ASSESSING THE IMPACT OF USING THE NATIONAL LANGUAGE INSTEAD OF THE LEARNERS’ MOTHER TONGUE IN PRIMARY EDUCATION IN MYANMAR

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**ABSTRACT**

This thesis examines whether learning through the mother tongue as an oral language of instruction may enhance academic achievement among the ethnic minority communities in Myanmar over learning solely through the national language. This study focuses on learners who are monolingual in Sgaw – one of the Karen language groups – and does not investigate multilingual/multicultural student populations. Furthermore, it investigates only the effects of oral instruction in the mother tongue; it does not consider the effects of using curriculum and material in the mother tongue or teaching literacy in the mother tongue.

There are two types of Grade 3 classes involved in the study. In one type of class, the teacher is bilingual in Burmese and Sgaw and uses Sgaw as an informal oral language of instruction as well as Burmese, since Burmese is the only official language of instruction. In the other type of class, the teacher uses Burmese only. This study attempts to find the answers to the questions: (1) How do test scores reflect the effect of the language of instruction on children’s learning achievement in school? (2) How does classroom interaction demonstrate the effect of the language of instruction on children’s experience of learning in school?
Ethnographic research was done to collect data from villages which consist almost entirely of the Sgaw ethnic minority people. Quantitative analysis was used to evaluate the Grade 3 test scores from 7 classes with a Burmese-speaking teacher and 12 classes with a Sgaw-speaking teacher. Qualitative analysis was carried out using the data from interviews and classroom observations. The study reveals that using only the national language in the early years in a school in a minority community impedes comprehension. On the other hand, use of the mother tongue appears to promote the development of cognitive skills as well as facilitate both the use of good teaching and learning strategies. The thesis concludes with recommendations and suggestions for further research based on the study’s findings.
บทคัดย่อ

วิทยานิพนธ์ฉบับนี้มีวัตถุประสงค์เพื่อศึกษาการเรียนรู้โดยใช้ภาษาพื้นที่เป็นภาษาแผนเป็นสื่อในการเรียนการสอนเพิ่มผลสัมฤทธิ์ทางการเรียนของชุมชนบ้านในประเทศไทยได้มากกว่าการเรียนรู้โดยใช้ภาษาประจำชาติเพียงอย่างเดียวหรือไม่

งานวิจัยนี้ศึกษาเฉพาะกลุ่มนักเรียนที่พูดภาษาสองตัวถึงเพียงภาษาเดียวซึ่งภาษาสองตัวเป็นภาษาเฉพาะในกลุ่มภาษาตะวันออกได้

มีการศึกษาถึงกลุ่มนักเรียนที่พูดได้หลายภาษาหรือที่มาจากชุมชนพื้นที่มีภาษาและมุ่งผลของการเรียนการสอนภาษาพื้นที่เป็นภาษาแผนในการเรียนการสอนโดยมีการศึกษาถึงกลุ่มนักเรียนที่มีความสามารถในการใช้ภาษาแผนได้

กลุ่มตัวอย่างในงานวิจัยนี้เป็นนักเรียนชั้นประถมศึกษาปีที่ 3 จำนวน 2 กลุ่ม กลุ่มที่ 1 ผู้สอนพูดได้ 2 ภาษา คือ ภาษาพัมพ์และภาษาตะวันออก

ผู้สอนใช้ภาษาตะวันออกเป็นภาษาพื้นที่ไม่เป็นทางการในการเรียนการสอนและใช้ภาษาพัมพ์ด้วยเนื่องจากเป็นภาษาการที่ใช้ในโรงเรียน กลุ่มที่ 2 ผู้สอนใช้ภาษาแผนเท่านั้น

งานวิจัยนี้ตัดกองการตอบคำถามต่อไปนี้ (1)

ผลคะแนนการทดสอบจะสะท้อนให้เห็นผลของการใช้ภาษาในการเรียนการสอนโดยผลสัมฤทธิ์ทาง
การเรียนของนักเรียนในโรงเรียนอย่างไร? (2)
การมีปฏิสัมพันธ์ในท้องถิ่นแสดงให้เห็นผลของภาษาที่ใช้ในการเรียนการสอนต่อประสานการณ์
การเรียนรู้ของนักเรียนในโรงเรียนอย่างไร?
การเก็บข้อมูลจากการวิจัยเชิงชาติพันธุ์วัฒนธรรม
โดยเก็บข้อมูลจากการศึกษาเพื่อให้เห็นถึงการเก็บทั้งหมดเป็นกลุ่มชาติพันธุ์ละกอ
และใช้การวิเคราะห์เชิงปริมาณในการประเมินผลคะแนนการทดสอบของนักเรียนชั้นประถมศึกษา
ปีที่ 3 จากห้องเรียนที่ผู้สอนพูดภาษาพม่าเป็นภาษาแม่ 7 ห้อง
และห้องเรียนที่ผู้สอนพูดภาษาสะวกเป็นภาษาแม่ 12 ห้อง
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LIST OF ABBREVIATIONS AND SYMBOLS

BICS = Basic Interpersonal Communicative Skills
CE = Christian Education
CALP = Cognitive Academic Language Proficiency
ECCD = Early Childhood Care and Development
KBC = Karen Baptist Convention
L1 = First language
L2 = Second language
L3 = Third language
LOI = Language of instruction
LWC = Language of wider communication
MT = Mother tongue
MTBMLE = Mother tongue-based multilingual education
NGO = Non-governmental organization
NL = National language
PCF = Pestalozzi Children Foundation
PMA = Pathein-Myaungmya Association
UNICEF = United Nations Children’s Fund
VCT = Village Community Teacher
GLOSSARY

Average – There are three main ways of determining a ‘typical’ or ‘average’ value from a set of numbers, the mean, median, and mode. These will be illustrated with the following example data set comprising 7 numbers {1, 5, 4, 9, 13, 1, 2} The mode is the value which occurs most often – in this case the number 1 occurs twice so the mode or modal value is 1. The mean value is calculated by adding together all the values and dividing by the number of values – here (1+5+4+9+13+1+2)/7=35/7=5. The median is the number that separates the largest 50% of the data values from the smallest 50%. To find the median, first arrange the values in order of increasing size, i.e., 1, 1, 2, 4, 5, 9, 13. In this case where there are an odd number of data values, the median is the middle number, i.e., 4. (In cases where there are even numbers of data values, the median is calculated by finding the mean of the two middle numbers.)

Normal Distribution – The normal distribution is a statistical distribution whose possible values form a bell-shaped curve around the average value. For this distribution all three measures of average (mean, median and mode) value are exactly the same.

Significant result – A result is said to be significant if the associated P-value is sufficiently small – typically defined to be less than 0.05. Essentially if a result is significant at the 5% level, there is less than a 5% chance that the extreme result was obtained by chance.

P-value – This is the probability of achieving the observed result or a more extreme result if the hypothesis being tested holds true. If the P-value is 'small' – typically defined as being less than 0.05 – then the result is said to be significant.
Result of practical importance – Appropriate statistical techniques can determine whether or not a result is significant, but a value judgement must also be made by someone knowledgeable in the area of the investigation about whether the result is of any practical importance. For example, a study might show that in a particular sample boys' scores were on average 0.2% higher than girls' scores. Furthermore, the result may be statistically significant. However, to decide whether this result is of practical importance, requires knowledge of the particular test on which the test scores were obtained as well as more general knowledge about educational testing.

Rank – The data are arranged in order of increasing size. The smallest value has rank 1, the second smallest rank 2 etc. Replacing the actual data values by their ranks is a technique used in Statistics to overcome problems (such as lack of normality) with the distribution of the observed data.

Linear Regression – Linear regression is a statistical modelling technique that relates observed values of some response variable (such as student test scores in Mathematics) to a linear combination of predictor variables (such as gender or teacher language). In its simplest form – known as 'simple linear regression – a straight line is fitted through the set of points obtained when plotting the response values versus the values of a single predictor variable.

Fixed Effects Model – In a fixed effects model for an experiment the predictor variables have a predetermined set of (fixed) values. Inferences can only be made for those values of the predictor variables used in the model. For example, suppose a model included a variable measuring social status and observations were for 'Working Class' and 'Middle Class'. Then no inferences could be made for anybody outside of these categories of social status.

