



A model of mother tongue-based bilingual education in Vietnam: Achievements and lessons learnt

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ABSTRACT

Education practices in ethnic minority areas in Vietnam with regional and ethnic differences influence its educational development. In particular, the language difference is a factor because the language used in teaching and learning is Vietnamese, not the mother tongue. Therefore, the mother tongue-based bilingual education model was developed to provide quick and convenient access to Vietnamese (the nation's official language) and knowledge for students in ethnic minority areas. Its approach is to use the ethnic students' mother tongues as the initial foundation in their first schooling years. The outstanding results of the successfully tested model have contributed to the improvement of the quality of ethnic minority education in Vietnam.

Keywords: bilingual education, mother tongue, ethnic minority.

INTRODUCTION

The mother tongue-based bilingual education model was finished by the final review conference (December 2015) after three years of preparation (2006-2008) and seven years of experiment (from September 2008 to May 2015) and continued with a UNICEF-supported tracer study implemented by the Research Division on Ethnic Minority Education to track students who received a bilingual education at the following grades (Research Division on Ethnic Minority Education, 2018; Research Division on Ethnic Minority Education & UNICEF, 2019). It was a significant research with new initiatives about access to education for ethnic minority students. Its main content is to promote mother tongue-based bilingual education to provide access to Vietnamese and scientific knowledge. Currently, this model is still being applied and replicated in ethnic minority areas. The achievements and lessons learned from a serious, meticulous, and methodical research process are significant in educating ethnic minority students. Therefore, they should be further researched by policymakers, international partners, and non-governmental organizations to promote equity and quality education for ethnic minority students, contributing to the socio-economic development of Vietnam in general and ethnic minority areas in particular.

Overview Of Bilingual Education In Vietnam

Vietnam is a multi-ethnic nation (ethnic groups) with eight language groups, including (1) Vietnamese-Mường language group (four ethnic groups), (2) Tày-Thái language group (eight ethnic groups), (3) Mông-Dao language group (three ethnic groups), (4) Malayô- Polinêsian language group (five ethnic groups), (5) Hán language group (three ethnic groups), (6) Tạng-Miến language group (six ethnic groups), (7) Mixed language group/Ka-đai (four ethnic groups), and (8) Môn-Khmer language group (21 ethnic groups).

Each ethnic group in Vietnam has its own language (mother tongue) and some have their own written mother tongue languages. Mother tongue is commonly used in communication and community activities. The Vietnamese Constitution stipulated that "Vietnamese is the national language" to unify in social management. Therefore, Vietnamese is the official language used in schools and other educational institutions (the language of teaching and learning). Teaching and learning in foreign languages in schools and other educational institutions shall be stipulated and regulated by the Government. The Government also regulates the teaching and learning of spoken and written languages of ethnic minorities. Thus, in Vietnam, for ethnic minority people, Vietnamese is the second language (L2) and their ethnic minority languages (mother tongues) are the first language (L1).

Vietnamese law allows teaching ethnic minority languages (L1) in schools and educational institutions as an optional subject. Therefore, the use of two languages (ethnic minority language and Vietnamese) in teaching in ethnic minority areas has been studied and experimented in Vietnam since the 1950s with different approaches.

Early transitional bilingual education (1955-1960)

Early Transitional Bilingual Education (weak bilingual education) was experimented in the northern mountainous provinces, with two language groups as Mông-Vietnamese and Thái-Vietnamese. From the beginning grade (corresponding to the current five-year-old kindergarten), grade 1 and grade 2, the teaching language is ethnic language (mother tongue - first language - L1). Vietnamese (second language - L2) is taught for listening and speaking skills. In grade 3 and grade 4, the teaching language is Vietnamese (L2). Teaching materials were compiled according to the requirements of the national education program. Documents are compiled in ethnic languages for beginning grade, grade 1 and grade 2 while they were compiled in Vietnamese for grade 3 and grade 4.

There were three advantages of the Early Transitional Bilingual Education. Firstly, learning in their mother tongue in the first two years helped ethnic minority students overcome language barriers and improve the quality of education. Secondly, learning to listen and speak in Vietnamese for two years before using Vietnamese as the learning language helped students reduce their learning pressure. Thirdly, it also helped students understand and to be proud of their own culture.

However, there were some limitations of the Early Transitional Bilingual Education. Firstly, the program did not develop its own teaching materials but translated the textbooks of the national program, and therefore the specific requirements of bilingual education was unsatisfied as well as teaching document and methodology for ethnic minority students were unsuitable. Secondly, there was a lack of teachers who could read and write fluently in ethnic minority languages. Thirdly, teaching language transferred mechanically from mother tongue into Vietnamese (from grade 3) caused students feel frustrated and some faced difficulties in this transitional stage.

Dual bilingual education (1961-1987)

Dual bilingual education (strong bilingual education) was implemented alternatively with Tày/Nùng-Vietnamese language from 1962 to 1978 in the provinces of the Viet Bac autonomous region; Mông-Vietnamese language from 1970 to 1978 in Lao Cai, Nghia Lo, Ha Giang; Êđê-Vietnamese, Jrai-Vietnamese, and Bahnar-Vietnamese from 1982-1987 in the Central Highlands. In the beginning class, children only learnt to read and write in their mother tongue (L1) and in grade 1, children learnt to read and write in Vietnamese (L2). From grade 1 to grade 4, teaching languages were both mother tongue (L1) and Vietnamese (L2) simultaneously. Teaching materials were developed in both ethnic languages and Vietnamese. In the beginning class, the language of teaching is mother tongue. In grades 1 and 2, mother tongue was used mainly and Vietnamese was supplemented. On the contrary, in grades 3 and 4, Vietnamese played a main role and mother tongue played a supplemented role. Students learnt to speak Vietnamese at all levels (from grade 1 to grade 4) to improve their Vietnamese competency.

There are two advantages of the dual bilingual education. Firstly, teaching materials were compiled in both mother tongue and Vietnamese. Teaching language was both mother tongue and Vietnamese. In grades 1 and 2, the use of mother tongue was more than the use of Vietnamese. In grade 3 and grade 4, the use of mother tongue was less than the use of Vietnamese. Vietnamese was studied as a subject from grade 1 to grade 4 to enhance students' Vietnamese competency. Secondly, students understood and became proud of their own culture.

However, there were limitations of the dual bilingual education. Firstly, dual bilingual education was implemented for a quite long time (more than 20 years) but then stopped without replication because the quality of education was not much improved and students also faced the difficulties similar to those experienced in the early bilingual education. Secondly, teaching materials are less suitable for teaching because they were not compiled separately but translated from textbooks of the national program.

