of which the similarity of the Tagalog MT to Filipino can be an advantage, if stakeholders know how to capitalize on it.

Schools in this context reported five Language challenges, only one of them unique to the Tagalog context, and no Language strategies at all. This may be because there are no major Language challenges to address in this context, or because the schools in this context are not developing Language strategies. The reporting of only one unique challenge in this context is probably due to Tagalog's great similarity with Filipino, since an automatic benefit flows from the standardization of Filipino. If this is so, then it appears to give the Tagalog context an advantage in that it faces fewer Language challenges than other language contexts.

However, the similarity between Tagalog and Filipino also poses some complications. The unique challenge in the Tagalog area is the great similarity in the Mother Tongue Subject and the Filipino subject, which was reported as a challenge in Phase 1 as well as Phase 2 (see Appendix 3). DepEd may have addressed this issue during training, but a more categorical set of standard, written guidelines is an option to ensure uniformity in relaying this crucial information. Another option is to offer training with a speaker who can explain to Tagalog context teachers the similarities and differences between the Tagalog and MTS competencies. Another training topic could be curriculum implementation. The adaptation of the correct curriculum template may prove to be more complicated for the Tagalog context, since Filipino serves as the L1 in that context and as an L2 in other contexts.

## LINGUISTICALLY DIVERSE CONTEXT

Schools in the LD context clearly face a larger number of challenges in implementing MTB-MLE than the other contexts. In the Language, Materials, and Program dimensions, schools in this context reported, on average, almost three times as many challenges as schools in the other contexts. The unique problem faced in this context is the lack of a dominant MT. As a result, the most important distinguishing feature of schools in this context is the approach they take to the assignment of MTs and the grouping of students for MT instruction. Analysis of information supplied by these schools enabled identification of different models of MT program organization among them.

As shown in Table 4, LD context schools can be divided into those implementing a single language as MT (62% of LD context schools) and those implementing multiple languages as MTs (34% of LD context schools). Within these two groups,

further distinctions can be made between those schools implementing a *local language* to the area in which the school is located, those implementing a *widely used language* in the area, and those implementing a combination of these two. A *local language* is one that originates in that area and has a speech community that includes native speakers from the area. A *widely used language* is a language that is popularly used in communication between speakers of different MTs in the area but originated elsewhere. A widely used language may have a speech community that includes native speakers in that area as a result of internal migration within the country or as a result of the language being adopted as a home language by families who have not traditionally been native speakers of it. In Table 4, schools that use *only* local languages are designated as Type A and schools that use *at least one* widely used language are designated as Type B.

Table 4 MT program types, numbers and percentages in LD contexts

Single language program		Multiple languages program	
Type A	Type B	Type A	Type B
MT is a <b>local language in the area</b>	MT is a <b>widely used language</b> in the area	All MTs are <b>local languages</b> in the area	At least 1 MT is a <b>local language</b> in the area + at least 1 MT is a <b>widely used language</b> in the area
19 (40%)	12 (25%)	2 (4%)	15 (31%)

While a local language sometimes functions as a lingua franca, widely-used languages function either as a regional lingua franca in the locality of the school or, in the case of Tagalog, as the *national working language* (Ethnologue 2015). It is notable that 16 of the 27 (62%) Type B programs included Tagalog as one of the implemented MTs. All program types resulted in classes with varying degrees of homogeneity in terms of the MT spoken by children in the class.

The program types show a connection with advice given to schools in DepEd MTB-MLE training, where schools were presented with two alternative program models. One is the basic monolingual class model, where students are grouped according to language and each class is assigned a teacher who speaks the MT of its students. The other is the ‘modified monolingual’ class model where a monolingual class is formed and any remaining students who do not speak the MT of the monolingual class are assigned to bi- or multilingual classes.

If the number of challenges alone is used as a basis for additional support for schools, then schools in the LD context should receive the most support. Effective support, however, can only come with a deeper understanding of the language diversity in this context. This situation highlights the need for further study into the extent of linguistic diversity in the country.

## ISSUES AND IMPLICATIONS BY DIMENSION

These findings in themselves cannot establish that the implementation of MTB-MLE is proceeding successfully or that the rationale for the program, as presented at the beginning of this report, is sound. However, they do establish that Philippine schools are developing a wide array of strategies to meet the challenges they face in implementing MTB-MLE. The most notable feature of the data is the large number of strategies in the Instruction dimension, especially when this figure is compared to the small number of reported challenges in this dimension. This discrepancy could suggest that the

adopted strategies may be not only addressing but pre-empting the challenges in this dimension. It could also suggest that Instruction, the teachers, is the strength of the MTB-MLE Program, and this results in easier implementation with regard to delivery of instruction. The results also show a large number of strategies in use in the Materials and Program dimensions. The LD context schools reported a large number of challenges in those dimensions, so it is possible that, in that context, these strategies were responses to Materials and Program challenges. However, in the other contexts, the large numbers of Materials and Program strategies are reported without high numbers of challenges. Another notable result is the small number of strategies developed in the Language dimension despite having a large number of challenges.

## LANGUAGE

Reported Language strategies for Phases 1 and 2 show that some schools have organized school-level orthography standardization to solve the challenge of highly variable spelling of the MTs. Although this strategy shows initiative on the part of the schools, formal standardization requires guidance by technical experts. School-level standardization has helped teachers address the immediate need to establish common terms for teaching, but it will have longer-term consequences for instruction if the changes introduced by schools are deemed by the proper agency to be inappropriate or unacceptable. The persistent problems in standardization that are revealed in the Phase 2 data suggest the need for intensified standardization to match the pace of the program, and one option is to include a mechanism that facilitates, with appropriate instruction and supervision, MT standardization that is initiated by the division or region. This activity has been documented in the literature as good practice, and could be integrated by DepEd into the program’s design. It would also be an empowering step for schools as they collaborate with DepEd other bureaus and other assigned institutions in orthography standardization.

A problematic issue in the Language dimension is the reported teachers' low competence in the MT, which has been addressed largely through self-directed professional development within schools. These include informal activities, such as reading magazines in the MT and listening to radio programs in the MT as well as some formal instruction. Although such strategies reflect teacher resourcefulness and initiative, their random and relatively unstructured nature leaves their effectiveness in question. This highlights the need to support non-MT speaking teachers, or those with low MT competence, possibly through a language-based training or refresher course of the kind that some individual schools have started to offer through their own initiative.

An emerging concern in the Language dimension is the need to develop a deeper understanding of the linguistic diversity in the country. Data from schools in LD contexts show that more challenges are faced in these areas, pointing to diversity as a challenge in itself. This is a great irony since linguistic diversity is an inherent concern of multilingual programs and should, ideally, thrive under them. Linguistic diversity, however, takes different forms in different places, and goodness of fit with a national program may vary from one location to another. The multilingualism of the Philippines is complex. In some places, there is a degree of homogeneity of language spoken, where the local MT mixes with Filipino and English, which are used only for particular purposes or when a lingua franca is required for communication with people who do not speak the local language. In other parts of the country, several languages are spoken, and one of the local languages is either dominant or used as a lingua franca, along with Filipino and/or English. Internal migration and the dynamics of language shift also mean that some areas are undergoing rapid patterns of language change.

Schools need to design MT programs to meet their particular circumstances. In some areas, each of several language groups is more or less linguistically homogeneous and self-contained, a situation that has been labeled a "juxtaposition of

monolingualisms" (Grin, Hexel, & Schwob, 2003), and this is often the situation in the LL, SL, and Tagalog context schools. In these cases, multilingualism is limited, speakers are not plurilingual, and the organisation of an MT program is relatively straightforward. In contrast, the LD contexts in the Philippines are characterised by a type of multilingualism in which school classes can have as many as seven different languages spoken by students. The result is a large number of MTs spoken by very small groups of students at the classroom level. Determining which MT to adopt in these circumstances is difficult and has consequences for various aspects of program logistics, particularly in the allocation of students to classes, the assignment of teachers to classes, and the preparation and use of instructional materials. Decisions made by the schools can have consequences on a number of levels. One potential outcome is that the choice of a strong or dominant language as MT in a particular region may disempower speakers of smaller languages in that region and may require speakers of those languages to learn in a language that is not their MT.