Random Effects Model – In a random effects model for an experiment the values used for the predictor variables are randomly selected from a population of possible values for those variables. Because the levels are randomly selected, inferences can be made for all levels of the factors in the population, not just those included in the experiment. For example, if a sample of schools were randomly selected from a population of all
such schools in a given region, the 'school effect' would be a random factor because
the schools were randomly selected. Inferences can be made for all schools in the
population.

Mixed Effects Model – In a mixed model for an experiment, the levels of some of the
factors used in the experiment are randomly selected from a population of possible
levels, whereas the levels of the other factors in the experiment are predetermined.
Inferences for the fixed effects are only possible for the levels of the factors used in
the experiment. Inferences for the random effects are for the whole population of
values from which the random effects were selected. Mixed effects models are
particularly useful when repeated measurements are made on the same statistical units
or when measurements are made on clusters of related statistical units.

Longitudinal Study – Longitudinal study is a research study that involves repeated
observations of the same variables over long period of time.
Chapter 1

Introduction

This Study investigates the situation of minority children’s education with respect to language of instruction and its impact on the achievement of the learners, mainly in the context of pre-primary and primary education in Myanmar. The primary aim in doing this study is to discover the effects of using the national language and mother tongue in teaching and learning. Myanmar is the one of the most linguistically diverse countries in the world with 113 language groups recognized by the government. The study mainly focuses on the Sgaw Karen language group living in Ayeyarwady Division. The outline of this chapter begins with background information of the people, languages, and the national education system of Myanmar. Section 1.2 describes the focus language group, the background problem this study seeks to address and the research questions. Section 1.3 provides a summary of the benefits of the study and section 1.4 presents the scope and limitations of the study. Section 1.5 provides an overview of the study with a brief description of the remaining chapters.

1.1 Background

Myanmar, the largest country in mainland Southeast Asia with a land area of 678,500 square kilometers, lies between China and India. It is also bordered by Laos and Thailand to the east and by Bangladesh and the Bay of Bengal to the southwest. Myanmar consists of seven states and seven divisions as is shown in the map, in Figure 1.
Figure 1  Map of Union of Myanmar and Neighboring Countries
(Source: United Nations 2008)
1.1.1 People and language
Myanmar has a population of 55 million consisting of different ethnic groups. The
government recognizes 113 ethnic groups, known as Nationalities, although more
research is needed to clarify language development needs as the officially recognized
groups often include several mutually unintelligible language varieties. Bamar is the
majority group and the other main ethnicities are Kachin, Kayah, Karen, Chin, Mon,
Rakhine, and Shan. They have their own states, their own languages and many of
them have their own writing system. The languages of the main ethnic groups
mentioned above often function as a language of wider communication (LWC) which
is commonly used in their communities. The literacy rate of Myanmar, according to
the UNESCO Institute of Statistics (2005) stands at 89.7% (males: 93.7%, females:
86.2%). Burmese (Myanmar) is the official language of Union of Myanmar (Burma).
Burmese belongs to the Tibeto-Burman language family. About 34.5 million people
(63% of the total population) speak it as their first language and almost all the
educated people in Myanmar speak it as second language if their mother tongue is
another ethnic language.

1.1.2 National education system
The structure of basic education is 5-4-2 with five years of primary school education,
four years of middle school education and two years of high school education. There
are eleven years of education. The children go to kindergarten for three years at the
age of 3-6. Kindergarten (KG) is regarded as part of the primary education cycle and
called Grade 1. The official language of Education from primary level to secondary
level is Myanmar (Burmese). Every school uses the curriculum developed by the
Education Ministry. There are four subjects to study, namely Burmese, English,
Mathematics, and Basic Science. English is taught as a subject from Grade 1. From
tertiary level the science subjects are taught in English. The administrative hierarchy
comprises: seven states and seven divisions, a total of 14; each state or division is
divided into districts; townships; villages and wards. At the Basic Education level,
there is at least, one high school in every township and a primary school for every
two villages in general.

Education in Myanmar is mainly under the responsibility of the Ministry of
Education. Basic education in Myanmar is almost totally financed by the Ministry of
Education. However, there are affiliated schools in the rural areas where schools are
funded by the local community. Schooling is compulsory until the end of primary
school, probably about 9 years old. The typical class size is 30 learners with one
teacher in a class. The teachers receive the pre-service and in-service training monthly or annually. Being a teacher is a good work and highly respected by the society but they do not earn a good salary.

1.2 Scope and Focus of the Study
This section provides a short introduction to the focus language group, Sgaw Karen particularly those who live in Pathein Township, Ayeyarwady Division. It describes the background problem this study seeks to address and the research questions.

1.2.1 Focus language group
This study was conducted in schools where the learners are all from the minority ethnic group whose mother tongue is Sgaw. Sgaw is one of the main Karen language groups. Karenic languages are one branch of the Tibeto-Burman language family. While other Tibeto-Burman languages have a basic SOV structure, Karenic languages have an SVO structure. Although Burmese and Karen have a few cognate words they are very different languages in sound system, vocabulary, and grammar structure and are not at all mutually intelligible.

There is a Karen state in Myanmar where most Sgaw Karen speakers live, but there are also many in other parts of the country, particularly in the Ayeyarwady delta. Although Sgaw is a minority language group in Myanmar, it is the majority language group of the Pathein Township in Ayeyarwady division of south central Myanmar. Ayeyarwady division covers, 18,089 square Kilometers of delta area, west of Yangon, as shown in Figure 2. It has over four million acres of cultivated fields. The chief crops are rice and jute. Pathein, a seaport situated on the bank of Pathein River, is the capital of Ayeyarwady Division and the fifth largest city in Myanmar. It is surrounded by a major rice-growing area that produces the best rice in Myanmar. The population of Pathein Township is 5,670,760 including 1,815,320 Pwo Karen, 1,807,400 Sgaw Karen 1,680,000 Myanmar, 165,410 of Chinese, 111,410 of Indians, 51,100 of Rakhine, 39,830 of Chin, 300 of Kachin, and 100 of Kayah (Pathein Diocese, the Catholic Church of Myanmar, and South East Asia 2008). More detailed information about the research areas will be described in chapter four.
Figure 2  Myanmar Map showing internal administrative boundaries
(Source: Myanmar’s Net)
1.2.2 Background problem this study seeks to address

When children from a minority language group in Myanmar begin school, they often have to learn the subjects of the curriculum in the national language, a language that they never used in their home. This has created a “language barrier” for many ethnic minority children who have a limited understanding and proficiency in Burmese or in some cases do not understand the language at all. The language barrier is the biggest problem at school especially for the children who live in an area where the ethnic language is used in almost all language domains. The research for this study was conducted in such an area. It is very difficult for both the teachers and the learners who do not speak the national language as their mother tongue to achieve their educational goals. There are no published statistics or anecdotes available that can show the evidence of the previous statement since this study is the first research of this kind in Myanmar. However as a member of the Sgaw community, the author has firsthand experience of the education system described in this study.

The teaching method is mostly rote learning, not student-centered and there is not much student participation. Learners are afraid of asking questions, since the children cannot speak Burmese well, so that they could not have a chance to practice their critical thinking or learn to reason. Finally, benefits such as understanding meanings, general application of skills, language competence, knowledge empowerment, numeracy, literacy, improved communication skills, and creativity cannot be developed in learners who do not speak the language used at school.

Many teachers and principals believe that early use of Burmese can facilitate the children to go through the higher levels easily. The teachers think that using national language, L2 as soon as the children begin their education is the best way to help them in their learning process. Sgaw-speaking teachers are asked to use more or only Burmese in the classes when they teach. Nevertheless the Sgaw-speaking teachers are more likely to use Sgaw because the learners do not understand the lessons if they only use Burmese to explain. Teachers are told to use Burmese, but their experience tells them using Sgaw is more effective. They are confused about what language they should use in the classroom to best serve their learners.
1.2.3 Research questions and hypotheses

In order to investigate the above-mentioned issues, the following research questions were formulated for this study:

(1) How do test scores reflect the effect of the language of instruction on children’s learning achievement in school?
(2) How does classroom interaction demonstrate the effect of the language of instruction on children’s experience of learning in school?

The hypotheses of this study are:

(1) The use of learners’ mother tongue facilitates greater learning achievement.
(2) The use of learners’ mother tongue provides more positive experience of learning.