Jrai - Vietnamese transitional bilingual education (1998-2004)

Bilingual education taught as a transition was experimented with Jrai-Vietnamese languages in two primary schools in two districts of Chu Pá and Chu Sê in Gia Lai province. In the 1st semester of grade 1, students learnt to read and write in Jrai language (L1) and listen to and speak in Vietnamese. In the 2nd semester of grade 1, students learnt to read and write in Vietnamese (L2). In grades 1 and 2, the language of instruction was Jrai (L1). From the 2nd semester of grade 2, the teaching language of Math was Vietnamese (L2). From the 2nd semester of grade 3, the teaching language of all subjects was Vietnamese and Vietnamese and Jrai continued to be taught as a subject until the end of grade 5. Teaching materials were compiled in Vietnamese and ethnic languages based on the national education program. From grade 1 to grade 3, documents were compiled in ethnic languages or Vietnamese, while from grade 4 to 5, they were compiled in Vietnamese.

There were three advantages of the transitional bilingual education. Firstly, it covers the elements of both the early bilingual education (weak bilingual education) and the dual bilingual education (strong bilingual

education). It also tackled the limitation of the previous models: teaching materials for grades 1, 2, and 3 newly compiled met the specific requirements of bilingual education and therefore teaching methods were also suitable for students. Secondly, it helped Jrai students remove language barriers and improve the quality of education in their early schooling years. Thirdly, it also helped them understand and be proud of their own culture.

There were some limitations of the transitional bilingual education. Firstly, it was too early to learn to read and write in Vietnamese (L2) from the 2nd semester of grade 1 because students had not finished learning the Jrai phonetic part. This caused pressure and overload because students had to learn to read and write in both Jrai and Vietnamese languages. Secondly, the transition of teaching language from mother tongue to Vietnamese was done mechanically (from 2nd semester of grade 2 for Math and from 1st semester of grade 3 for all subjects). Some students encountered difficulties in this early stage. Thirdly, the grade 4 and 5 documents were not newly compiled but followed the national curriculum documents. Therefore, teaching materials and methods were not suitable. In addition, there were difficulties in terms of teachers' linguistic competence (L1), teaching materials, teaching equipment and facilities, and financial resources.

However, when finishing the program, students in the experimental classes still achieved quite good learning results. This contributed as a valid evidence for the statement "better do something than nothing" when implementing bilingual education. Therefore, the model of mother tongue-based bilingual education was implemented to fill the gaps of the previous bilingual education models to help ethnic minority children access to knowledge.

METHODOLOGY

Research design

The model of mother tongue-based bilingual education (see Table 1) was designed continuously from five-year-old kindergarten to the end of primary school (grade 5).

Table 1: Model of mother tongue-based bilingual education

Preschool	Primary school				
Five-year-old kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Mother tongue/ Vietnamese	Mother tongue	Mother tongue	Mother tongue	Mother tongue	Mother tongue
	Mother tongue	Mother tongue	Mother tongue	Mother tongue/ Vietnamese	Mother tongue/ Vietnamese
	Vietnamese	Vietnamese	Vietnamese	Vietnamese	Vietnamese

Mother tongue (first language - L1)

Mother tongue was taught as a subject. In the first year (five-year-old kindergarten), children learnt to listen and speak. In the following five years (from grade 1 to grade 5), they learnt all four skills (listening, speaking, reading, and writing). By the end of grade 5, students had six years of learning and using mother tongue. Their mother tongue was therefore firmly consolidated and they had enough competence to communicate, acquire knowledge and develop their cognitive skills.

Vietnamese (second language - L2)

Vietnamese was taught as a subject. In the first three years (from five-year-old kindergarten to the end of grade 2), students only learnt listening and speaking skills. In the next three years (from grade 3 to grade 5), they learnt all four skills of listening, speaking, reading and writing. After six years of learning Vietnamese, plus the complementary role of mother tongue, students learnt Vietnamese quickly and effectively. By the end of grade 5, students met the standard requirements of knowledge and Vietnamese competence as required by the school level.

Mediums of instruction (L1 and L2)

From five-year-old kindergarten to grade 3, the language of instruction was the mother tongue. From grade 4 to grade 5, the language of instruction included both mother tongue and Vietnamese. Vietnamese was gradually being used as the main teaching language while mother tongue had a supporting role. This model addressed the mechanical fragmentation in using teaching language happened with the transitional bilingual education. Both mother tongue and Vietnamese were always used very flexibly, supporting each other to help students firmly absorb knowledge and develop their cognitive ability. For this reason, this approach is also known as flexible bilingual education.

The model of mother tongue-based bilingual education was implemented according to the experimental research method, a research method that created interventions on a small scale with activities to solve problems arising in teaching practices, educational management, or problems that arise when conducting research in the fields.

Therefore, the practical research helped the successful implementation of the model of mother tongue-based bilingual education.

Research location and sampling

Research location

The model of mother tongue-based bilingual education was conducted in three provinces representing three regions with extremely difficult socio-economic conditions of Vietnam, including Lao Cai province (Northwest region), Gia Lai province (Central Highlands), and Tra Vinh province (South West region). These are also the regions with the highest proportion of ethnic minority students in the country. Selected ethnic minority students were the Mong students in Lao Cai, Jrai students in Gia Lai, and Khmer students in Tra Vinh (see Table 2).

Table 2: The research locations

No.	Region	Province	District	Commune	Ethnic minority
1	Northwest	Lao Cai	Sa Pa	Lao Chải	Mông
			Bắc Hà	Bản Phố	Mông
			Simacai	Sín Chéng	Mông
2	Central Highlands	Gia Lai	Ia Grai	Ia Der	Jrai
			Chư Păh	Ia Phí	Jrai
3	South West	Tra Vinh	Cầu Ngang	Nhị Trường	Khmer
			Trà Cú	Hàm Giang	Khmer
Three regions		Three provinces	Seven districts	Seven communes	Three ethnic minorities

Selected schools and classes

Schools and classes were selected in a way that the sample met scientific, educational and practical requirements (see Table 3). With preschool level, seven schools were selected, with 13 classes (batch 1) and 13 classes (batch 2). With primary education level, eight primary schools were selected, with 14 classes (batch 1) and 14 classes (batch 2).

Table 3: Selected schools and classes

No.	Commune	Kindergarten school	Number of preschool classes		Primary school	Number of primary classes	
			Batch 1	Batch 2		Batch 1	Batch 2
1	Lao Chải	Lao Chải	1	1	Lao Chải	1	1
2	Bản Phố	Bản Phố	2	2	Bản Phố	2	2
3	Sín Chéng	Sín Chéng	2	2	Sín Chéng 1	2	2
4	Ia Der	30-4	2	2	Ngô Mây	1	1
					Lý Tự Trọng	1	1
5	Ia Phí	Ia Phí	2	2	Ia Phí	2	2
6	Nhị Trường	Nhị Trường	2	2	Nhị Trường B	2	2
7	Hàm Giang	Hàm Giang	2	2	Hàm Giang B	3	3
Total			13	13		14	14

Selected students

By design, the model of mother tongue-based bilingual education model was implemented for preschool five years old to the end of primary school. Therefore, students at preschool (five years old) and primary school students (see Table 4 and Table 5). With preschool level, the model was implemented for five-year-old children. Batch 1 had 261 children and batch 2 had 259 children. The total was 520 children, including 270 girls (51.92%), 184 Mong children (35.38%), 159 Jrai children (30.57%), and 177 Khmer children (34.04%). With primary education level, batch 1 had 262 students and batch 2 had 248 students. There were 510 students in total, including 278 girls (54.51%); 183 H'Mong students (35.88%), 152 Jrai students (29.80%), and 175 Khmer students (34.13%).