On the other hand, in some places, such as Zamboanga, the allocation of children to classes on the basis of language groups is seen as a form of 'tribal segregation', and to be avoided in the interests of social cohesion. The regional lingua franca has been deemed the most appropriate language to adopt as MT in this area. In some cases, schools choose to implement as MT a language widely used for communication in the community of the school, such as Tagalog. While this results in a mismatch between children's MT and the implemented MT, schools often report that the children have proficiency in the implemented MT.

The schools' choice of MT program design can be deemed reasonable from a logistical perspective but they run counter to the essence of the Department's MTB-MLE policy principles, central to which is the use of the children's MT as MOI. Various program designs adhere or deviate from this central principle in varying degrees. That



different situations appear to require context-specific program designs is an aspect that should be considered seriously at the policy level. A review of this kind needs to study how program designs can be flexible and still preserve fidelity to program principles.

The initial implementation of the program has provided a glimpse of how multifaceted the country is in its language diversity. As more and more data are collected, the need for a special program type for LD contexts becomes more apparent. Schools in the LD context appear to require a unique design for their distinct linguistic ecology. The implications for program design will be further discussed below under the Program dimension.

## INSTRUCTION

Data from Phase 2 show an abundance of strategies in the Instruction dimension. Some of these strategies are consistent with identification in the literature as appropriate for MTB-MLE, and some reflect strategies presented in DepEd training. However, some reported Instruction strategies are not consistent with what is advocated in the literature. The use of English in math and science may be a useful strategy that addresses the urgent need for an instruction metalanguage, but it raises the question of whether an academic register can be developed for all MTs. The 19 official MTs are in different levels of standardization and intellectualization, and teachers have reported using English or Filipino terms for concepts that are not yet in the MT's lexicon. They also reported that DepEd training advised them to use terms that children already know, even in cases where these terms are not the MT. These practical considerations for not using the MT seem inconsistent with the principle of maximising use of the MT. Perhaps a more principled set of classroom strategies apply when there are gaps in the MT lexicon. A better understanding of language mixing may assist in guiding the development of such strategies. Language mixing was present in Philippine classrooms even during the bilingual education

program (Gonzalez, 1998), and a growing body of research is supporting the use of code-switching as a communicative strategy in other contexts (Macaro, 2005; Pennycook, 2012), with some scholars advocating it, if used responsibly (Van der Walt, Mabule & De Beeret, 2001). The mixing of languages in the classroom is a natural practice of multilinguals, and the recognition of translanguaging practices as pedagogical strategies supports their use in MTB-MLE classrooms (Garcia, Skutnabb-Kangas, & Torres-Guzman, 2006). Translanguaging as a pedagogical theory calls for the maximized use of all languages in the students' language repertoire. It argues that "multiple multilingual education must also build on the translanguaging practices of the classroom actors – both students and teachers" (Garcia, 2009:157) and opposes "linguistic differentiation" as manifested in discrete spatial allocations for the use of different languages in the classroom. It also opposes the separation of languages in the syllabus or class schedule, and other similar measures to prevent the natural mixing of languages (Hadi-Tabassum, 2006). However, the *long-term* use of language-mixing communication strategies may discourage MT use, and consequently the development of an MT academic register. The same is true for code-switching, the indiscriminate use of which can likewise undermine students' exposure to and use of the MT in the classroom, and may contribute to the development of sceptical attitude towards the need to use the MT in class. These dangers are underscored by the language activation hypothesis, which proposes that continued disuse of a native language results in higher recall (activation) thresholds and that more frequently used items in a second language will eventually replace their native language counterparts (Paradis, 2004).

Given these issues in the literature and the data gathered in Phases 1 and 2, language mixing emerges as an issue that DepEd and researchers need to explore. One of the goals of BEP was to develop balanced bilinguals, and this was intended to be achieved through a curriculum that does not depend on a MT foundation. The current

multilingual education program is different in that it fosters the MT as the basis for the subsequent development of the child's full repertoire of languages. With this premise, the mixing of languages, which is a natural phenomenon for multilinguals, needs further study to determine its role in and impact on L1 and L2 development. In the Phase 1 report, we raised concerns about the use of translanguaging strategies and emphasized the need for the management of languages in the program. The Phase 2 data have supported these concerns. Some options that might be explored by DepEd are: the provision of guidelines to help teachers determine appropriate times to use specific languages only or to use other languages in combination; increased awareness of the potential of code-switching as a translanguaging practice so that teachers can learn to use it at will to facilitate communication, develop metalinguistic skills, and enhance learning; and explicit discussions with children on when and why they can use all their languages in class.

## MATERIALS

The Materials challenges and strategies revealed in Phase 2 show that problems relating to the quantity and quality of materials available for MT teaching have stimulated local materials production. DepEd expects schools and teachers to produce their own materials with the help of students, parents, and community members (DepEd, 2009). Their participation in the composition and compilation of MT literary pieces and in the preparation of instructional materials is a promising strategy for the success of the program and indicates willingness to take ownership of it. This significant contribution of schools and the community in providing local materials is a step in designing a localized curriculum (UNESCO, 2007). The activity demands much from teachers and the community. Local materials production and standardization definitely require more work from teachers. Reported Materials strategies related to these are represented by two categories: localization, and materials development and production. Strategies refer to teachers' writing of materials, which in

some cases was done individually, without the support of LAC (Learning Action Cell) or INSET (In-Service Training). In some cases, parents and other stakeholders helped in the process. Produced materials are then submitted to the Division, the Region, and finally to the Instructional Materials Council Secretariat (IMCS) for validation. In some areas, validation ended in the Regional level. Validated materials are uploaded on the DepEd LRMS website or the region's official website. This long process requires much coordination work and careful documentation of produced outputs. In some areas, teachers reported not receiving updates or not knowing the status of their submitted materials for validation. Some worried about not having any other copy of what was submitted to various DepEd offices and some are concerned that they might not receive their submitted outputs back. Noticeable too is the predominant transmission of output hardcopies that did not have any digital counterpart. Based on teachers' reports regarding the validation process, improvement can be made in the output/materials submission monitoring and documentation. Although some regions have clear guidelines and standards for materials production and validation, some schools are weak in materials production and are dependent on centrally produced materials.

Materials produced at a local level should undergo validation by DepEd to ensure their quality. A strong relationship between school, community and DepEd also allows, through the LRMS (Learning Resource Management and Development System) portal, the sharing of locally produced materials with other schools using the same MT as MOI. This requires ICT (Information and Communication Technology) literacy skills and is useful only in areas where Internet connection and computers are available, but the school- and district-based LAC (Learning Action Cell) sessions offer another opportunity for teachers to work with colleagues and share their pool of MT resources. This also lessens the time needed for materials production.

Materials acquisition, development, production and reproduction entail costs that school funds are not always sufficient to cover, and there is a limited extent to which teachers are willing to spend their own resources to make materials available. Partnership with other stakeholders for funding and assistance in the preparation of instructional materials has proved to be very helpful to teachers, through the development of links with Local Government Units and other organisations. These activities create a supportive environment inside and outside the school, and this is an acknowledged essential feature of a strong and sustained MLE program (Malone, 2004).

Given that materials production is perpetually part of MTB-MLE, a more systematic process that is also time- and cost-effective will have to be defined. The thrust on materials localization implies favour for a more decentralized materials production for MTB-MLE. As of this writing (May 2016), some regions have taken the initiative to draft their own quality assurance guidelines for materials localization, and have taken the responsibility for validating the works submitted within the region. This dramatically shortens the time involved in the process, while at the same time empowering the DepEd Regional bureaus with regard to materials development.

Finally, it should be noted that the distinct type of materials development that MTB-MLE requires has the potential to open doors for local writers, artists and editors, who are thereby empowered to create sound and culturally appropriate teaching and learning resources.

## PROGRAM

In the Program dimension, one of the recorded challenges is the allocation of students to classes where the MT is not their strongest language. This can arise from the wide range of MTs spoken in LD contexts, as discussed above, or from internal migration that results in the movement of relatively small numbers of children into relatively linguistically homogeneous schools, or from the choice of designated MT by schools which are, for

some other reason, not in a position to offer all the MTs spoken by their students. In each of these cases, the consequence is that students are not learning in their MT. Schools have developed a range of strategies to address this challenge.