1.3 Benefits of the Study

The purpose of this study is to explore the language issue in primary education by carrying out the comparative studies of learning achievements between children taught in the national language and those taught in their mother tongue. The targeted audience comprises local educational organizations, parents, teachers, persons and other stakeholders who are concerned with providing a better education for the children. A study of language in education has not been done before in Myanmar so this study will help stakeholders to consider the importance of the language factor in education. This study provides them with the information about the language in education of the ethnic minorities. It promotes awareness and consideration of language issues in education raised among the different language communities in Myanmar. It helps the stakeholders gain a deeper understanding of the importance of mother tongue as a language of instruction that helps the children have a good foundation for their life-long learning process. This study should help to enlighten all who are concerned about language in education for the ethnic minority children as to the importance of mother tongue-based education and make them more sensitive to consider the particular problems the teachers and the learners face in the classroom.

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1 Although Sgaw teachers are able to give explanations in Sgaw, the formal curriculum and all tests and assessments are in Burmese, so the mother tongue is used as an ancillary oral language rather than as a real language of instruction by Sgaw-speaking teachers.
More importantly, this study shows the need of using mother tongue in early stages of education in order to improve the quality education. It could be an example for other language communities who are in a similar situation. The study therefore aims primarily to assist in enabling people to recognize the actual situation and be aware of the challenges of language use in education.

1.4 Scope and Limitations of the Study
This study is based on the test results of learners in 19 Sgaw villages and observation of teaching in two classes, one with a Burmese-speaking teacher and one with a Sgaw-speaking teacher. There are restrictions when doing educational research because of the unstable political situation at the time the fieldwork was conducted. The researcher could not do formal interviews using questionnaires with the informants since they were not comfortable with working with the paper. Based on those limited collected data this study emphasizes the languages of instructions used in teaching and learning in monolingual/monocultural student populations. This study does not investigate the multilingual/multicultural student populations. Furthermore, it investigates only the effects of oral instruction in the mother tongue; it does not consider the effects of using curriculum and teaching/learning materials in the mother tongue or teaching literacy in the mother tongue.

1.5 Outline of the Study
To be able to do the analysis of language in education of the minority children, three fieldwork trips were undertaken in Pathein Township in Ayeyarwady Division, Myanmar. In February 2010 an initial survey was conducted to get test results of two types of children: those taught using Burmese, and those taught using Sgaw. In August 2010 the second trip was made to conduct classroom observations of the two different classes: one taught in Burmese and one taught in Sgaw. After having done the statistical analysis based on the data collected from the first survey, it was essential to check the learners’ test results that had been collected in previous survey and collect more detailed information on the test and more learners test results. For this purpose the third fieldwork trip was carried out in May 2011. This fieldwork aimed to discover the use of national language and mother tongue in the classes in the Sgaw villages.

The rest of this thesis is organized into six chapters. Chapter 2 gives an overview of the main issues regarding language in education and it reviews the theories of
mother tongue use in education. Chapter 3 presents the methods of research. Chapter 4 provides a detailed description of the research areas. The analyses of the data are included in Chapters 5 and 6. Quantitative analysis of the test results is presented in Chapter 5 and qualitative analysis is presented in Chapter 6. This study concludes with a discussion on the findings of the analyses in Chapter 7. Chapter 7 also includes the implications for education and language development in other ethnic communities in Myanmar and suggestions for further research.
Chapter 2
Theoretical Overview

This chapter reviews the theoretical background of the study. It provides the key concepts and issues. It begins by introducing the key concepts related to the study, and then proceeds to the studies of theories and the studies of current education programs for the minority children.

2.1 Terms and Concepts Related to the Study

Before reviewing the theories and the research about the language and education for the minorities, it is important to clarify the key concepts relating to this study. A set of key concepts are presented with their definitions as follows.

2.1.1 Mother tongue (MT) or first language (L1)

Mother tongue (MT) or first language (L1) can be defined as “a language that a speaker: (a) has learnt first; (b) identifies with; (c) knows best; or (d) uses most” (UNESCO 2003). In this study mother tongue and first language are regarded as terms that refer to the same concept. The Sgaw Karen children in this study speak Sgaw as their first language, and use it at home as well as in their environment in daily life. As a result, Sgaw can be considered their home language as well.

2.1.2 National language (NL) or second language (L2)

A national language is “a language that is considered to be the chief language of a nation state” (Crystal 1999:227), whereas an official language is a language that is “used in such public domains as the law courts, government, and broadcasting. In many countries, there is no difference between the national and official language” (ibid.). Generally, a second language (L2) is a non-native language that the speakers use for the purpose of communicating with other people who do not speak their language (UNESCO 2007). As it is discussed in Kosonen and Young (2009), in this thesis study,
A second language (L2) is a language that is not the mother tongue of a person, but one that the speaker is required to study or use. It may be a foreign language or a language of wider communication. A second language may be a language that is not spoken in the immediate environment of the learner, or it may be one widely spoken outside the home. For ethnolinguistic minorities, the second language usually is the national or the official language, employed in contexts such as schools, interaction with government agencies, or communication with other language groups (Kosonen and Young 2009:13).

The learners who are the focus of this study have to learn the national language as their second language. In this study, the term, ‘second language’ (L2) will be used to mean a second language learned at school for formal educational purposes, and should not be confused with a student’s second or other languages learned informally outside of school. The official language in Myanmar is foreign to many of the learners and often only learned as a second language when they arrive at school. Similarly, English, for the Sgaw native speakers, is the third language (L3), an auxiliary language which is taught as a subject in school, whereas for the Burmese native speakers, English is a second language.

2.1.3 Language of instruction (LOI)

A language of instruction (LOI) is “a language used for teaching and learning the school curriculum, also called medium of instruction” (UNESCO 2007:4). Medium of instruction can be divided into written medium of instruction and oral medium of instruction. Written language of instruction refers to the language used in written textbooks and other curricula (Kosonen & Young 2009). Oral language of instruction is a language which is used orally in a class to explain the lessons though the language used in the curriculum and the textbooks is in another language (ibid.). In primary education in Myanmar, all written textbooks: Burmese, Mathematics, and Science subjects are in the national language except for English textbooks. As a result, if languages other than Burmese are used in Myanmar schools, they are used as oral languages of instruction.

2.1.4 Bilingualism or multilingualism

“Bilingualism or multilingualism is the use of more than one language in daily life” (UNESCO 2003: 12). Lewis (2009) estimates that about 113 languages are
spoken in Myanmar. Some of them have writing systems for their languages but many languages are unwritten. Generally the speakers of the minority languages are bilingual or multilingual and speak the national language as a second language or third language. Sometimes, especially the ethnic minorities who live in rural areas where only their mother tongue is used dominantly do not speak the national language. In those areas the children grow up in monolingual communities except for school where the national language can be accessed. Minority peoples have to learn the national language since the national language Burmese is higher on the language hierarchy than minority languages. Mother tongue Burmese speakers normally don’t learn minority languages. Smalley (1994: 69) has described the language hierarchy for Thailand, and a similar situation exists in Myanmar. In this study, the Sgaw-speaking teachers are ethnic Sgaw who are bilingual in Sgaw and Burmese; the learners are just beginning to try to become bilingual.

2.2 Language in Minority Children’s Education

This section discusses the minority children’s education as this study focuses on the impact of language on education for ethnic minorities. According to Benson, out of several factors that affect education outcomes, language use is the most important factor that can have an effect on education especially for ethnic minorities (Benson 2004: 2). There is much evidence for that claim from the international research showing dropout and repetition rates because of the difference between the language used at school and the children’s mother tongue (Smits et al 2008: 6). According to Richard Martin, there is also evidence of this in primary education in Myanmar: dropout rates are high, maybe up to 50% (Asian Development Bank 2003: ix). In that situation, there is a risk that many children fail to develop the understanding of concepts and will face difficulties in learning subjects such as mathematics and science. According to Pinnock (2009: 6), a Nobel Peace Prize winner, Dr Rigoberta Menchú has argued that children's failure at school which causes frustration and disappointment is not caused by physical or monetary barriers but by the choice to teach in a language which the children do not understand.