Table 4: Selected preschool children aged five years old

TT	Province	Batch 1		Batch 2		Total (2 batches)	
		Total	Girls	Total	Girls	Total	Girls
1	Lao Cai	94	45	90	42	184	87
2	Gia Lai	80	50	79	29	159	89
3	Tra Vinh	87	41	90	53	177	94

Total	261	136	259	134	520	270
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Table 5: Selected primary school students

TT	Province	Batch 1		Batch 2		Total (2 batches)	
		Total	Girls	Total	Girls	Total	Girls
1	Lao Cai	94	45	89	44	183	89
2	Gia Lai	80	50	72	44	152	94
3	Tra Vinh	88	41	87	54	175	95
Total		262	136	248	142	510	278

RESULTS

Results of preschool five-year-old children

The researchers surveyed and assessed the competence of preschool children at five years old at the beginning and end of the school year, findings are as follows (Research Center for Ethnic Minority Education, 2015):

1. Language and communication competencies

Mother tongue (ethnic minority language): The children's native language capacity is well developed; they can communicate in mother tongue quite fluently. They know how to express their thoughts, use language to describe actions, and tell them quite well and attractively. In communication, children show some civilized behaviors: listening attentively to other people, showing gestures when communicating, ... Children familiarized themselves with mother tongue letters: recognizing, pronouncing letters, seeding, writing, coloring letters quite well, knowing how to handle and turn the book in the right direction.

Vietnamese: Majority of children were bold and relatively confident when answering questions in Vietnamese. Children listened and could understand simple sentences, use sentences in communication and expression of thanks and excuses, answer simple questions, who is this? what is this? what animal is this?... Children were relatively bold and flexible, they knew how to use the word in mother tongue instead of a few Vietnamese words that they forgot and when prompted, they immediately recalled and answered the question correctly. Children had the ability to listen and understand contents of a simple and familiar story in Vietnamese (they had heard this story in mother tongue).

2. Capacity development

Physical development: Majority of children were in good health physically, had well-developed body, could perform many activities but were not tired, perform some hand movement skillfully, know how to provide self-service and hold a pen for coloring, can do quick and neat coloring, and can participate in activities at the request of teachers. Children knew how to take care of themselves in terms of nutrition, personal safety and hygiene and environmental sanitation.

Awareness: Majority of children had good understanding about family relationships which was demonstrated by their ability to respond fairly fluently to some information about simple human-to-human relationships in a family and attachment among family members: parents, grandparents, parents, and siblings. Children knew themselves, liked to learn about surrounding things and phenomena, natural social environment, and could talk about their preferences. Children initially recognized the development of plants and animals, and named days of the week. Children loved to explore and seek understanding. They knew how to ask questions and liked to touch and disassemble things. They knew how to count numbers, divide numbers into 02 parts, and compare and name geometries. They were aware of colors and sizes. Children developed attention, intentional memory and logical thinking.

Social feelings: Children knew how to express their emotions, they were bold, innocent, had a respectful and polite attitude towards the elderly, and could keep toys in the classrooms. Children knew themselves and their sex, knew how to show their feelings to teachers, friends and people around them, help their friends, and cooperate when playing with friends.

Aesthetics: Children knew how to feel the beauty of the nature and life, loved new things, and knew how to create beautiful products to show to teachers and family members. Children knew how to sing with affection the songs they knew and create shaped products as requested or as they liked.

Although the scale was not large, the results of education at preschool level confirmed the educational effectiveness of the mother tongue-based bilingual education model. The five-year-old children were developed in a comprehensive way. Especially, their language ability, both Vietnamese and mother tongue, was better than those who did participate in the model (see Figure 1).

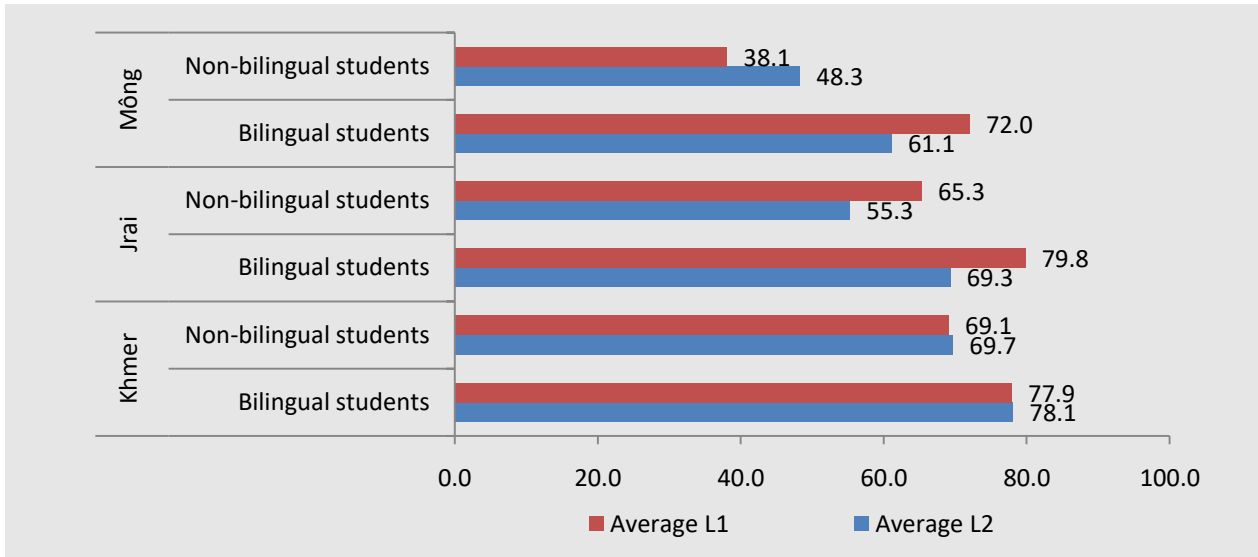


Figure 1: Results of L1 and L2 language proficiency assessments of 5-year-old children with and without bilingual education (Research Division on Ethnic Minority Education, 2015)

Results of Primary education students

The mother tongue-based bilingual education model in primary schools is a continuation (transition) of twobatches offive-year-old preschool children who attended the bilingual education program (batch 1: 262 students in 2009-2014 school year and batch 2: 248 students in 2010-2015 school year.

Primary school students' educational outcomes and growth were assessed by the schools (annually), the Project Steering Committee, Department of Primary Education (midterm and final term) (Department of Primary Education, 2014) and international assessment organization (Capra International Inc-Contractor Number 2300076425).