Most of the strategies recorded in the Phase 2 data are identified in DepEd documents and training content. One is the use of different class models in which students can be grouped, depending on the distribution of their languages and the availability of resources. A basic monolingual class model exemplified in LD context schools using two MTs as MOI consists in grouping students according to language and matching them with the MT of a teacher who can handle the class. Another is the lingua franca class model, wherein the language understood by most of the students, which could be either a regional language or a local Tagalog, is used as MOI. However, even though these models seem to work in some schools, the problem of misallocation persists – some students find themselves allocated to classes in which the MOI is not their strongest language. Currently, many teachers deal with this problem by relying on the use of the national lingua franca, Filipino, which students who do not yet speak the assigned MT are believed to understand. Interestingly, the use of Filipino as MOI has been reported both as a challenge and a strategy in the Program dimension in the LD context. It is reported as a challenge in the sense that using Filipino as MOI means not using the children's MT. Conversely, the use of Filipino serves as a strategy in LD classes where some students do not understand the declared MT as MOI. In some areas, multilingual teachers have been assigned to ensure that lessons are relayed through the different MTs of the students. Finding multilingual teachers, however, was reported as a challenge, and delivering the same lesson in different MTs was reported as exhausting and time-consuming for teachers. When multilingual teachers are not available, then the use of Filipino MOI as described above becomes an option. Some schools have implemented the class models above and found

them to be effective, while some are yet to find a class model that will work well in their environment. As revealed by the reported strategies, this aspect of program logistics appears to be at an exploratory stage and can, in the long run, be fine-tuned as implementation proceeds. A better understanding of linguistic diversity will allow the design of the appropriate program model that fits the unique linguistic ecology of each place.

The policy allows schools to choose from two models: Model 1 which recommends the use of the children's MT from K to 3, and Model 2 which recommends the use of a lingua franca in cases where three or more varieties of the MT exist. By implication, these models appear to recommend the use of a single language only for a school's MTB-MLE program. However, schools, especially those in LD contexts have modified the Department-proposed class models and came up with two types of multiple language programs (Table 14). In essence, the modified models still adhere to DepEd's proposed Models 1 and 2. However, the innovations still fail to address the varying numbers of students whose MT may or may not match that which is chosen by the school. For instance, Type B of the Multiple Languages Program which features lingua franca use implies the presence of students whose MT may not be the chosen lingua franca MT. Type A of the same program uses several local languages as MTs and has more chances of using the MTs of more students, but it is possible that remain some students whose MT differs from the one that the school implements.

The concern of parents and some teachers that the use of the MT results in less time for learning Filipino and English is another issue at the program level that was identified in both Phases 1 and Phase 2 of the study. To address this, schools and teachers employ a number of strategies to inform and educate parents and themselves about the program. Meetings with parents are one way of helping them understand the benefits of using the MT as MOI and thereby increasing their confidence in the program. Engaging parents in

other MTB-MLE-related activities, such as storytelling in K-3 classes and weekend reading tutorials, also increases their knowledge of the benefits of the program and encourages their support. Teachers, too, can gain greater confidence in the program through these activities, and through MTB-MLE training, which gives them background information on the rationale of the program and equips them with strategies to help them cope with the challenges posed by MT teaching. Despite these measures, however, there apparently remains a need to boost the information dissemination component of the program. Parents' fears about their children learning less English or Filipino are founded on misconceptions about language learning. International literature has shown that what matters in second language learning is not so much the quantity or the number of years of exposure to the target language (maximum exposure fallacy) but the quality of exposure and timing or manner of exposure. Students under the MTB-MLE program are indeed learning less English and Filipino in comparison with those under the Bilingual Education Program, but the literature on MTB-MLE shows that the foundation provided by a strong MT will result in better academic and second language development. This explanation appears counter-intuitive especially to the layman so DepEd should think of creative ways to explain the essential principles and research support for MTB-MLE to parents and other stakeholders. Also, because MTB-MLE is in the first years of implementation and since literature results show that the gains from MTB-MLE are manifested in the later years of a typical six-year basic education program, parents have to be informed that the evidence on whether the program is effective or not will take time to produce. DepEd can inform parents that as evidence for program effectiveness is awaited, schools can benefit much from parent support. Ideally, this would be undertaken without reliance on technical knowledge that can overwhelm parents. It is possible that, to date (30 May 2016), information dissemination has focused more on the practical aspects of implementation, or on the

K to 12 curriculum in general, while the finer details relating to the MTB-MLE, particularly its rationale and benefits, have remained on the periphery, or not been addressed.

## USE OF PHASE 2 DATA FOR SELECTION OF SCHOOLS FOR PHASE 3

As mentioned in the introduction, Phase 2 was used to identify potential schools for Phase 3 of the current project, which seeks to document schools that can be considered exemplars of best practice in the implementation of MTB-MLE. The data provided by schools were analysed with reference to practices associated with effectiveness in MTB-MLE in the broader body of literature that has informed the whole project (ACTRC, 2014). A set of broad principles which functions as the hypothesis or conceptual framework for effective MTB-MLE implementation was identified to inform the process of selecting schools for Phase 3. The framework includes an overarching principle of localization – the relating of practices in all dimensions to the local context of MTB-MLE implementation. Within each dimension (Language, Instruction, Materials and Program), the framework’s principles provide the point of comparison for the strategies reported by the Phase 2 schools.

A survey tool was used to evaluate implementation effectiveness and the responses of schools were assessed on the following criteria:

- Language dimension: the availability of an orthography, students’ proficiency in the MT, appropriateness of the MT in the classroom, the use of the MT in the community, and the community’s regard for the MT;
- Materials dimension: the number and kinds of materials in the MT, whether the materials were localized, and the presence of MT prints in the classroom;
- Instruction dimension: the use of the MT for assessment, teaching strategies reported by the MT teachers, and the attitude of students towards the MTB-MLE program;
- Program dimension: the number of trainings attended by the school

administrator and teachers and their level of participation, the attitude of parents and community members towards the program, and the extent of MTB-MLE implementation in the classroom and the school.

This proved a viable means of identifying schools in each of the four language contexts that were effectively implementing MTB-MLE. Verification visits were made to schools to ensure consistency between answers given and practices observed, which resulted in the selection of four schools – one from each context. A more complete description of the selection of schools, the investigation of the strategies they used, the reasons for their choice of strategies, and comments about the impact of the strategies will be provided in the Phase 3 report.

## CONCLUSION

Phase 2 of the study gathered data in 158 schools and the results reveal that, in general, schools are developing strategies to meet the challenges they face in the implementation of MTB-MLE.

Challenges for the program are more-or-less homogeneous across contexts, except in distinct environments such as the LD communities, which provide a unique set of challenges.

Many strategies identified from Phase 2 schools can be related to good practice as described in the literature and are consistent with the goals and principles that are the foundation for the implementation of MTB-MLE. Regarding progress in the development of strategies, some issues need to be addressed. In the Language dimension, the use of different varieties of the Ls is an issue, and increases the difficulty of standardizing the MOI. Schools in SL contexts experience the same problem and have addressed it through local standardization, but specialist support is needed for quality control in this process.

In the Instruction dimension, DepEd training appears to be influencing teachers to a great extent, as indicated by the match between the training topics and the teachers' reported strategies. That some of these strategies also match what is recognized in the literature as best practice indicates that teachers, generally, are on the right track. Some identified strategies that appear to be unique to the country are reported as well.

The emerging issue of translation and other translanguaging strategies need further study to explore how these strategies can complement the program's aim of providing the ideal MT immersion to students. It appears that teachers resort to these strategies as a response to the inadequate academic register of some MTs or as a way of coping with their low MT competence. Translanguaging may be reflective of the way multilingual students and teachers naturally communicate in classes, but this underlines the need for teachers to examine the value of these

strategies and their effects on students, and whether they are used strategically to improve communication and instruction.

In the Materials dimension, schools have developed resourceful production strategies. In addition, the Phase 2 data reveal that the DepEd portal for instructional materials has been very useful to teachers. However, there remains the problem of how central materials production can deal with different varieties of the same language. Localization and contextualization have been featured in DepEd training, but these have focused on instruction, rather than materials. Since local materials production has been established in some areas and can be expected to continue, its integration with the central provision of materials is something DepEd could fruitfully explore.