In many countries of the world, children enter a school where they have to learn the subjects in a language that they don’t understand (Save the Children 2009). Myanmar is one of the most linguistically diverse countries in Asia. Many ethnic minorities who live in rural areas speak their mother tongue and do not have access to the national language in their communities. However, only the national language, Burmese is the official language of instruction in school. In Myanmar ethnic
minority learners are submersed in the second language with little or no support for their mother tongue with the aim to replace the mother tongue with Burmese. Based on the researcher’s personal experience in education in Myanmar, the education system is like submersion education. Kosonen and Young (2009) summarize Skutnabb-Kangas’ (2000) concept of submersion education as follows:

Submersion education is the opposite of using the learners' mother tongue in education, and it refers to deployment of a language of instruction that the learner does not speak or understand. Submersion education commonly takes place when minority children with limited proficiency in the majority language (usually the official/national language) are put into majority language classrooms without any provision for accommodating or alleviating the learners' disadvantages caused by not knowing the language (Kosonen and Young 2009: 13-14).

In the classes, the teacher does not understand the children’s mother tongue and the children do not understand the teacher’s language. As a result, the ethnic minority children’s education is negatively influenced by the language barrier in Myanmar. Pinnock points out that such children do not have a real learning opportunity since they don’t know the language that is used in the curriculum.

Teachers start by communicating with children in their own language, but as soon as written words and numbers are introduced teachers use a language children don’t understand. Children learn to copy and often memorize the words and numbers, but don’t understand them and can’t apply them usefully. In these situations, many children drop out of school altogether, while others fail their examinations and spend years repeating grades (Pinnock 2009: 1).

When the children do not understand the teacher's language, language is the greatest barrier. (Save the children 2007: 1). So it should be recognized that language is a key point to help the children do well in their life-long education process. For that reason, in many linguistically diverse countries, making the choice about languages in the education setting has been a key issue. The educators need to choose languages that offer better opportunities for minority children. The language used should be a suitable instrument for learning knowledge in the curriculum (Kosonen 2005: 87-95).
The lack of knowledge of the language used to deliver the school curriculum pulls down the educational performance of many of those who do not use it at home, particularly those who do not have regular access to it outside school. International learning outcomes assessments show that for children who manage to stay in education, there is a strong negative impact on achievement if their first language is not used for teaching and learning (Pinnock 2009: 8).

2.3 Mother Tongue-based Education
In this section, the current literature in international research regarding language in education is discussed. As there is little research on education for ethnic minority children in Myanmar, it is helpful to study mother tongue-based primary education in other countries to see what previous research has found.

2.3.1 Primary education through the mother tongue
Research shows that it is beneficial — at least in the early primary grades for children to be taught in their mother tongue which they know best. Language is an instrument for communication. Since the effective teaching and learning very much depends on communication, language of instruction is the key to the learning process. That is why children's mother tongue is essential to help children have early access to primary education and actively participate in lifelong learning (UNESCO 2007).

UNESCO has also stated that children's mother tongue is the most suitable language for their successful learning as follows.

It is axiomatic that the best medium for teaching a child is his mother tongue. Psychologically, it is the system of meaningful signs that in his mind works automatically for expression and understanding. Sociologically, it is a means of identification among the members of the community to which he belongs. Educationally, he learns more quickly through it than through an unfamiliar linguistic medium (UNESCO 1953: 11).

The meaning of mother tongue-based (MTB) education is outlined below.

MTB education is instruction in a child's first language (L1), usually with a planned gradual transition to a second language (L2) or foreign language at a specified time in primary school. MTB instruction usually takes place
exclusively in the language most familiar to children. In some cases, it may be provided as part of a bilingual or multilingual education program. In MTB programs, learners have the opportunity to learn core concepts primarily in a familiar language, and, later, they learn the labels or vocabulary for those concepts in a new language. MTB education is especially beneficial in early childhood programs, preschool, and the early grades (up to Grade 6), when children are learning to read and gaining new concepts (MTB-MLE Network 2011).

Other MTB education personnel also mentioned that through the mother tongue learners learn the lessons best and education in their MT helps them to continue learning L2. The use of the learners’ mother tongue helps the children learn the curriculum content. When the children have a chance to use their mother tongue they can easily express their thoughts and it is comfortable for them to communicate with others using their own language. If the school does not use the language that children know, it will have a negative influence on the children. There are no other languages that can replace the children’s mother tongue to support their emotional and cognitive development process (Renou 1998).

It is important to note that the children’s mother tongue should be the first language that is used in learning to develop their knowledge. Children build up new knowledge from the academic concepts they have learned through their first language. Afterwards they transfer everything they have learned to a second or third language (Pinnock n.d.: 2).

If the children are literate in their first language, they can gradually be able to deal with learning in their second language. The children can easily transfer what they have learned in their first language to their second language (Cummings and Tamayo 1994).

An emphasis on MT in education does not diminish the child’s chance for further education in a second language in fact it enhances it. Children who are well educated in their first language are more likely to become proficient in national and international languages (Save the Children 2007: 4).

Children’s first language should be used as the language of instruction in the early years of education. The first language is vitally important for initial learning to comprehensively understand the abstract knowledge in the curriculum. It is a basis
for the cognitive development that helps children in acquisition of the second language (Dutcher & Tucker 1996: 36).

### 2.3.2 Learning in L1 vs. learning in L2

In this section, the fact that learning in L1 is beneficial to the ethnic minority children is discussed from the point of view of the international ethnic minority education personnel.

Mother tongue-based education starts with the learner's knowledge and experiences. It provides the child with a foundation in their first language and builds a second language on this. Oral, reading, writing, and thinking skills are developed in the first language, while teaching the second language as a subject. Exposure to the second language gradually increases, without sacrificing children's literacy and cognition in the first language (Save the Children 2007: 4).

Ethnic minority children in different countries face difficulties in learning because they have to learn the lessons in L2 as soon as they begin school. The education officials often believe that teaching in the official language used at school from early stages could help the children learn faster and make progress in learning in higher stages. However in reality, a strong foundation in L1 will provide a smooth transition from L1 to L2 and L3 (Thomas and Collier 1997, 2004). For that reason, Kosonen and Young argue that a good bridge to L2 through L1 is essential.

Mother tongue as a ‘bridge’ language of instruction refers to situations in which an educational programme is organized so that mother tongue speakers of non-dominant languages can build a culturally and linguistically appropriate educational foundation in their home language first, and subsequently learn additional languages. They thereby gain the potential to use all their languages for life-long learning (Kosonen & Young 2009: 14).
Figure 3  Comparison of learners learning through their first language and an unfamiliar language (UNESCO 2007: 7)

Figure 3 was created by Dennis Malone to show the comparison of learners learning through their first language and an unfamiliar language (UNESCO 2007: 7). In the figure, there are two kinds of bridges: one is built by mother tongue; the other is built by a foreign language or a language unfamiliar to the learners. The children who go over the bridge built by their mother tongue can easily pass the river that represents the abstract concepts of the curriculum and reach the other side of the bank and the school in which L2 is used as a medium of instruction. On the other hand, there are only a few children who go through the bridge built by a language
they do not know, they struggle to reach the other side of the bank with exhaustion but most of the children could not make it, instead they fall into the river.

Using the mother tongue first for the development of basic literacy skill enables learners to build on and transfer these skills to the second language (Gonzalez 1996: 218). CALP (Cognitive Academic Language Proficiency) should be developed in both languages. Numerous studies around the world indicate that when learners learn to read and write in their mother tongue before learning to read and write in a second or third language, they progress more quickly both in literacy skills and in second language acquisition. The learners need time and support to become proficient in academic areas (Baker 2006; Cummins 2000, 2001; Thomas and Collier, 1997, 2002). As a result of CALP development, the bilingual learners appear fully proficient in formal academic learning.

Tucker (1996: 316) says that, “the development of the child's first language with its related cognitive development is more important than mere length of exposure to a second language.” Moreover, Tucker argues that the development of the mother tongue is vital to cognitive development and as a foundation for learning the second language. If the mother tongue is not sufficiently developed, the second language cannot be mastered because of the lack of cognitive skills required for mastery of other languages. The development and fostering of the mother tongue facilitates transfer of skills across the languages. Pinnock (2009: 10) also highlights that mother tongue-based education is the most appropriate approach for the ethnic minority children’s educational achievement. “Mother tongue based education represents one of the biggest gateways to achieving quality education and the opportunity of a better life.”