The quality of education for bilingual students was higher than that of non-bilingual students in the same school in terms of academic performance, quality development, competence and diligence:

1. The attendance rate of bilingual students was very high, up to 99% - 100%. During their study, they participated actively, had a sense of self-study, their quality of learning was sustainable and more effective than non-bilingual students in all aspects: acquiring knowledge, developing capacity, intellectual development; boldly confident in communication. They had a sense of training themselves in all aspects, participated in school activities boldly, confidently, actively and effectively. There were no students who violated the rules of the school. All (100%) of bilingual students were rated “satisfactory” in term of self-training.
2. The learning results of bilingual students were assessed annually, the rate of students ranked “excellent” and “good” was high, the rate of those ranked “weak” was very low or zero. This achievement was not achieved by any other educational model piloted in ethnic minority areas (see Figure 2, 3, 4, and 5).

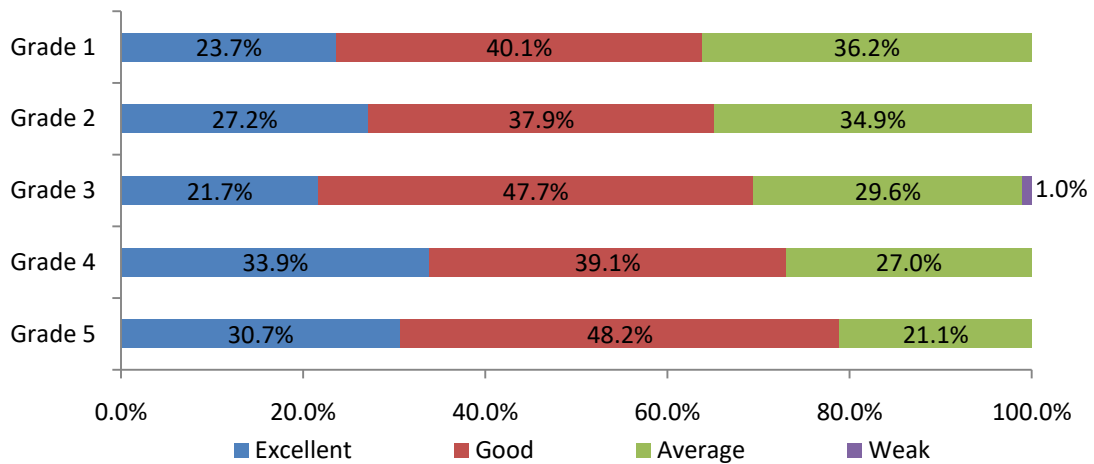


Figure 2: Results of primary education students_ Batch 1 (2009-2014) (Research Center for Ethnic Minority Education, 2015)

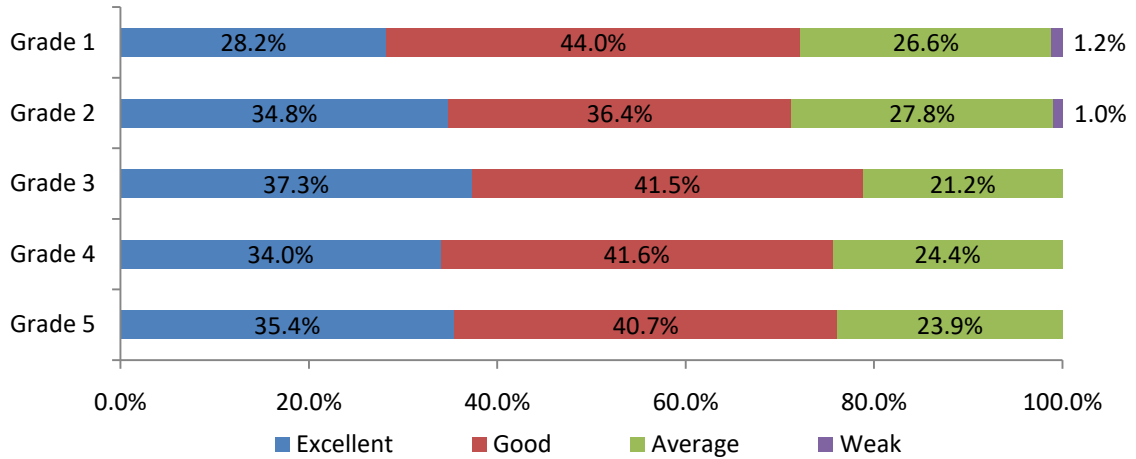


Figure 3: Results of primary education students_ Batch 2 (2010-2015)(Research Center for Ethnic Minority Education, 2015)

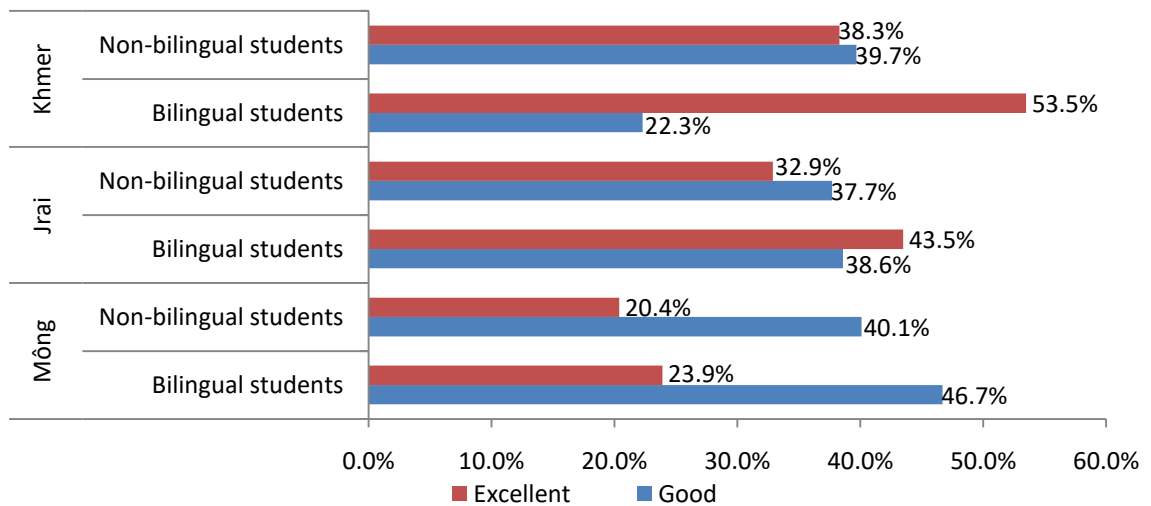


Figure 4: Comparing the ratings as excellent/good for Vietnamese subject in grade 4 between bilingual and non-bilingual students (group 1)(Research Center for Ethnic Minority Education, 2015)