In the Program dimension, one area that needs attention is the varied bases of allocation of students to MT classes. Allocation appears to rely partly on identification of the strongest heritage language but is also influenced by linguistic context, as illustrated by a preference in some areas for the regional language as MT, rather than the students' actual MTs. Given the implementation template that is currently in use, schools in the LD context face more challenges. This highlights the need to further understand the extent of linguistic diversity in some areas of the country in order for the program to address the special needs resulting from the complexity of the Philippines' linguistic landscape.

## Recommendations

The following recommendations presented per dimension are addressed to the following DepEd bureaus.

### LANGUAGE

#### FOR DEPED CENTRAL OFFICE

1. **Provide technical (linguistic) support to MT standardization to schools, divisions, or regions.** DepEd's collaboration with recognized associations with technical linguistic expertise can be exploited to address this need. Resource persons can give expert advice to stakeholders or guide the conduct of MT standardization activities. MTB-MLE training that is currently in place should integrate orthography standardization as one of its topics.
2. **Develop and disseminate a set of criteria and a process for establishing the MT competence of teachers who use MT as MOI.** Have school administrators use these for teacher selection and assignment to MT grade levels.
3. **Encourage research on linguistic diversity and how this relates to classroom communication and design of class models.** In particular, research on the growing linguistic diversity in formerly more homogenous language contexts can be helpful at providing schools with the likely language make-up that future classes will have.

#### FOR MTB-MLE DIVISION COORDINATORS AND SCHOOL ADMINISTRATORS

4. **Lead a division-level review of the MT orthography that schools use.** This activity can be led by division MTB-MLE coordinators and conducted in consultation with linguistic experts and/or

community leaders with expertise in the relevant MTs. The review process should involve two stages: a sharing of the strategies reported by other schools in how they developed an orthography for implemented MTs, and the dissemination of a brief template for schools to complete. This template should include a statement of the variety of the MT they are implementing (and how it compares with other varieties of the same MT), a statement of how the school has located or developed the orthography of the MT they are using, and a statement about the languages used in the community – including the MT, other languages including Filipino and English, and which among these are used as lingua franca. The second stage is the completion of this template, and submission to the division MTB-MLE coordinator. Data from this template can help identify schools that need help in orthography development.

5. **Organize division or school level MT refresher courses for teachers.** Such training should be a staple part of the professional development program of divisions and/or schools. To support this activity, DepEd should identify a pool of resource persons to facilitate refresher courses for official MTs.

For schools in the Tagalog context, MT refresher courses should discuss the similarities and differences between the Tagalog local variety and Filipino, the national language. Teachers should have a clear understanding of the relationship of the Tagalog MT to Filipino because this is inevitably reflected in instruction.

6. **Organize LAC sessions particularly for addressing Language challenges.** For schools in the Tagalog context, strategy-generating LAC sessions help address Language challenges.



**7. Collaborate with various stakeholders in intensifying and expediting the standardization and intellectualization of the official MTs.**

Through district or division offices in collaboration with teachers and community elders, existing MT academic terms that have not been used for a long time can be revived and used more actively in instruction. Through the encouragement of DepEd bureaus, academic world lists can be built, disseminated, and actively used in instruction. They can also spearhead the documentation and dissemination of innovations in MT academic register. Encourage teachers to be receptive to the use of MT academic terms over their foreign counterparts and have them use the register actively in instruction, ensuring that new terms are introduced properly to students.

**INSTRUCTION**

**FOR DEPED CENTRAL OFFICE**

- 8. Develop and distribute a set of guidelines for teachers about class language management, the appropriate and inappropriate ways of using languages other than the MT in MT classrooms.** Build on relevant language acquisition theories and classroom communication studies in building these guidelines. This should be supported by a training program, which may feature these as a main topic, or these could be integrated in the content covered by other MTB-MLE training. Such training should enlighten teachers on when combination of languages can be used in class and when MT immersion can be provided, the advantages and disadvantages of using one language over another vis-a-viz students' language skills development.

- 9. Call for research that investigates the use of translanguaging practices in MTB-MLE classrooms and how this can impact L1 and L2 development.** Update language management guidelines in light of future research findings.

**FOR MTB-MLE DIVISION COORDINATORS AND SCHOOL ADMINISTRATORS**

- 10. Organize teacher training or LAC sessions on curriculum implementation of the MT (local Tagalog) and Filipino subjects in Tagalog context schools.** Such training should focus on the interpretation of curriculum competencies and spiralling design of the K to 12 curriculum as applied in the above language subjects. The possible ways of integrating the two in terms of content, class time, etc. should be discussed, and published guidelines for these should be disseminated among schools.

**MATERIALS**

**FOR DEPED CENTRAL OFFICE**

- 11. Create a mechanism for the regular sharing of best practices** in materials development in the level of school, division, or region.
- 12. Decentralize the validation of locally produced MT materials by empowering regional offices with the responsibility of materials evaluation and validation.** Have regions formulate their own materials quality assurance measures that are based on national standards, and apply these during validation.
- 13. Encourage teachers to become local writers** by giving promotional incentives and recognition to those who produce

materials that pass validation and/or display outstanding quality.

14. **Review the system of processing schools' requests for materials and delivery of materials to make it more timely, orderly, and accurate.** Study the use of a different system for schools in the LD context that require the use of materials in different MTs.
15. **Explore the potential of information communication technology in materials development and production, and in the systematic and efficient conduct of materials validation.** Schools with technological capacity can train teachers to use computer applications or software that can produce greater quantities of materials. Create official social media accounts that have become very popular among teachers to provide credible information about local or Department-produced materials, answer questions, and direct teachers to existing LRMDS portals.
16. **Have regions create their own LRMDS portals that will serve as the ultimate repository of validated local materials.** Such portals should be periodically updated and linked with the national LRMDS portal.

FOR MTB-MLE DIVISION COORDINATORS AND SCHOOL ADMINISTRATORS

17. **Conduct a distinct materials development training/workshop for schools in the LD contexts** with focus on their distinct need to produce several different quality MT materials in ways that are time- and cost-effective.
18. **Organize and encourage the pooling of MT materials** between and among the Department's different bureaus.
19. **Systematize the process of MT materials validation** by having an inventory of submitted materials,

producing digitized back-up copies of submissions, and giving periodic updates on submission status. Determining a standard timeline for the different stages in validation can hasten the process and make it more efficient.

## PROGRAM

FOR DEPED CENTRAL OFFICE

20. **Design and implement training-workshop on MTB-MLE program logistics for schools in LD contexts.** This training, which is ideally conducted in the division level, should address the efficient documentation of language mapping data, choice of MT for implementation, designing MT programs (choice of monolingual or multilingual classes), teacher selection, instructional strategies for multilingual classrooms, program advocacy, and community involvement. This training-workshop should help implementers in the LD context in mapping out feasible program designs that manifest fidelity to program principles and make them reflect on the implications of MT choice, particularly if it involves choosing between the use of a local language MT or a lingua franca.
21. **The training workshop should review the long-term and macro-level effect of choosing a Filipino lingua franca over a local language as MT,** particularly because this choice inevitably mitigates the potential of local languages to become effective languages in education. The non-use of other MTs deprives them of the natural path to standardization and intellectualization that utilization in an educational setting facilitates. Being less standard than other languages will make them less appealing options for education, which may impact on MTB-MLE support and attitudes towards local languages.

**22. Review existing class model options for schools with students whose MT differs from the declared MT MOI.**

Currently, the holding of special classes for these children depends on the availability of a teacher who speaks their MT. This should be reviewed in terms of feasibility.

**23. Launch and sustain an advocacy campaign for MTB-MLE that will explain program principles, correct common misconceptions about mother tongue education and language learning, and share program achievements.**

Tap credible and influential personalities who can convincingly impart the message of the campaign. Conduct contests and other activities that will showcase the skills improvement of students who have gone through the program. Extend the campaign to LGUs to generate their support in program implementation.

materials, MT-print rich environment, and community involvement.

**28. Encourage the conduct of action research among schools** that innovate class model options and try out various strategies for efficient implementation. Have a mechanism for the sharing of research results among program implementers.

#### FOR MTB-MLE DIVISION COORDINATORS AND SCHOOL ADMINISTRATORS

**24. Ensure that all MT teachers undergo MTB-MLE training** and encourage the echoing of acquired skills and knowledge through division or school LAC sessions.