2.4 Summary
This chapter gave an overview of language factors that have an effect on ethnic minority children’s education, starting with an introduction of key concepts and definitions in their broadest sense relating to the present study. It then proceeded to highlight language issues in minority education and mother tongue-based education that need to be considered to give the background to this thesis which examines the impact of using the national language instead of learners' mother tongue in primary education.
Chapter 3
Research Methodology

The methodology for this research was determined by the overall purpose as expressed in the research questions described in Chapter 1:

1) How do test scores reflect the effect of the language of instruction on children’s learning achievement in school;
2) How does classroom interaction demonstrate the effect of the language of instruction on children’s experience of learning in school?

This chapter is devoted to discussion of the research methodologies used for the current study. It covers the preparation stage, data collection techniques, data analysis, and a brief description of limitations and evaluation of the chosen methods.

3.1 Preliminary Research

In order to provide evidence based on the real situation, the researcher carried out the in-depth collection of information by field work. This section describes two important tasks carried out in advance of data collection. Preparation for data collection was made by doing preliminary research and consulting with the resource persons for selecting the sites. In this way, the researcher made sure to have suitable and sufficient information before the research trips.

3.1.1 Library research and internet research

To gain understanding of the issues involved much research was carried out using library resources and internet websites. The research drew on the international literature and research in regard to medium of instruction, mother tongue use in education, bilingual and multilingual education. This includes the most relevant research on mother tongue first education in minority language communities from other international contexts. Library research was done by looking at case studies of minority education from other countries and understanding the related key concepts such as: mother tongue (MT) or first language (L1), national language or second language (L2), medium of instruction (MOI), monolingualism, and bilingualism, to be able to consider the situation of the focus language community. Internet research
was also done since books or articles with background information about the community are not available in print. Therefore, to be able to do the analysis in an effective way, firstly the researcher studied case studies and theories which are related to the research topic. To collect the data, questions which had been used by other researchers were used as a guideline and modified according to what she wanted to know in the villages.

3.1.2 Preparation for data collection

Since there are tight restrictions on doing research on education in Myanmar, the researcher needed to confirm that her research could be done in the target area. As a very first phase, she looked for the persons who had experiences in education and understanding of the situation of the community in relation to doing the education research. Though the researcher herself is a citizen of Myanmar and had experience in the national education system, suggestions from the people were helpful to make the decisions.

Then she talked to the people to find out what were the possible ways to do the research. It was a great opportunity to meet other people from several ethnic minority groups at a literacy workshop. She was a trainer and had a chance to talk about the research and found the background information about education of the minorities in Myanmar. When the researcher was sure that she could conduct research in the villages, she made a decision to work on this study related to the minority education. She had also looked for the problems of the minority children in the context of the primary school. Based on those problems she could draw the research questions and hypothesis of the study.

3.1.3 Choice of research sites

Though there are minority people living in the city, their environment is multilingual. However the researcher needed to do the research among minority children who live in a monolingual setting but who learn the curriculum in the national language which is not their own language. It was not possible to do such research in the city where national language influence is widespread. There were no suitable situations in urban areas that would have fitted the focus of the study due to the national language influence on local languages. Eventually the best fit for the research turned out to be the villages in Pathein Township in Ayeyarwady Division. The population of this area is predominantly Sgaw. It was also important to consider
the accessibility of the place since the researcher would have to travel alone. It was also necessary to consider whether the place could be reached easily with the help of an insider as the education research is very restricted in the country.

The researcher chose the schools by considering the schools' general backgrounds and feasibility to get test scores and make observations. She could make contact with the important persons; principals, village leaders, and the pastors and got the test scores and conducted classroom observations. It was essential to consider, apart from language, other factors that would affect educational achievement. It was necessary to think about the criteria for selecting the sites. The criteria for selecting the sites included having the same or similar background situation in terms of education, poverty, accessibility, socioeconomic level, geography, and contact with the national language. So the researcher decided to go to the east part of Pathein Township. Since she chose the villages under Pathein-Myaungmya Association, PMA\(^2\) she got the villages which have the same general background in terms of religion, culture, and language whereas other factors like demographics, and socioeconomic, are slightly different. The educational situation in the villages differed in some part regarding to the proportion of the use of the mother tongue versus national language in the classroom.

In order to choose the sites the researcher first of all, asked for some suggestions about education research from the people from the education fields. She was asking about the possible language group and the location. Though there are many minority groups all over the country about whom there is no research on the education, she needed to find appropriate and accessible sites to be the focus of this research project. As the researcher herself is Sgaw Karen, she decided to choose the Sgaw people who live in Pathein.

A person who had much experience in Christian education helped her find the research sites and gave the suggestion to go Pathein where the Sgaw people live and the Karen Christian churches are advanced in doing education programs. When the researcher arrived in each of the village sites, first of all, she talked with all the pastors, village leaders, and school principal about her research and got their permission to conduct initial interviews with the school principal and the classroom teachers. Afterwards she went to the classroom to observe. She briefed them on the purpose of the study and the procedures, and found out the concerns they had.

\(^2\) PMA is part of Karen Baptist Convention (KBC) which runs the schools through its education department.
regarding the research. The researcher obtained the permission of the principal in both classes to observe the teaching in the classrooms.

3.2 Field Work
This study heavily relies on analyzing the data collected from the field work. There were three trips. The first one was to collect the test scores in February 2010. The researcher went to the villages which have Early Childhood Care and Development, ECCD classes and primary schools. Then she got the test scores of Grades 1, 3 and 5 tested in November 2009 from 16 villages.

In August 2010, the second trip was made. It was the main survey conducted for finding the data that would support the statistical analysis of test scores and show evidence of the effects of language on teaching and learning. The researcher collected the background information of the learners and the teachers in Grade 3 in November 2009 especially regarding the language use. In addition, she conducted the classroom observations in two classrooms: one taught by a Burmese-speaking teacher and one by a Sgaw-speaking teacher. On the second trip, the researcher focused more on the use of the learners’ mother tongue and national language in the classrooms based on what she had collected from the previous survey. The researcher checked the test scores collected from the first trip and found out that she got the test scores of Grade 3 from the first 16 villages. Then she also came to know from the first survey, that in most villages Grades 1 and 2 are taught with at least some use of Sgaw as language of instruction. She also found out the language (Sgaw or Burmese) of the teachers who taught the present Grade 3 learners when they were in Grades 1 and 2. She asked for help from the Christian Education (CE) director to find out which teachers were teaching the Grade 3 classes from which she obtained the test scores. The classroom observations were carried out on the second trip. To be able to make the comparison between the groups of learners taught by Burmese-speaking and Sgaw-speaking teachers she made a decision to choose Grade 3. Then she decided to choose at least two Grade 3 classes: one taught by a Burmese-speaking teacher and the other taught by a Sgaw-speaking teacher. She also had to consider whether the school allows her to do the classroom observation.

The third trip was the last trip, in May 2011, to the research location and the focus this time was to confirm some unclear information collected previously and to seek clarification to some questions raised during the data analysis. The three main
questions that the researcher confirmed were: language use in the Grades 1 and 2; question types on the exams from the villages; and the reasons for any exceptionally low scores. More details about the test: the setting and marking of test, samples of the exam sheets, and the test scores from three more villages were also collected. She tried to provide as many details as possible in her field notes. In addition, she also made analytical and explanatory comments in the field notes which recorded the initial interpretations and insights of the data.

3.3 Data Collection Techniques

The information for this study was collected through the following three techniques: informal interviews of the teachers, pastors, village leaders, and education workers for the villages; collecting the learners’ test scores from 19 villages; and making observations in two classrooms.

3.3.1 Interviews
The researcher conducted informal interviews with a Christian education director, pastors, villagers, trainers from a local non-government organization, principals, teachers, and parents. The information was collected in face-to-face interviews. She spoke Sgaw with the subjects because it helped them feel more relaxed and comfortable. The answers to the questions shown in the appendix were used as the main variables in the qualitative analysis section of the study. She collected the background information mainly from the village heads, pastors, and Christian education workers. She gathered the information about teaching and learning in the classes and the learners from the teachers as mentioned below. Additional informal observations to support the information gathered from the subjects were carried out in the village while the researcher lived in the villages. Many of these stakeholders could give the detailed information regarding their experiences and beliefs about language in education.