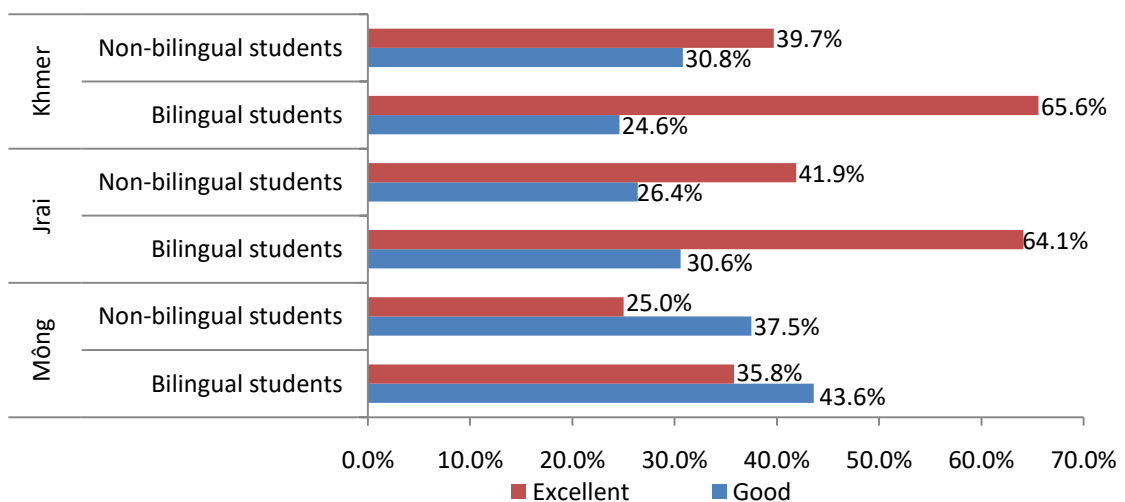


Figure 5: Comparing the ratings as excellent/good in Grade 4 math between bilingual and non-bilingual students (group 1)(Research Division on Ethnic Minority Education, 2015)

The learning results of bilingual students were periodically evaluated by the Primary Education Department and compared with the learning results of non-bilingual and Kinh students (in urban areas). The results showed that the learning results of bilingual students were higher than those of non-bilingual students and close to those of Kinh students (see Figure 6 and Figure 7 for 2012 assessment results of grade 1 and grade 2 Math, and Figure 8 and Figure 9 for assessment results of grade 3 and grade 4 language ability)

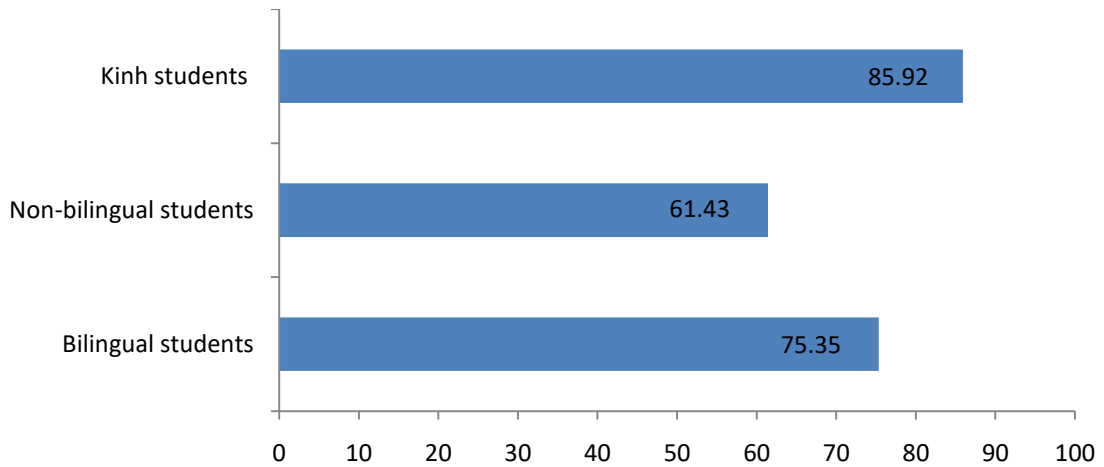


Figure 6: GPA Grade 1 Mathematics (Department of Primary Education, 2014)

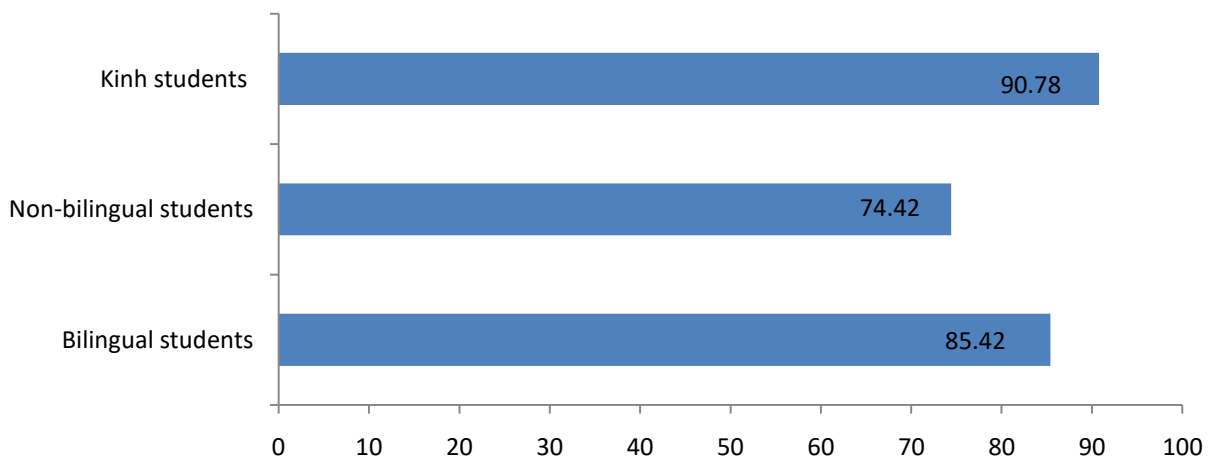


Figure 7: GPA Grade 2 Math (Department of Primary Education, 2014)