**25. Study existing staff selection process** in relation to the MT skills of teachers and the maximization of provided teacher training.

**26. Strengthen linkages with local government units** especially for materials production, program advocacy, and community involvement.

**27. Encourage the development of best practices** in different aspects of MTB-MLE implementation by setting up contests for schools with the best advocacy campaigns, locally produced

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## APPENDIX A: LANGUAGE CHALLENGES

Language contexts from which challenges reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

Challenges are listed in descending order determined by the number of language contexts that reported them.

Variability of the MT	Standardization and intellectualization	Status of the MT	Features of the MT	Proficiency in the MT
Highly variable MT (L, S, D)	Difficulty in translating math, science and Music, Arts, Physical Education, and Health (MAPEH) terms to MT (L, S, T, D)	Parents' belief that students develop low proficiency in English due to low usage in the classroom (L, T, D)	Difficulty in spelling MT terms (S)	Teachers' lack of knowledge of the language (T, D)
Terminologies in DepEd provided materials are not commonly used in the locality (L, S, D)	Orthography is not yet established (L, S, D)	Students are more familiar with the English terms for numbers, colors and shapes (L, S, D)	Difficulty in using MT words for big numbers (D)	Difficulty in translating profound MT terms, as well as translating from English to MT (D)
Different varieties of the MT are used at home (L)	Some English terms have no translation equivalents in the MT leading to confusion in translating the terms (L, D)	High prestige accorded to English and Filipino (L, S, D)	MT words are too long for the students to decode (D)	Students from different provinces speak different languages (D)
	Inconsistent use of terms in the Learner's Materials and Teacher's Guide (T, D)	Parents' perception that the MT is not useful in students' job opportunities in the future (S, D)	Non-native speaker students' difficulty in learning some MT words (D)	Some students do not understand the MT of other students (D)

Variability of the MT	Standardization and intellectualization	Status of the MT	Features of the MT	Proficiency in the MT
	MT translations are twice as long as the English term making it difficult to formulate test questions in the MT (L)	Students are used to speak in Filipino than in MT (S, D)	Pronunciation of MT terms varies (D)	
	Teachers' use of Tagalog variety making it difficult to translate to Filipino (T)	Students are unfamiliar with the MT (D)	Teaching reading in MT should emphasize stress that can differentiate meaning (D)	
		Tagalog as the home language (D)		
		Lack of actual practice of the MT in formal/community occasions (D)		
		Apprehension of teachers that difference in pronunciation in MT may affect pronunciation of words in other languages (D)		
		Teachers' impression that students lose interest with the use of MT in Music, Araling Panlipunan, Music, Arts, Physical Education, and Health (MAPEH) , and math (D)		

Variability of the MT	Standardization and intellectualization	Status of the MT	Features of the MT	Proficiency in the MT
		Use of MT in class was made a source of amusement by students (D)		
		Parents' belief that less exposure to English will hinder children from being globally competitive (D)		
		Parents' belief that use of MT lowers formality level (D)		



## APPENDIX B: LANGUAGE STRATEGIES

Language contexts from which strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

Strategies are listed in descending order determined by the number of language contexts that reported them.

Orthography	Standardization and Intellectualization	Access to MT Literature	Attitude towards the MT
School-based orientation and training on orthography and bridging process (L, D)	Tapping co-teachers and elders for assistance in understanding difficult/unfamiliar MT terms (L, S, D)	Non-native speaker teachers listen to the radio and read MT magazines and dictionaries (D)	Non-native speaker teachers develop MT skills by using the MT to students, with parents, and teachers who are proficient in the MT (D)
Use of working orthography (L)	School-based standardization of terms to use in the classroom (L)	Parents bought an MT dictionary to learn and understand the MT (D)	Study of the MT and other languages (D)
	Use of dictionary to understand deep MT terms (L)		Teachers help one another in knowing the meaning of words (D)
	Listing down important terminologies in the MT (L)		Use of English terms when no MT term is available (D)
	Awareness of vocabulary in the orthography - parents serve as resource persons (S)		Instilling the value of the MT among students (D)
	Translating letters of the alphabet to students' own MTs (D)		Parents re-learn the MT with their children (D)
	Training on the creation of an MT dictionary (D)		Parents' hiring of a MT-speaking tutor (D)

## APPENDIX C: FREQUENCY OF LANGUAGE CHALLENGES AND STRATEGIES BY CATEGORY AND LANGUAGE CONTEXT

Language contexts from which challenges and strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

The frequencies reflect the number of respondents that reported the challenges and strategies in each category for each language context.

Note that these could be multiple reports of the same challenges and strategies in each category.

Dimension	Categories	L	S	T	D	Total
<b>Language Challenges</b>	Variability of the MT	23	9	0	51	83
	Standardization and intellectualization	41	23	30	27	121
	Status of the MT	17	15	6	20	58
	Features of the MT	0	7	0	6	13
	Proficiency in the MT	0	0	14	27	41
<b>Language Strategies</b>	Orthography	3	0	0	1	4
	Standardization and intellectualization	6	1	0	41	48
	Access to MT Literature	0	0	0	2	2
	Attitude towards the MT	0	0	0	27	27

## APPENDIX D: MATCHED LANGUAGE CHALLENGES AND STRATEGIES

Language contexts from which challenges and strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

CHALLENGES	STRATEGIES
Deep, difficult and unfamiliar words in the MT (L, S, D)	Asking people (elders in the community and co-teachers) who are knowledgeable in the MT (L, S, D)
	Use of the MT in class for students to understand it through exposure and constant use (L)
	Use of translation from MT to Filipino or English to make students understand (S)
	Conduct of school-based Learning Group Meeting (S)
	School head gives instructional supervision in the classroom (S)
	Use of MT dictionary (L, T, D)
Teachers' low proficiency in the MT (D)	Learn the language, in speaking and writing (D)
	Talking to students, parents and teachers who are proficient in the MT (D)
	Listening to radio programs in the MT (D)
	Reading of magazines and dictionaries in MT-English (D)
High variability in the MT (L)	School-based agreement on the terms to be used in classroom teaching (L)
Confusion on the spelling of MT terms (S)	Use of the MT orthography (S)

## APPENDIX E: INSTRUCTION CHALLENGES

Language contexts from which challenges reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

Challenges are listed in descending order determined by the number of language contexts that reported them.

Communication	Use of instructional materials	Use of MT in the Classroom	Assessment	Teachers' Skills
Translation and contextualization are time-consuming and difficult (L, S, T, D)	Preparation of instructional materials (IMs) is time-consuming (S)	Teachers' confusion and students' boredom due to lesson similarity between the Mother Tongue Subject and Filipino subject (T)	Tests and competitions are in English (T)	Varying teacher competencies (T)
Difficulty in teaching students with unfamiliar MT terms (L, S)		Teacher's impression that students underestimate lesson content because they know the medium of instruction very well (T)	Difficulty in translating test questions to different MTs of the students (D)	Inconsistencies in teaching strategies (T)
Difficulty in translating to Tagalog or English because declared MT is not the MT of the majority of students (D)		Inconsistency in the emphasis for MT use in school and at home (T)		Teachers' insufficient teaching skills and knowledge in the MT (T)
Students' response in his MT may not be clear to the teacher or classmates who are speaking a different MT (D)		Students are adjusting to the use and study of the MT (D)		Teacher has to study carefully the words to teach (D)
MT assigned is a heritage language of the students, not their strongest language (D)		Children's adjustment to the use of MT in school (D)		

## APPENDIX F: INSTRUCTION STRATEGIES

Language contexts from which strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

Strategies are listed in descending order determined by the number of language contexts that reported them.