Initially the researcher prepared questionnaires for the teachers and principals but they were not comfortable with the interview sheet because the researcher was a stranger there. So she made friends with them and talked with them and asked about the situation of teaching and learning in the classroom, especially about using the national language or mother tongue as language of instruction. In this way she collected the information of village background and teaching and learning experiences of the teachers and the learners.
When she wrote down the facts that she had heard during the conversation she needed to look for the facts that she still needed to find out and note down. Then later she asked those questions when she chatted with the informants again. Sometimes she could not write down the information during the conversation because they did not feel secure or were not comfortable with her writing down what they say and they could not concentrate on the conversation. However those who were more familiar with her or were the same age as her did not have a problem with that; she could write down the facts and she asked the questions until she was clear about the facts on the spot. There were benefits to living in the village for a week and taking time with the villagers. The more she stayed in the villages the more she made friends with the villagers and did the observations of the real situation regarding the village background, school, children’s education, languages, education and language, how the children learn, and the contact with other Burmese villages.

When she talked with the teachers and principal, first she introduced herself. Then she explained about the research to the informants. When she talked a little bit about her research, some of them started to ask some questions and they went on with the conversation lead by her. Or she began the dialogue with some questions such as the following:

- Could you please tell me what your experiences in teaching are?
- What problems do you find when you teach the class?
- How did you manage using the languages, Burmese and Sgaw, to teach the subjects?
- When you teach in Burmese what are the children’s responses?

During the conversation, some questions came up for further information and she asked them. They also added more information as much as they knew since the relationship was built up during the talk. With informants who felt closer to her, because for instance their age was the same as hers or they seemed to be perfectly willing to help her, she could ask openly any questions.

### 3.3.2 Test scores

In the first trip to the research sites the researcher could gather the test results from 16 villages. Before she visited the villages to collect the test scores, the CE director had contacted the village pastors and informed them that a researcher would come to collect the test scores. The pastor, who is like the head of the village, informed
the principal and made a request to collect the test scores for her in advance. When she reached the villages she stopped at the pastor's house and went to meet the principal at the school and made a request for the test scores to use in the study explaining about the research. In some villages, the pastors invited the principals to meet with the researcher, talk about the research, request the test scores, and have lunch together. After that she and her friend who accompanied her copied the test scores into the note books. She could do it quickly with the help of her friend and could save the time for travelling to the next village. She was trying to collect the learners’ test scores village by village. She could collect 2-4 villages per day. If the villages are far from each other she could collect only 2 villages in a day. She had to travel by motorcycle or boat. She could hire the cycle which was driven by the education field workers from PMA. Sometimes the villagers helped her to travel from village to village by boat. When the researcher and her friend entered the village they were very unfamiliar to them and noticed by all the villagers. However fortunately she managed to collect data in 16 villages: 9 Sgaw-speaking teachers’ classes and 7 Burmese-speaking teachers’ classes in the first trip and 3 villages: two Sgaw-speaking teachers’ classes and 1 Burmese-speaking teacher’s class in the third trip. All together the researcher collected the test scores from 19 villages and used them in the study. She could collect the test scores from the learners who were in Grade 3 in November 2009.

3.3.3 Classroom observations

The two observed classes were in two schools among the 19 schools analyzed in Chapter 5. Grade 3 was chosen to be observed. It is feasible to find the differences between two different types of classes in respect to the use of language of instruction in Grade 3 classes rather than in Grades 1, 2, 4, and 5. In almost all of the schools in Sgaw villages, Sgaw-speaking teachers are necessarily assigned to teach in Grades 1 and 2 since the learners are not familiar with Burmese. The classroom observations were carried out in class 1 in village B01 and class 2 in village B02. Class 1 was taught by a Burmese-speaking teacher and class 2 is taught by a Sgaw-speaking teacher. The researcher believes that the observed classes were representative of primary education because they were similar to her experience as someone who went through the Myanmar education system.

Before the class the researcher met the teacher and asked for the teaching schedule and what the researcher was going to teach for each subject so that the researcher could understand the lesson plan and note down the facts. When she did the
observation, to be able to know what the teaching techniques are and whether the children are learning the lessons effectively, she observed the class the whole day for 8 days in each class. To get the information of language use by both teachers and learners, the researcher tried to observe:

- How do the learners and the teacher interact;
- How do the learners and the teacher communicate;
- How does the teacher give instructions;
- How do the learners respond;
- How does the teacher correct the learners;
- How does the teacher explain the lessons to the learners;
- How do the teacher and the children solve the problems;
- How do the learners learn the lessons;
- What is the classroom arrangement;
- What do the materials for Burmese, English, Mathematics, and General Science look like;
- What languages are used by the teachers and the learners? How are they used?

If the researcher needed clarifications, she approached the participants after class. She managed to be not much noticed by the participants. While observing, she sat at the back of the classroom and noted down what was happening in the class. If she needed clarifications, she approached the teacher during a short interval between the subject sessions or lunch break. She also took a chance to take a video recording from the third day after asking the teacher permission. During the observation process, she carefully watched, listened, and wrote down the facts, in order to get a detailed picture of the interaction between the teacher and the learners.

### 3.4 Data Analysis

For the purpose of the research, this study uses both qualitative and quantitative analysis. Quantitative analysis was carried out to examine tests scores of Grade 3 learners from two different types of groups one taught by a Burmese-speaking teacher and the other taught by a Sgaw-speaking teacher. Various statistical models were fitted to the data seeking the model which best explains the data in terms of factors that influence test scores, including teacher language, gender, class, class
size. Qualitative analysis is carried out by manually coding, categorizing the interviews and observational notes. By conducting both of those analyses, the investigation into the data is enhanced to provide the reliable answers to the research questions of the study. The impact of language use in classroom not only on the learners’ academic achievement but also on the learners’ experience of learning in classroom is measured.

3.5 Limitations

The researcher could not manage to obtain all the background information of the schools to decide where she should go. The time was very limited to find the villages that would meet the needs for the analysis. Besides, it was not a good time for the researcher to go into the villages and conduct the classroom observations because it was near to the time of parliamentary elections. The researcher was very limited in selecting the research sites because she had to not only find villages with similar background situations so that the background variables are not the factors that would affect the teaching and learning rather than the factor of language use, but also think about having a good relationship among the village leaders, pastors, principal and teachers.
Chapter 4
The Context of the Study

This chapter provides general background information of the villages regarding geography, economy, and social structure and culture and gives a brief description of each village. It also presents an overview of the structures of both classes where observations were conducted.

4.1 Overview of Research Sites
There are altogether 19 villages included in this research. Out of 19 villages 10 villages are located in Pathein Township, the main area where the researcher conducted the study. The other nine villages are in different townships: five of them are located adjacent to Pathein Township four of them in a township to the north of Pathein Township.

4.1.1 General background information of the villages

4.1.1.1 Geographical location
All villages are located to the east of Pathein Town. There are also Burmese villages among the Sgaw villages but they do not have much contact with each other. It takes 30-45 minutes by motorcycle to reach the villages from the town of Pathein.

4.1.1.2 Economy
The economy of the villages relies heavily on agriculture. However the east part of Pathein is not as fertile as the delta area. Almost all of the villagers are farmers, raising paddy rice, vegetables, and fruits. They work on the farm the whole day taking their children who have not started school to the fields with them. Sometimes the elder siblings who do not go to school anymore take care of their younger siblings or the younger siblings are taken to the school by school-age siblings. There is no electricity in the villages. They use candles or battery power at night. In some villages, a house manages to distribute the electricity by running a generator to the
whole village. Each house can use one 2 foot fluorescent tube from 6pm-9pm and it cost 2,000-2,500 kyats per month. Not all the houses can afford to use it. Both parents earn their daily wage by working in the farm the whole day so that they can support the family. Some live in a little hut in the paddy field with their children. In every village there is a church.

4.1.1.3 Education
Some children, after completing Grade 6, do not go on to middle school which is in another village but they help their parents in the farm. Most of the parents passed Grade 5. Every village has morning chapel for the children. The children have to study Bible and written Sgaw after the service. However sometimes they do not have enough time to study Sgaw.

4.1.1.4 Sociolinguistic background
In the regions, where the research was conducted, Sgaw people are very dominant. The villages are composed of only Sgaw people who are Christians. The neighboring villages are either Sgaw or Burmese villages but the villagers do not have much contact with the neighboring Burmese villages. Only the adults, who go to the town back and forth for their trade, can speak Burmese fluently. The older people and the children know very few Burmese words and can only speak Sgaw. There are some older people who have never been to the town of Pathein.