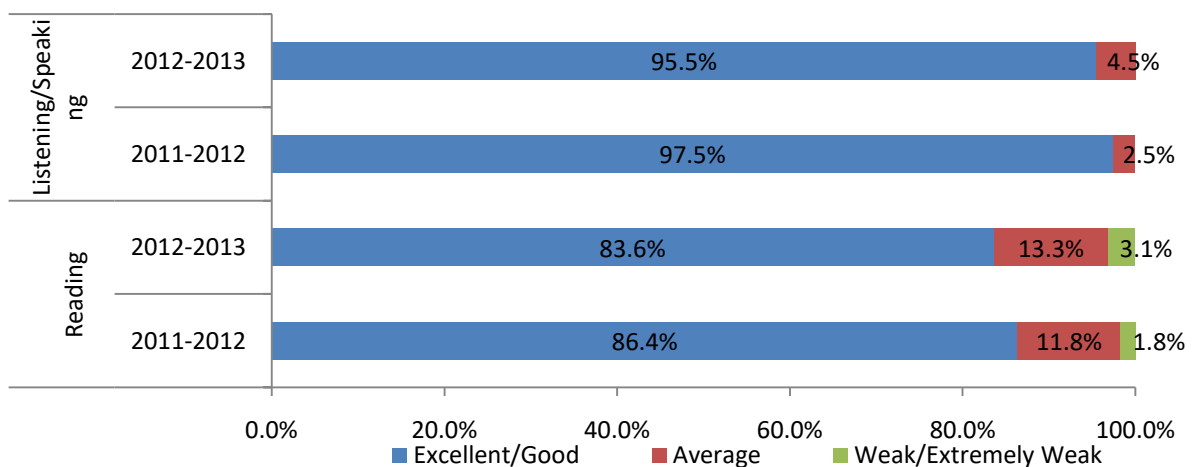


Figure 8: Assessment results of mother tongue (L1) competency of bilingual students (Department of Primary Education, 2014)

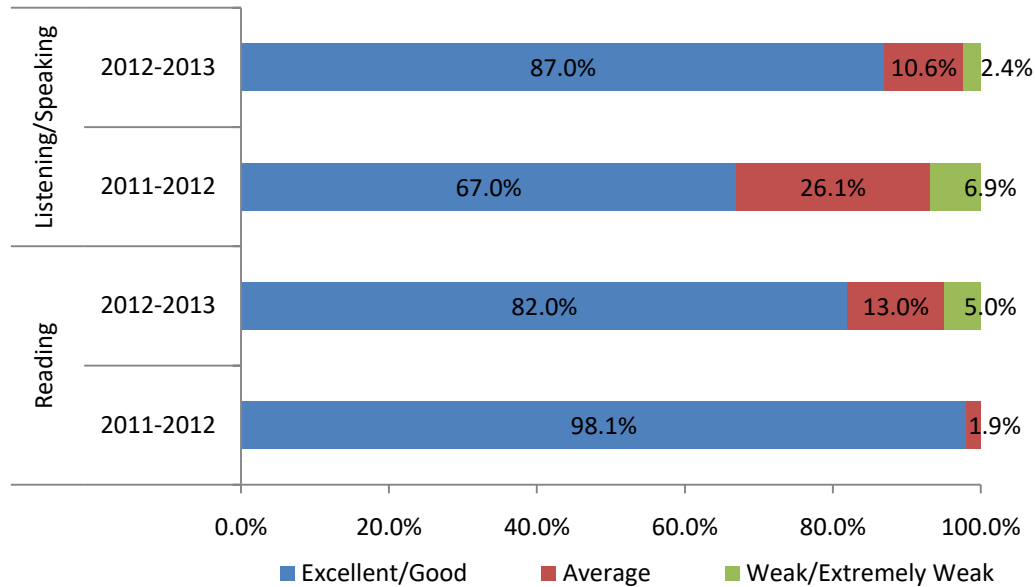


Figure 9: Assessment results of Vietnamese (L2) capacity of bilingual students (Department of Primary Education, 2014)

The pilot phase of the mother tongue-based bilingual education model was completed in 2015. Education results confirmed the role of the program in improving the quality of education, affirming that the bilingualism-based approach is appropriate and feasible for ethnic minority students (for ethnic minorities that have their writing scripts). Management capacity of teachers and administrators in participating primary schools was improved. They could organize the teaching process in a way that is suitable for ethnic minority areas. Their capacity to adjust behaviors was improved thanks to the practical research. The community and the parents of students turned from suspicion initially to absolutely trust in the program because they were involved in the education of their children and their children became bilingual individual language (fluent in both native language and Vietnamese) with good academic results.

The achievements were not only with the participating students but also replicated to other groups of students in Lao Cai province (1,300 Mong students) and An Giang province (403 Khmer students). Initial results of these student groups were assessed as effective and positive as reported by schools.

The bilingual students who were to transit to lower secondary schools would be integrated: language integration (studying in the same class with non-bilingual students), ethnicity integration (attending the same school with friends from other ethnicity), content and curriculum integration (using national general education program); integration in teaching methods and organization in lower secondary schools ... So, how would they absorb knowledge, develop qualities, abilities and personality? How the "capital" obtained from primary education schools would help them at lower secondary level? The answers can be found in the next parts.

Results of bilingual students at lower secondary level

The assessment was conducted at the end of 2018 by the Ethnic minority education division and funded by UNICEF at seven schools, seven communes, seven districts in three provinces of Lao Cai, Gia Lai, and Tra Vinh with all students who participated in the mother tongue-based bilingual education model at their preschool and primary schools and controlled with non-bilingual students from 2015-2019 (Research Division on Ethnic Minority Education and UNICEF, 2019). Methods used included:

1. Quantitative method: Secondary data included retrospective information obtained internally from schools such as: competencies and qualities of students participating in the program and control students; research reports on the results of bilingual students lower secondary education in 2015, 2016, and 2018; final report on implementing the mother tongue-based bilingual education model in 2015; internal and external evaluation reports of The mother tongue-based bilingual education model... Primary data included test scores/survey results (subjects ...) for samples of research groups and control groups (Quantitative data was processed and analyzed using SPSS software).
2. Qualitative method: Primary data included information obtained from in-depth interviews, group discussions, observations, multiple-choice questionnaires, questionnaires, information collection forms and other activities. Secondary data were the scientific reports related to the research topic (Qualitative data are processed and analyzed by using IF software).

3. Research methods on language, culture, psychology... were used in the process of conducting surveys in the fields, in data analysis and processing.

Quantitative research sampling: (a) Research team: All students who participated in the mother tongue-based bilingual education model at preschool and primary school, (b) Control group: students who did not participated in the program at preschool and primary school in the same class/school and also followed the national education program at the lower secondary level. Only for the survey activity (for the tests): male/female students (both bilingual and non-bilingual) were randomly selected from the list of classes participating in the tests (ensuring the ratio of 1/2 bilingual students).

Qualitative research sampling: For activities of interview/discussion/survey, school-level administrators, teachers participating in teaching bilingual classes, parents of bilingual students and non-bilingual students were randomly selected. The research results ensured the research ethics compliance by the researchers and informants.

Subject of study: Impacts of the mother tongue-based bilingual education model on the development (qualities and competencies) of Mong, Jrai, and Khmer children who studied bilingual education at preschools and primary schools in the 2008-2015 period and transitioned to lower secondary schools and studied the national education program in the 2014-2019 period (see Table 6).

Table 6: Learning process of bilingual students

TT	School year	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Students participated in the mother tongue-based bilingual education model								
1	Batch 1	Preschool 5 year old	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	
2	Batch 2		Preschool 5 year old	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5

Table 6: Learning process of bilingual students (Continued)

TT	School year	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Students studied the national education curriculum								
1	Batch 1	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
2	Batch 2		Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11

Achievements

Firstly, the learning and self-training results of the participating students in the 4 years at lower secondary school were higher/better than others in the same class, the same school and the same locality.