Communication Strategies	Focus on Language	Connection with local community and culture	Use of instructional materials	Literacy skills	Organization strategies	Activities	Experience strategies
Bridging (L, S, T, D)	Spelling exercises (L, S, T, D)	Use of local songs, poems, stories, riddles (L, S, T, D)	Use of big books and small books written in the MT (L, S, T, D)	Four-pronged approach (L, S, T)	Cooperative/Collaborative learning (L, S, T, D)	Semantic webbing and concept mapping (L, S, T, D)	Use of students' own experiences as examples in class (L, S, T)
Code-switching (L, S, D)	Word and sentence formation (L, S, T)	Use of realia found in the community (L, S, T, D)	Use of picture stories (L, S, T)	Reading and essay writing in the MT (L, S, D)	Peer tutoring (L, S, T, D)	Storytelling (L, S, T, D)	Discovery method/learning investigatory strategy/ inquiry approach (L, S, T)
Translanguaging (L, D)	Pronunciation and vocabulary drills (L, T, D)	Fieldtrip in the community (L)	Use of teacher-made charts and reading materials (L, S, T)	Students compose their own stories in the MT (L, T)	Group/shared/guided/individual reading (L, T, S)	Games, contests and puzzles (L, S, T, D)	Total Physical Response (L, S, T)

<b>Communication Strategies</b>	<b>Focus on Language</b>	<b>Connection with local community and culture</b>	<b>Use of instructional materials</b>	<b>Literacy skills</b>	<b>Organization strategies</b>	<b>Activities</b>	<b>Experience strategies</b>
Teaching students in a language they already know then shifting to MT (L, T)	Use of big box (L, T)	Use of lessons based on the local culture (L)	Use of picto-dictionary/dictionary (L, D)	Practice in MT reading as assignment (L, D)	Individualized instruction (D)	Role playing (L, S, T, D)	Experiential approach (L, S, D)
Talking to students in the MT all the time (S, D)	Use of pictures and keywords (L, T)	Inviting resource speakers (parents and community members) to do the storytelling in class (L)	Use of photos to unlock words (S, D)	Two-track approach (L, T)	Integration of MT in teaching/learning activities (D)	Show and tell/draw and tell/point and tell (L, S, T)	Language Experiential Approach (L, S)
Use of MT in daily routines with students (S, D)	Word bank (L)	Use of local magazine for reading every afternoon (L)	Use of diorama (L)	Reading of sight words (L)		Using MT test questions for math and science (L, S, D)	Practical work approach (L, T)
Translation (L)	Communicative Language experience (L)	Cultural teaching approach (L)	Use of magic box (T)	Use of Primers (S)		Think-Pair-Share (T, S)	Learning by doing (S)
Making sure that NNS transferees understand the lesson (T)	Engage-study-activate approach (L)	Use of materials appropriate to the MT (T)	ICT integration (T)	Direct Reading Techniques Approach (T)		Know-Want-Learn Reading Method (S, T)	

<b>Communication Strategies</b>	<b>Focus on Language</b>	<b>Connection with local community and culture</b>	<b>Use of instructional materials</b>	<b>Literacy skills</b>	<b>Organization strategies</b>	<b>Activities</b>	<b>Experience strategies</b>
Use of English for problem solving in math and translating to MT (T)	Word-picture association (D)	Use of the community as laboratory of teaching (D)	Use of activity sheets in the MT (T)	Counting numbers in MT (T)		Giving more MT practice for students (T)	
Letting students speak in their own MT (D)	Focusing on unfamiliar words when teaching (D)	Localization of terms used (D)	Proper use of TGs and LMs (T)	Additional time for MT reading (D)		Word for the day in three languages (S)	
	Use of familiar vocabulary in activities (D)	Use of a bamboo stand (D)	Picture-reading (D)			Conduct of remedial classes (S)	
	Talasalitaan (Vocabulary Building) with translation in the different languages of students in class (D)		Updating bulletin boards (D)			Reading portfolio (S)	
	Provision of orthography and spelling guide (D)		Use of sound tellers (D)			Watching educational films (D)	

<b>Communication Strategies</b>	<b>Focus on Language</b>	<b>Connection with local community and culture</b>	<b>Use of instructional materials</b>	<b>Literacy skills</b>	<b>Organization strategies</b>	<b>Activities</b>	<b>Experience strategies</b>
						Clay modeling (D)	
						Use of songs (D)	



## APPENDIX G: FREQUENCY OF INSTRUCTION CHALLENGES AND STRATEGIES BY CATEGORY AND LANGUAGE CONTEXT

Language contexts from which challenges and strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

The frequencies reflect the number of respondents that reported the challenges and strategies in each category for each language context.

Note that these could be multiple reports of the same challenges and strategies in each category.

Dimension	Categories	L	S	T	D	Total
<b>Instruction Challenges</b>	Communication	7	13	15	9	44
	Use of instructional materials	0	6	0	0	6
	Use of MT in the classroom	0	0	2	1	3
	Assessment	0	0	3	7	10
	Teachers' skills	0	0	1	1	2
<b>Instruction Strategies</b>	Communication strategies	33	56	7	107	203
	Focus on language	47	38	49	93	227
	Connection with local community and culture	27	20	50	65	162
	Use of instructional materials	78	88	211	145	522
	Literacy skills	54	34	61	30	179
	Organization strategies	114	93	72	150	429
	Activities	218	124	205	304	851
	Experience strategies	75	36	224	47	382

## APPENDIX H: MATCHED INSTRUCTION CHALLENGES AND STRATEGIES

Language contexts from which challenges and strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

CHALLENGES	STRATEGIES
Difficulty in constructing questions for quizzes and exams of the students (L, D)	School head assists teachers in developing assessment tools (L) Discusses with co-teachers to seek opinion and ideas (D)
Difficulty in the use of the MT in teaching math (L, T)	Use of English in teaching math (L, T) Studying the MT terms to be used in the lesson (T) Use of simpler MT terms and giving examples (T)
Confusion in the similarity between MTS and Filipino (T, D)	Proper use of the TG and LM to lessen confusion (T) Time allotted for Filipino is used to teach basic reading (D)
Teachers' use of Tagalog and English as MOI rather than the MT (D)	Conduct of regular instructional supervision (D)
Competencies in the CG do not match the lessons in the TG and LM (D)	Taking note of the discrepancies and working on them (D)
Adjustment on the preparations needed for MTB-MLE lesson planning and making of instructional materials (L)	Tapping grade level co-teachers for assistance in teaching expertise and sharing of materials (L)
Non-participation of students in class discussion because they do not understand the MT used as MOI (S)	Use of translation from MT to Filipino (S)

## APPENDIX I: MATERIALS CHALLENGES

Language contexts from which challenges reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

Challenges are listed in descending order determined by the number of language contexts that reported them.

Procurement	Contextualization	Language used	Use of materials
Insufficient supply of DepEd Learner's Materials, Teacher's Guides and supplementary materials in the MT (L, S, T, D)	Confusing translation of TG for Mother Tongue Subject (T)	Mismatch in the MT of the students and the MT used in DepEd-provided materials (L, S, T, D)	Learner's Materials do not jibe with the TGs (L)
Insufficient financial support for materials production (L, S, T, D)	Teachers' difficulty in translating materials from English to MT (D)	Some words in the Learner's Materials are profound and students do not understand (D)	Mismatch among Curriculum Guide, Learner's Materials and Teacher's Guide (D)
Late delivery of instructional materials (L, S, D)	Some words in the TGs and Learner's Materials are not translated (D)	Teachers' preference to use Tagalog so that more students can understand (D)	Unedited Learner's Materials and Teacher's Guides resulted in many errors (D)
Unavailability of dictionary in the MT (L, D)	DepEd-provided materials lack contextualization (D)	Parents' difficulty in understanding MT words in the materials (D)	Lack of training on the use of materials from DepEd (D)
References provided are not appropriate to all the MTs spoken (D)			

## APPENDIX J: MATERIALS STRATEGIES

Language contexts from which strategies are reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

Strategies are listed in descending order determined by the number of language contexts that reported them.