4.1.2 Organizations
There are several local or international non-government organizations (NGOs) that take part in community development for the villages in partnership with the villages. The main organizations involved in education programs are Early Childhood Care and Development (ECCD) under Pathein-Myaungmya Association (PMA) and Pestalozzi Children Foundation (PCF).

ECCD classes have been provided by PMA since 2000 in each village. ECCD classes gain technical support from Yinthway Foundation, a local NGO founded in 1999. The teachers lead the class according to the teaching plan provided in their teacher training. The teachers use Sgaw to teach or tell the stories. When they teach vocabulary they show the pictures of the words and say it in Burmese and English with a little explanation. The children repeat after the teacher and memorize the words in three languages at the same time. Most of the songs and poems the
children have to learn are also in three languages. The children have to learn to write the alphabet just at the end of the second year of the class. Each school has a material kit provided by UNICEF. The books are in Burmese. There are also seven learning corners. The teachers, most of whom are Bible School graduates, are appointed by PMA's Christian Education department and trained to be preschool teachers.

There is also a class called morning chapel before the regular school time where the children have to learn the Sgaw Bible, Sgaw songs and Sgaw primer. Learners from Grades 1-4 are all combined in one room for the chapel program and taught by one teacher. This chapel program is lead by a Bible School graduate. In some cases these graduates also work as teachers in the primary school. In some villages where the church is close to the school, the chapel time is held in the church. In some villages it is held in the primary school.

PCF helps primary schools in the ethnic minority communities (in these areas) through training and supporting teachers and encouraging more parental involvement in schools. PCF started working with PMA in 2004. Their project aims to provide teacher training and the salaries for two teachers in each school. They support 32 villages under PMA. They help the teachers to be able to use the resources that can easily be found in the community as their teaching aids. They use the existing curriculum organized by Myanmar Education Ministry and they just add supplemental poems, songs, pictures, and classroom activities to it. In the teacher training the teachers are equipped to teach from kindergarten to fourth standard so they can teach any class in primary school.

Table 1 shows the schools and education programs in each village. Each village and school is given a number and is labeled according to the mother tongue of the Grade 3 teacher. So, for example, the Grade 3 teacher in school B01 is a mother-tongue Burmese speaker whereas the mother tongue of the teacher in S04 is Sgaw.
### Table 1 Schools and other education programs in the villages

<table>
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<th>Village</th>
<th>ECCD</th>
<th>Morning Chapel</th>
<th>PCF</th>
<th>School</th>
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</tbody>
</table>

### 4.2 Description of Each Village

This section gives a brief description of each village.
Village: B01
The village is located in Pathein Township. It takes 45 minutes from Pathein by motorcycle. From the road one must take a 10-15 minute walk to a Burmese village, and from there another short walk through the bushy or thorny forest or a 10 minute row boat trip to reach B01. All the villagers are Sgaw Christians. There is a church located at the entrance of the village. The school is located near the village grave yard at the far end of the village. It is a new building which was built two years ago. The houses are built of bamboo with long legs because of the flooding in
rainy season. There are some big houses built of wood. The houses in the village are
not situated in a circle form but in a line from north to south along the creek.

There is a primary school and ECCD class. There is also a morning chapel for the
children to learn Bible and Sgaw. There are about 200 houses in the village. There
is no electricity in the village. They use the gasoline generators or candles at night
time. They use a large 12V battery to watch videos once a week. There are two
house shops; one sells some snacks for the children near the school and the other
sells snacks and other things for daily use. They don’t usually buy the food outside
but they make their meals from their farm produce. They also gather other edible
plants that can be found everywhere around the village and which are very delicious
and good for health. There are two households which own televisions. Most houses
have pet dogs.

In rainy season, the whole village and the rice fields around the village are flooded.
There were leeches in the water. I had to put on rubber boots to walk to the school.
The children go to school by boat if the flood water is high enough to use boats. If
not, they walk along the muddy streets frequently wading through the small lakes to
the school. Some walk on the long and thin, wet and slippery bamboo bridges with a
thin bamboo railing. Some parents took their children to school by boat. One father
carried his daughter to school on his shoulders. When the paddy fields are flooded
and unable to be farmed, fishing is the main work to earn money. They throw
fishing nets or they set those all night or day to catch a huge amount of fish. Some
youths who have a motorcycle can run the taxi. The villagers use that creek for
fishing and for travelling by rowboat to different villages especially in rainy season.
It is only in summer that people can take a motorcycle. They eat rice which they
harvested in summer time.

**Village: B02**

The village is located in Pathein Township. It takes an hour by motorcycle to reach
the village. The road was repaired by the time I went. From the main road one goes
through a Burmese village and a new Sgaw village (actually a new branch of B02)
then across a long narrow footbridge and a 5 minute walk along a path. In rainy
season, the road is muddy and very sticky and slippery so it will take 10 minutes to
walk to the village instead of 5 minutes. All the villagers are Sgaw Christians. There
is a church as well as a primary school and ECCD class. There is also a morning
chapel for the children to learn Bible and Sgaw. There are about 500 houses in the
village. The school is just besides the church and there are rice fields behind them.
There is a building for giving nutritious food to young children, pregnant women, and mothers with very babies under 6-months. They provide food three times a day and young children and the mothers come to the building and have food together.

Most households raise some animals like chickens, pigs, ducks, and geese and some have cows. Some of young adults go out to the cities or other countries to earn money to support their family. The Burmese vendors come through the village on their way to other villages and the villagers buy food from them. There is no public electricity in the village. One house takes responsibility to distribute the electricity to other houses. The generator is sponsored by World Vision. Each household has to pay 2,000 kyats per month. People plant paddy rice, vegetables, and other crops, especially corn. In rainy season they fish.

**Village: B03**

The village is located in Pathein Township. It takes an hour to get there from Pathein town. From the main road it takes 10 min to get the village, going through a Burmese village. All the villagers are Sgaw Christians. There is a church, a primary school, and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are about 200 houses in the village. There is no electricity in the village.

**Village: S04**

The village is located in Pathein Township. After passing through a Sgaw village on the road side and then rice fields and a Burmese village you arrive at the village. It takes an hour to get there from the town. The village is situated in an area with small hills and plains. All the villagers are Sgaw Christians. There is a church in the centre of the village, a primary school, and a pre-school ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are about 200 houses in the village. There are two big house shops. There is a small garden in front of the school. The ECCD class is held beside the church. There is a house for the school principal provided by the villagers. According to the principal the villagers sometimes suffer from malaria. There is no electricity in the village. A few families live in huts out in their fields. Sometimes the learners who live in those huts are late for school. There are 100 children in the school. There are 4 families who own the rice fields and they can pay more money when the village needs something for the whole villages when other families can pay only a small amount of money. There are old people who cannot understand Burmese at all. Some adults have never been to the town.
**Village: B05**

The village is located in Pathein Township. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are about 200 houses in the village. There is no electricity in the village.

**Village: S06**

The village is located in the south part of Ayeyarwady Division. There are many branches of the Ayeyarwady River which flow through the villages in this area, and most are only accessible by boat. You have to take a ship for 4 hours from Pathein to a town and a motorboat from the town to the villages for a few hours depending on the situation of the villages. We can also take a motorboat directly to the villages. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are about 200 houses in the village. There is no electricity in the village. Fishing, planting paddy rice are the major types of work to earn money for their living.

**Village: B07**

The village is located in Pathein Township. It just takes 30 minutes to get there from the town. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are about 200 houses in the village. There is no electricity in the village. A Burmese village is located just beside this village. Only a long street divides the two villages. There are some Burmese learners in the school. This school also has a middle school.

**Village: S08**

The village is located in Pathein Township. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There is no electricity in the village.

**Village: B09**

The village is located in the south part of Ayeyarwady Division. There are many branches of the Ayeyarwady River flowing through the villages in this area, and most are only accessible by boat. You have to take a ship for 4 hours from Pathein to a town and a motorboat from the town to the villages for a few hours depending on the situation of the villages. We can also take a motorboat directly to the
villages. All the villagers are Sgaw Christians. There is a church. There is a primary school and ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are about 300 houses in the village. There is no electricity in the village. The village is situated in the form of circle on the plain. There is no flooding here even in the rainy season. The main job to earn their living is making thatched roofing out of nipa and they plant and harvest a lot of nipa.