This result was evidenced by the students' annual academic performance and conduct assessment, control test results, evaluation by school, family and community. The reason why bilingual students had higher / better results was that students enjoyed a relatively solid knowledge base from five-year-old preschool and primary school thanks to their participation in the mother tongue-based bilingual education model. Vietnamese was no longer a "barrier" in acquiring knowledge for bilingual students, because by the end of primary school (grade 5), students could meet and exceeded standards for Vietnamese language. On the other hand, their mother tongue was solid and played a supporting role for students to develop their thinking capacity.

Secondly, qualities (patriotic; compassionate; hardworking; honest and responsible) of the lower secondary students were developed fairly evenly and rated better than non-bilingual ones.

Although each student might not meet all the requirements for each quality, but they satisfied the basic requirements and achieved at a higher/better level than those without bilingual education in the same class, same school and same ethnic group. The results assessed by their own and teachers demonstrated the development of students' qualities. For example, the hardworking quality was demonstrated by the students' fully realizing that they must study hard for high results, and must study well for a bright future. This is a huge change in ethnic minority students' perception. The manifestations of qualities such as hardworking, responsibility to themselves, their families and their younger siblings... were the cultural features of each ethnic group inherited and developed in them in the education process at school. Especially, the process of learning mother tongue-based bilingual education in preschool and elementary schools helped them consolidate and develop those qualities.

Thirdly, competencies (autonomy and self-study; communication and collaboration; problem solving and creativity; language; computation; nature and society; technology; informatics; aesthetics and fitness) of the lower secondary students were well developed and assessed as better than non-bilingual students.

As well as qualities, there are general and specific competencies that lower secondary education students are not good at yet. However, the capacity development (for both general and specific competencies) of the bilingual students is assessed as higher/better than non-bilingual students in the same contexts. Self-consciousness and

effort to study among ethnic minority students, especially those who study at ethnic minority semi-boarding and boarding schools were the big changes in their awareness, learning spirit and attitude. Most of the children know how to set learning goals to strive to "learn for a better life in the future". The mother tongue-based bilingual education in preschools and primary schools helped children develop their ability to communicate and cooperate, which was easy to witness when interacting with bilingual students. They could use two languages to communicate with each other and with others (researchers). Problem-solving and creativity capacity were developed among ethnic minority students in general and bilingual students in particular. They knew how to analyze situations and identify problems in learning (witnessed by class monitoring). The language capacity of the bilingual students was superior to that of non-bilingual ones. They were proficient in using mother tongue (four skills), their Vietnamese capacity continued to be strengthened and developed in lower secondary school on the basis of the (standard) Vietnamese gained at preschool and primary school. Many students are very good at Vietnamese at school, district and provincial levels. Good capacity in terms of mother tongue and Vietnamese helped them learn foreign languages better (such as Mong students in Lao Cai province). Their mathematical thinking capacity developed well because they had two tools for thinking, namely, mother tongue and Vietnamese, which was not the case for non-bilingual students.

Fourthly, managers and teachers in lower secondary schools understood the role and effectiveness of the mother tongue-based bilingual education in improving the quality of education at lower secondary schools, and improved awareness of the mother tongue-based bilingual education and saw the need to implement the mother tongue-based bilingual education in preschools and primary schools.

The improvement in learning results, quality and capacity of the bilingual students who attended the mother tongue-based bilingual education in two batches at lower secondary level were undeniable. This helped educational managers and teachers see the fact that if the results of education in primary schools was good, it would be a premise for good educational results at lower secondary and higher education levels. About the mother tongue-based bilingual education, many teachers admitted that "why such a good program is not continued" (extracted from interviews with teachers in Gia Lai province). Majority of active student team leaders, excellent students in Vietnamese, math and other subjects being bilingual students, which changed managers and teachers' perceptions of a quality, effective and sustainable educational approach to ethnic minority education, towards the mother tongue-based bilingual education.

Next, the educational results and development in quality, capacity and personality of bilingual students in lower secondary schools changed their parents and the community's perception from suspicions initially to trust and desire to continue the mother tongue-based bilingual education implementation.

Initially, many parents and communities were concerned about the mother tongue-based bilingual education (learning in ethnic minority language might not help know Vietnamese). However, they completely believed in the program and wanted to continue the bilingual education for their children, so that they were not only good at Vietnamese also the ethnic minority languages, they could study hard and study. The 2nd objective of the mother tongue-based bilingual education, which was to preserve, promote and develop the ethnic minority languages and cultures, were carried out in the program, developing bilingual individuals. Ethnic minority people could see that their children were the ones who preserved the ethnic minority scripts that their parents' generation could not do yet.

Finally, educational managers, policy makers saw the appropriateness the mother tongue-based bilingual education for ethnic minority students, properly appreciated its roles and benefits in improving the quality of ethnic minority education.

The method to teach Vietnamese as a second language for ethnic minority student, which is the teaching method introduced by the mother tongue-based bilingual education program has been trained for primary school teachers working in ethnic minority areas.

Decision No. 404/QĐ-TTg dated March 27, 2015 issued by the Prime Minister approved the project of renewing general education curriculum and textbooks. The project included "compiling and testing a set of textbooks (organized by the Ministry of Education and Training), including bilingual textbooks (Vietnamese and languages of some ethnic minorities) for several subjects at primary education level; compiling and testing electronic textbooks." Thus, the Vietnamese - ethnic minority bilingual textbooks was one of the three types of books compiled under the new general education curriculum.

The Education Law 2019 (effective from July 1, 2020) stipulated that: "The method of general education promotes the activeness, self-awareness, initiative and creativity of students in accordance with the characteristics of the subjects, classes and student characteristics".

Challenges

Firstly, learning results of some bilingual students in their four years in lower secondary education was not yet higher/better than non-bilingual students in the same class, the same school and the same locality; there were some who dropped out.

Causes to this problem came firstly from students themselves. They were not hardworking enough and spent too much time for playing, which made their learning results low. It was also because of their locality and family's socio-economic conditions, some of them spent their time working to support their family, take care of their children, or take care of themselves. when their parents worked far away from home for a long time (in Tra Vinh and Lao Cai provinces). This however showed the development of their qualities and competences, children were aware of their role and responsibility in the face of family and personal difficulties. Thus, living conditions, learning conditions of students, care by the family and community... were important factors to maintain the positive effects of the mother tongue-based bilingual education in the lower secondary trade in a sustainable way.

Secondly, the development of quality, capacity and personality of a part of bilingual students in lower secondary school was not yet better than that of non-bilingual ones.