Procurement	Localization	Materials Development and Production	Materials Acquisition
MOOE (Maintenance and Other Operating Expenses) utilization for printing and reproduction costs of Learner's Materials and Teacher's Guides (L, S, T, D)	Teachers write their own compositions in the MT (L, S, T, D)	Translation of English and Filipino Teacher's Guide and Learner's Materials to MT with the help of parents and teachers (L, S, T, D)	Tapping other divisions and schools for MT materials (L, S, T, D)
Use of teachers' own money in the purchase and reproduction of books and worksheets (L, S, T, D)	Parents were tapped to make their own stories in the MT (L)	School- and district-based In-service training (INSET) and Learning Action Cell (LAC) sessions for IM development and production (L, S, T, D)	Use of Internet in searching for materials in the MT and to know more about the program (L, S, T, D)
Parents shoulder the costs of Learner's Materials reproduction (L, S, D)	Doing research on MT resources to enrich MT vocabulary and to look for stories and activities that may be used in class (L)	Use of teacher-made support IMs in the MT (L, S, T, D)	Downloading of MT materials from DepEd's Learning Resources Management and Development System (LRMDS) portal (L, T, D)
Strong linkages with stakeholders for instructional materials provision (L, D)	Teachers developed a set of culture-based stories and poems to come up with unified springboard activities in MT teaching (L)	Grade-level teachers make and share instructional materials in different subject areas (L, T, D)	Photocopying of Learner's Materials (S, T, D)
	In-service training (INSET) for the contextualization of LMs and TGs (L)	Parents assist teachers in making big books, small books and flashcards (L, S, D)	School head provided soft copies of Teacher's Guide and Learner's Materials (L, S)

Procurement	Localization	Materials Development and Production	Materials Acquisition
	Making the classroom environment rich in MT prints (L, S, D)	Teachers make big books and small books in the MT for classroom use (S, T, D)	Use of dictionaries (S, D)
	Developing locally made teaching materials with the use of community-based teaching approach (S, D)	Making and enhancing IMs and learning packages (S, T, D)	Use of old books and magazines as additional references (S, D)
	Collecting riddles, rhymes, sayings from parents (S)	Creating reading exercises and assessment tools (L, D)	Use of MT orthography and spelling guide (S, D)
	Use of the Basic Education Curriculum and contextualizing it for MT teaching (S)	Teachers work overtime to make instructional materials (L)	Parents bought MT reading materials for their children then the teachers reproduced them (L)
	Indigenization of story books and providing translation in the MT (S)	Unang Hakbang sa Pagbasa (First Step for Reading) was made by grade I teacher to be used by Kinder and Grade I students in learning how to read (L)	Buying references from book stores (S)
	Organizing a Parents Club to help teachers in making the IMs for MT teaching (S)	Barangay support in the reproduction of small books for grade I (S)	Subscription to The Modern Teacher magazine where teachers learn about teaching strategies (S)
	Conduct of contest among parents in making big books and small books for classroom use (S)	Correction of wrong versions in given materials (D)	Storytelling through computerized learning materials (T)

<b>Procurement</b>	<b>Localization</b>	<b>Materials Development and Production</b>	<b>Materials Acquisition</b>
	Use of reference books found in the community (D)	Big books as projects of children (D)	
		Translation of Filipino or English songs to the MT (D)	

## APPENDIX K: FREQUENCY OF MATERIALS CHALLENGES AND STRATEGIES BY CATEGORY AND LANGUAGE CONTEXT

Language contexts from which challenges and strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

The frequencies reflect the number of respondents that reported the challenges and strategies in each category for each language context.

Note that these could be multiple reports of the same challenges and strategies in each category.

Dimension	Categories	L	S	T	D	Total
<b>Materials Challenges</b>	Procurement	172	94	104	173	543
	Contextualization	0	0	3	4	7
	Language used	17	18	15	6	56
	Use of materials	9	0	0	4	13
<b>Materials Strategies</b>	Procurement	22	4	6	25	57
	Localization	13	14	10	21	58
	Materials development and production	87	46	27	88	248
	Materials Acquisition	43	30	34	55	162

## APPENDIX L: MATCHED MATERIALS CHALLENGES AND STRATEGIES

Language contexts from which challenges and strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

CHALLENGES	STRATEGIES
Mismatch between the MT used as MOI and the MT in which the LMs and TGs were written (L, S, T, D)	Research on the information presented to know about the lesson (D)
	Translating the materials to the MT (L, T)
	Use of bridging (S)
	Use of pictures and context clues (T)
Lack of TGs and LMs and other resource and reading materials in the MT (L, S, T, D)	Teachers looked for references from other schools and divisions (L, S, T, D)
	The school reproduces materials for the students using the MOOE (L, S, T, D)
	Research using the internet and at the library (L, S, T, D)
	Conduct of school LAC sessions and INSET in making teacher-made IMs (L, S, T, D)
	Use of support instructional materials (SIMs) such as teacher-made charts, big and small books, reading exercises and assessment tools (L, S, T, D)
	Tapping the help of LGU and other organizations to provide the materials needed (e.g. funding from the Local School Board) (L, S, D)
	Use of books from the old curriculum (L, S, T)
	Teachers use their own money in the reproduction of IMs (L, T, D)
	Making requests to the division office (S, D)
	Translating English/Filipino materials to the MT (S, D)
	Teachers use supplementary MT references to enrich MT vocabulary (L, S)
	Writing the lessons/activities on the board or manila paper (L, T)
	Training teachers to create IMs suited for MT teaching (L, S)
	Preparation of activity/worksheets for the students (L)
	Parents purchase a printer for the class (L)
	Teachers share their pool of resources with each other (D)
	Use of lesson-appropriate activities such as practice reading in the MT (D)
Solicitation from parents for reproduction costs of LM reproduction (S)	
Use of objects found in the immediate environment (T)	



	Making of stories suited to the locality (T, D)
Contents of the TG are not localized/contextualized (S, D)	Asking people (elders in the community and co-teachers) who are knowledgeable of the MT and the MTB-MLE program (S)
Lack of funding for the production of IMs (L, T, D)	Partnership with the LGU and other stakeholders (L, D)
	School shoulders the costs of TG and LM production (MOOE) (T)
Delayed procurement and delivery of materials (L, D)	Soft copies of TGs and LMs were printed in the school (D)
	Shouldering the costs of delivery of the supply to the school (D)
	Downloading a copy of materials from the LRMDS portal (L)
	Teachers make their own big books and small books (L)
	Solicitation from parents for reproduction costs of LM reproduction (L)
Contents of TG and LM do not match (L)	Asking the help of Grade I teachers who have been through this problem (L)

## APPENDIX M: PROGRAM CHALLENGES

Language contexts from which challenges reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

Challenges are listed in descending order determined by the number of language contexts that reported them.

Design	Staff Training	Staff Selection	Connection with local community and culture
Mismatch in the MT used as medium of instruction and the home language of the students (L, S, T, D)	Teachers' and school administrators' lack of training for program implementation (L, S, T, D)	Teachers are not fluent in the MT (L, D)	Lack of clear communication among the different stakeholders (L, T, D)
Mismatch in the MT of teachers and MT of students (L, S, D)	Lack of funds to send teachers to training (S)	Lack of multilingual teachers to teach non-native speaker students (S, D)	Parents and community members disagree on program implementation (D)
Some Kindergarten programs do not implement MTB-MLE (L, D)	Lack of in-depth training in the MT orthography (D)	Assigning Christian teachers in Muslim communities (S)	Use of Tagalog at home (D)
Some programs existing in the schools contradict the rationale of MTB-MLE (L)	Teachers' confusion due to different view of speakers in training (D)	Lack of teachers who are native speaker of the MT (D)	Parents do not understand the declared MT and have difficulty helping their children with school work (D)
Mismatch in the MT used as MOI and the MT used in assessment (L)			
Use of Filipino as MOI because children speak different languages (D)			
Mismatch in the MT varieties used in the community and the school (D)			

<b>Design</b>	<b>Staff Training</b>	<b>Staff Selection</b>	<b>Connection with local community and culture</b>
Assigning of MT MOI different from the language mapping data (D)			
Program is compulsory and it has to be implemented whether teachers like it or not (D)			

## APPENDIX N: PROGRAM STRATEGIES

Language contexts from which strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

Strategies are listed in descending order determined by the number of language contexts that reported them.

Design	Connection with local community and culture	Staff Training	Advocacy	Monitoring and evaluation
School-based exams for MTB-MLE (L, S, T)	Parents tutor their children (L, S, T, D)	Teacher training in MTB-MLE (L, S, T)	Meetings with parents and other stakeholders about the use of MT as MOI (L, D)	Pull-out Reading Remediation Program for slow readers in MT, Filipino and English (L, T, D)
Use of MT in contests and programs (L, S)	Construction of MTB-MLE parks or gardens in the school (L, S)	School-based mentoring program with the help of a trained teacher in MTB-MLE (S, T, D)	Informing the parents about the importance of the use of the MT as MOI (S, T)	Intensive monitoring, supervision and instructional leadership by supervisors (L, S, T)
Grouping of students according to their MT (S, D)	Parents encourage their children to read books in the MT (L)	Teachers study MT speech and writing (S, D)	Parent-teacher conference and orientation in MTB-MLE (L)	Classroom observation by school administrator and supervisors to give technical assistance to MT teachers (L, T)
Use of Filipino (S, D)	Boy/Girl Scouts are tapped by the school to assist grades 1 and 2 students in reading and storytelling (L)	School LAC sessions on lesson planning, use of curriculum guide and test construction and the discussion of issues and concerns in MTB-MLE implementation (L, S)	Announcements and reminders in the school premises are in MT so they can be easily understood by parents and community members (L)	Lesson demonstrations (T, D)

<b>Design</b>	<b>Connection with local community and culture</b>	<b>Staff Training</b>	<b>Advocacy</b>	<b>Monitoring and evaluation</b>
Teachers with training on MTB-MLE and speakers of the MT are assigned in K-3 classes (S, D)	Culture sensitivity like promotion of cultural heritage is given emphasis in the school system (S)	Scholarships for MTB-MLE are made available to teachers (L)	Involvement of parents through PIE during Saturdays and Sundays and requesting them to use MT at home (S)	Teachers made big books and small books in the MT and submitted to supervisor to be used in other schools in the division (S)
Conduct of language mapping to identify the MTs of students and teachers (L)	Parents and community members teach MT literary pieces to children (S)	“I Care, I Share” Program wherein teachers share their concern and practices in how to be more effective in teaching in the MT (L)	Parents’ use of MT in Parent Teachers Association meetings (T)	Teachers were given a set of assessment to evaluate their understanding of the program (S)
Non-native speaker students are made to interact with the fluent ones (S)	Conduct of the Purok Study (District Study) (S)	Reading Program in the MT where teachers are encouraged to write at least one original story in the MT to be used as a material for practice reading (L)	Informing parents and community to use MT at all times (D)	
Use of other languages in the community in reading numbers and naming body parts (S)	Organizing a Parents Club with a mission and vision that supports MTB-MLE implementation (S)	Group meeting of teachers after classes to ask experienced teachers on meaning of some MT terms (S)	Mas Alegre Na Escuela (Happier School) Program (D)	
Mixing MT, English, and Filipino in teaching math (D)	Establishing linkages with the local government unity, alumni, parents, and other stakeholders (S)	School-based training on use of language dominant in class (D)		
Grouping students according to the MT they speak (D)	Display of MT prints in the community (D)	School-based research (D)		

<b>Design</b>	<b>Connection with local community and culture</b>	<b>Staff Training</b>	<b>Advocacy</b>	<b>Monitoring and evaluation</b>
	Indigenous Peoples Education (IPED) implementation is in line with MTB-MLE (D)			
	Asking children to use MT when interacting with playmates (D)			

## APPENDIX O: FREQUENCY OF PROGRAM CHALLENGES AND STRATEGIES BY CATEGORY AND LANGUAGE CONTEXT

Language contexts from which challenges and strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

The frequencies reflect the number of respondents that reported the challenges and strategies in each category for each language context.

Note that these could be multiple reports of the same challenges and strategies in each category.

Dimension	Categories	L	S	T	D	Total
<b>Program Challenges</b>	Design	30	30	2	63	125
	Staff training	17	14	19	44	94
	Staff selection	2	23	0	3	28
	Connection with local community and culture	50	0	15	84	149
<b>Program Strategies</b>	Design	17	15	29	27	88
	Connection with local community and culture	37	41	52	60	190
	Staff training	69	40	70	47	226
	Advocacy	34	15	37	74	160
	Monitoring and evaluation	9	11	3	14	37

## APPENDIX P: MATCHED PROGRAM CHALLENGES AND STRATEGIES

Language contexts from which challenges and strategies reported are indicated by L for Large language context, S for Small language context, T for Tagalog context, and D for linguistically diverse contexts.

CHALLENGES	PROGRAM STRATEGIES
Teachers' and school administrators' lack of training in MTB-MLE (L, S, T, D)	Providing/sending the teachers to MTB-MLE seminars and training (L, S, T)
	Conduct of school LAC sessions and INSET (S, D)
	Procurement of pamphlet and reference materials to improve proficiency in the MT (D)
	Reading manuals and other references (T)
Negative attitude toward the use of MT as MOI (L, S, D)	The school conducted orientation seminar to all Grade I parents during the pilot implementation of MTB-MLE in 2011 (L)
	Parental involvement in school activities (D)
	Close monitoring of the program (S)
	Intensive information campaign through the hanging of streamers, GPTA assembly, HRPTA meeting, Parents and Teachers Conference and Orientation (L, S, D)
Lack of information on MTB-MLE (D) Diversity in learners' MT (S, D)	Translating from one language to another (S, D)
	Grouping the students based on their MTs (D)
	Teachers use the different MTs (S, D)
	Teachers ask the students the MT term of a concept/object (D)
	Students use their own MTs in answering their assignments (D)
	Making the students understand the importance of using the MT and its correct usage (D)
	Students to learn and practice using the MT MOI (D)
	Formation of classes according to learners' MT (D)
	Learning the MTs of the students (S)
	Teacher's use of Filipino in explaining the lesson (L, D)
Having non-MT speaking students (L, S, T, D)	A pupil who is a native speaker of the MT teaches the non-MT speaker the language (T, D)
	Remedial lessons in the MT (T, D)



	Non-MT speaking students are made to interact with MT-speaking ones (S, T)
	Translanguaging/bridging (D)
	Use of pictures to capture pupil's attention (D)
	Practice reading words in MT (D)
	Parents are advised to use the MT at home (S, D)
MT used as MOI is not the language used at home (D)	
	Use of MT in class (S, D)
Difficulty in the use of MT as MOI (S, D)	
	Making the children use the MT until they get used to it (S, D)
	Conduct of remedial classes (S)
	Mentoring by the school administrator (D)

## APPENDIX Q: ONE-WAY ANOVA SUMMARY TABLES

		Sum of Squares	df	Mean Square	F	Sig.
<b>MT1</b>	Between Groups	81.420	3	27.140	22.468	.000
	Within Groups	1495.450	1238	1.208		
	Total	1576.870	1241			
<b>MT2</b>	Between Groups	61.954	3	20.651	18.688	.000
	Within Groups	1337.091	1210	1.105		
	Total	1399.044	1213			
<b>MT3</b>	Between Groups	115.842	3	38.614	45.958	.000
	Within Groups	1038.494	1236	.840		
	Total	1154.335	1239			
<b>T1</b>	Between Groups	28.984	3	9.661	13.903	.000
	Within Groups	841.570	1211	.695		
	Total	870.555	1214			
<b>T2</b>	Between Groups	50.402	3	16.801	30.000	.000
	Within Groups	692.761	1237	.560		
	Total	743.164	1240			
<b>T3</b>	Between Groups	26.207	3	8.736	19.116	.000
	Within Groups	558.895	1223	.457		
	Total	585.102	1226			
<b>T4</b>	Between Groups	24.372	3	8.124	20.923	.000
	Within Groups	477.602	1230	.388		
	Total	501.974	1233			
<b>T5</b>	Between Groups	59.058	3	19.686	32.712	.000
	Within Groups	735.389	1222	.602		
	Total	794.447	1225			
<b>T6</b>	Between Groups	35.390	3	11.797	30.166	.000
	Within Groups	482.968	1235	.391		
	Total	518.358	1238			
<b>T7</b>	Between Groups	100.864	3	33.621	51.248	.000
	Within Groups	809.572	1234	.656		
	Total	910.436	1237			
<b>PC1</b>	Between Groups	28.956	3	9.652	17.403	.000
	Within Groups	687.168	1239	.555		
	Total	716.124	1242			
<b>PC2</b>	Between Groups	37.419	3	12.473	23.364	.000
	Within Groups	660.377	1237	.534		
	Total	697.795	1240			
<b>PC3</b>	Between Groups	73.388	3	24.463	40.535	.000
	Within Groups	747.727	1239	.603		
	Total	821.115	1242			
<b>PC4</b>	Between Groups	46.375	3	15.458	26.710	.000
	Within Groups	717.081	1239	.579		
	Total	763.456	1242			
<b>PC5</b>	Between Groups	76.984	3	25.661	45.941	.000
	Within Groups	690.396	1236	.559		
	Total	767.380	1239			

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