The reason mentioned was from the students themselves, and from school, family, community and local socio-economic conditions. They did not study hard, so the qualities and capacities were limited, and vice versa, limited capacity affected learning results. Responsible authorities did not understand fully about the mother tongue-based bilingual education and its fundamental role for lower secondary education, so there were not yet suitable educational solutions to explore and promote the students' focal roles in education in each class at lower secondary education. Family economic conditions and local socio-economic development did not create conditions for bilingual students to develop quality and capacity.

Thirdly, the exploration and use of the positive elements of the mother tongue-based bilingual education at lower secondary school was not been paid much attention.

First was the language issue. When students started lower secondary education, the problem of mother tongue was almost ignored in the educational process. Students could not continue learning their mother tongue. Mother tongue was no longer a tool to assist in students' acquiring knowledge and thinking, or just individual or self-development if any. Vietnamese was still being learnt and was the main language to develop their thinking tool, but the method of teaching Vietnamese as a second language for ethnic minority students introduced by the mother tongue-based bilingual education was not yet applied at lower secondary level.

DISCUSSION

The mother tongue-based bilingual education model was experimented with 262 ethnic minority children (batch 1) and 248 children (batch 2) of three ethnic minority groups of Mong, Jrai and Khmer scripts in three provinces representing three Northwest regions (Lao Cai province), the Central Highlands (Gia Lai province), the South West region (Tra Vinh province). Young families resided in especially difficult socio-economic regions during 2008-2015. This was followed by a trace study at lower secondary education for students who participated the mother tongue-based bilingual education at preschool and primary education levels from 2015-2019. The main goal of the mother tongue-based bilingual education was to help ethnic minority children access Vietnamese scientific knowledge quickly and smoothly based on their mother tongue.

The mother tongue-based bilingual education model is an appropriate solution to develop languages (both L1 and L2), improve the quality of education for ethnic minority children (EM), and provides an educational environment in which the language of ethnic minority children is developed comprehensively and firmly. On the basis of their mother tongue (L1), ethnic minority children not only learn Vietnamese (L2) well but can also learn foreign languages well (L3). The experiment results confirmed that "the mother tongue-based bilingual education model" is an appropriate and feasible approach for the ethnic minority area in Vietnam. The research stemmed from linguistic, psychological and educational bases and inherited the positive aspects of the previous approaches to bilingual education. Therefore, it could address all the shortcomings and problems of the early, dual, and transitional bilingual education approaches. The mother tongue-based bilingual education model helped ethnic minority children become bilingual individuals: Ethnic language (mother tongue) and Vietnamese. Therefore, the selection of an appropriate and feasible bilingual education model is the first important condition to ensure effective implementation later.

The mother tongue-based bilingual education model removed language barriers for ethnic minority children, created a premise for learning Vietnamese and other subjects at the school levels. It helped teachers be proactive, active and creative in teaching, and can use both languages. The integration and friendliness took place right from the first day in school, the teacher-student gap was almost nonexistent, because teachers understood students and students understood their teachers. Students had access to educational equity, dynamism and creativity in learning. The mother tongue-based bilingual education contributed to preserving, promoting and developing languages and cultures of ethnic minorities: The model produced at least two experimental batches of more than 500 students who were proficient in all four skills. listening, speaking, reading and writing the national language. Ten years later, these bilingual students would be a good human resource to supplement the ethnic minority intellectuals who can read and write well in their ethnic minority languages. It is a model that closely connects schools, families and communities. Being a children and community-center, the mother tongue-based bilingual education model attracted the community's attention and active participation in learning

activities for their children's education; The model received support from government agencies, community and international organization, confirming its scientific, practical relevance for ethnic minority education.

The quality of education of students who participated in the mother tongue-based bilingual education model in primary schools and transitioned to a higher level of education (attending secondary school) outperformed that of the non-bilingual ones. It was assessed by schools and proved by research that: Students who participated in the mother tongue-based bilingual education in primary schools and transitioned to lower secondary schools had a solid Vietnamese language capital because they learnt in mother tongue before studying Vietnamese in primary schools. Therefore, the students studying at the lower secondary school level could quickly absorb knowledge of the subjects and achieve better results. In addition to acquiring knowledge, bilingual students also had outstanding capacities in confidence, agility, handling situations, and group cooperation activities... School managers, teachers, communities, and parents were also interested and excited about the learning outcomes of bilingual students. Bilingual students contributed to maintaining class sizes, attendance rate, and higher academic performance than in previous years in schools. The knowledge and skills bilingual students acquired in primary school positively changed the attitudes and behaviors of bilingual students enrolled at lower secondary school in their future and career orientation.

However, Vietnam is implementing a general education curriculum. To sustainably develop the mother tongue-based bilingual education in ethnic minority and mountainous areas of Vietnam, it is necessary to adjust the curriculum, textbooks and teaching materials, and build capacity for teachers.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The mother tongue-based bilingual education model not only helps ethnic minority children access to Vietnamese (not their mother tongue) and scientific knowledge quickly and smoothly, creating a solid foundation of knowledge and skills for higher levels of education but is also a means of conserving and promoting cultural values (languages) of ethnic minority groups in a sustainable way, contributing to socio-economic development together of the country.

The learning outcomes of students who participate in the mother tongue-based bilingual education in preschool and primary schools and transitioned to higher levels of education outperformed the results of non-bilingual students. This result is an evidence supporting the continued implementation of the mother tongue-based bilingual education in a broader scale, appropriately applying to the country education system in the context of educational reform, creating a solid foundation for students to acquire knowledge at lower secondary and higher levels of education.

RECOMMENDATIONS

Continuing communication to raise awareness for managers, teachers, communities and society in forms of national seminars and conferences, study visit to learn experience; develop a set of documents on the mother tongue-based bilingual education (with adjustments and supplements to meet the requirements of the educational reform and the new general education program).

Assessing the ability to use language (mother tongue) of five-year-old children at preschool for ethnic minorities that have scripts (except for the three ethnic groups of Mong, Jrai and Khmer that were researched on) to implement the mother tongue-based bilingual education for five-year-old ethnic minority children at preschool level.

Continuing to implement the mother tongue-based bilingual education in ethnic minority areas on a larger scale, with contents suitable to meet the requirements of educational reform and bilingual textbooks of the new general education program, improving the quality of primary education, creating a sustainable foundation for acquiring knowledge and developing the quality and capacity of ethnic minority students at higher levels of education.

Continuing to study the development of ethnic minority students (Mong, Jrai, Khmer) who participated the mother tongue-based bilingual education at preschool and primary school (2008-2015), lower secondary school (2014-2019) and transitioned to upper secondary school, vocational training, or dropped out of school and returned to the locality to participate in the labor force, in order to confirm the roles and effects of the mother tongue-based bilingual education on the sustainable development of education in ethnic minority areas and the development of quality human resources of ethnic minority people.

Researching for an appropriate policy system to encourage the reform of educational approaches in ethnic minority areas in the direction of ensuring equitable, equal and sustainable development of education in ethnic minority areas, including policies for teachers, learners, policies on facilities and equipment; ethnic minority policies, regional policies and socio-economic development policies in ethnic minority areas.

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