Village: S10

The village is located in the south part of Ayeyarwady Division. There are many branches of the Ayeyarwady River flowing through the villages in this area, and most are only accessible by boat. You have to take a ship for 4 hours from Pathein to a town and a motorboat from the town to the villages for a few hours depending on the situation of the villages. We can also take a motorboat directly to the villages. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are about 400 houses in the village. There are is no electricity in the village.

Village: S11

The village is located in Pathein Township. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are about 200 houses in the village. There are is no electricity in the village.

Village: S12

The village is located in Pathein Township. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are about 200 houses in the village. There are is no electricity in the village. It is far from the main road. It takes one and half hours to get there from the town of Pathein. We need to pass one Burmese village and two Sgaw villages to get there. The school is built of wood.

Village: B13

This village is in Pathein Township. The majority of the villagers are Sgaw Christians. A few Burmese speakers live in the village. There is a church and a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There are is no electricity in the village.

Village: S14
The village is located in Pathein Township. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There is no electricity in the village.

**Village: S15**

The village is located in Pathein Township. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There is also a morning chapel for the children to learn Bible and Sgaw. There is no electricity in the village.

**Village: S16**

The village is located in the south part of Ayeyarwady division. There are many branches of the Ayeyarwady River which flow through the villages in this area, and most are only accessible by boat. We can also take a motorboat directly to the villages. We can also take a motorboat directly to the villages. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class. There are about 400 houses in the village. There is no electricity in the village. The school principal is Sgaw. There are a few families with mix marriages where one spouse is Sgaw and the other is Chinese, Indian, or Pwo Karen. The spouses from other ethnic groups have all learned to speak Sgaw.

**Villages: S17, S18, and B19**

These villages are located in Pathein Township. All the villagers are Sgaw Christians. There is a church, a primary school and an ECCD class, and a morning chapel in each village. There is no electricity in the village.

### 4.3 Case Study Classes

This section describes the two case study Grade 3 classes, in which the researcher did observations and the main source of qualitative data for this study. The description of these two classes is divided into five subsections: schools; classrooms; Grade 3 learners; class teachers; language use in class 1 (Burmese-speaking teacher); language in class 2 (Sgaw-speaking teacher).

#### 4.3.1 Schools

The schools are one story buildings built of brick, the floor and the wall are concrete and the roof is zinc. There are no walls between the classrooms. If one class is noisy reading the lessons out loud, the other ones sometimes have to go out and have a class outside the school. Sometimes the heavy rain makes loud noise on the roof and
the learners could not hear each other even though they sit close together and speak loudly. During the lunch break, children play in the classrooms after having lunch since the classrooms are the only place to play.

Schools 1 and 2 are primary schools which include from Grade 1 to Grade 5. The children from the schools move on to the middle school in another village or they stop their education after primary school. The two villages are supported financially by World Vision. The principal in class 1 is a Burmese and she also teaches the Grade 3 class. The principal in class 2 is a Sgaw-speaking teacher who also teaches Grade 1. The classroom teachers teach all subjects. The classes start at 9am and finish at 4pm with an hour lunch break at 12 noon.

4.3.2 Classrooms

Normally, the physical layout of both classrooms was uniform with long desks and benches. There were altogether three or four rows, two desks in a row divided by an aisle. The learners sat in rows facing their teacher. The teacher of the observed class in class 1 usually asked the learners to move the desks aside. She positioned herself sitting in the middle of the circle of the learners who like to sit on the concrete floor while she explained the lessons. Therefore the teacher and the learners could hear each other as the classrooms do not have the walls to partition and block the noise from other classes. The teacher of the observed class in class 2 normally stood in front of the class and sometimes walked through the aisle or around the classroom when she explained the lessons. Though some large moveable board partitions were provided to separate the classrooms the noise carries easily, so the teachers need to speak in a loud voice. The teachers in both schools used blackboards and chalks. The learners use small slates to work on their exercises and use notebooks for homework or lessons notes.

4.3.3 Grade 3 learners

The classroom observations were carried out in two Grade 3 classrooms. When these learners were in Grades 1 and 2, they learned the curriculum subjects with Sgaw-speaking teachers who use Sgaw to explain the lessons. Their main exposure to the new language, Burmese was through the lessons printed in the text books. The learners’ primary oral language is only Sgaw, although they had all attended ECCD classes in which they learned songs in Sgaw, Burmese, and English. Since Grade 1 they have attended chapel each morning for learning the Sgaw Bible and the Sgaw...
alphabet and literacy. In Grade 3, the learners from class 1 were taught the lessons by a Burmese-speaking teacher who can only speak Burmese whereas the learners from class 2 were taught by a Sgaw-speaking teacher who mostly uses Sgaw in teaching. Further information on language use in the two classes will be described in section 4.3.6 and 4.3.7. There were 23 learners in class 1 class and 24 in class 2 class, which is slightly above the average class size for the other classes in this study (mean = 20.6; median = 23; mode = 24). The ages of the learners ranged from 8 to 10. All of them were from the local village. Most of the children start their schooling at the age of 5, but some parents send their children to school at age 6 or 7 because they thought that their children are still too young to go to school at the age of 5.

4.3.4 Class teachers
The teacher who was teaching in class 1 is a Burmese-speaking teacher. She lives in a Burmese village which is three miles from village 1. She is a university graduate. Previously she was a teacher at a primary school in a Burmese village for three years. She had been working in class 1 as a principal and teacher for four years. She had not received any training from PCF.

The teacher who was teaching in class 2 is a Sgaw-speaking teacher. She is currently a university student taking a major in history by distance education. She is a village community teacher (VCT). The VCTs have been trained by PCF to be teachers in primary school. She had been teaching in this village for four years.

4.3.5 Subjects
Basically, in both of the observed classes, the teachers teach the subjects with the same kind of teaching style. The language used in the textbooks for each subject is Burmese except for in the English subject. The teachers have a teaching plan to teach each topic in the Burmese language subject for five periods in a week. The teaching plan could be divided into three main parts: 1) introducing the topic and its content, 2) reading the text, and 3) practice exercises in the lessons. In every part, the teacher helped the learners gain more understanding of the topic. Every time the teachers did those parts, they provided the learners with an opportunity to talk about the topic relating to their own experiences. At least four lessons in every subject are supposed to be taught in a week. There is a teachers’ guide developed by Education Ministry only for the Science subject.
4.3.6 Language use in the observed classes

The national language, Burmese is the official language to use in the class. Sgaw-speaking teachers use the Burmese curriculum but use Sgaw orally to explain in words the learners can understand. This section describes the use of languages by the teachers and the learners in the observed classes in class 1 and 2.

4.3.6.1 Language use in the observed class in class 1

The entire curricula are organized in Burmese. All the textbooks of the subjects are in Burmese except the English subject. For the class taught by the Burmese-speaking teacher who uses only Burmese, the lessons are taught in Burmese only. The children never use Burmese at home, in fact they do not have regular access to it outside school. Sgaw, the children’s home language, is the only one language they use in their daily life. There is a big difference between the languages that children speak at home and the language used in the classroom. The teacher does not speak the language that the children use. The topics of the Burmese, Mathematics, and the General Science lessons are explained only in Burmese.

4.3.6.2 Language use in the observed class in class 2

The Sgaw teachers themselves feel more comfortable to use Sgaw than to use Burmese with the children. First the teacher discussed a topic of the lesson in Sgaw. Later, the teacher introduces the terms from the text in Burmese with explanation in Sgaw. After that, the teacher confirms the meaning of the Burmese words again in Sgaw. Then the teacher leads, reading the whole text line by line with explanation in Sgaw. After reading the text, the teacher asks the learners plenty of questions to check that they understand. The teacher is supposed to use Burmese as she was instructed by the senior teacher. However, every time the teacher uses Burmese she repeats the words in Sgaw. The Sgaw teacher always has to use Sgaw to be able to successfully teach and communicate with the children.
Chapter 5
The Analysis of the Learners’ Test Results

This chapter presents the analysis of the data collected on the test results of the Grade 3 learners in 19 villages. The analysis examines the relationship between language choices in the class and Grade 3 learners’ achievements. The statistical analysis is done with great help by Dr. Robert Wyn Owen.

5.1 Overview of the data
This section provides an introduction to the data on the learners’ test results. This study utilizes the data on Grade 3 learners’ test results from 19 classes which represent about one third of the total number of 54 schools in the target area. The monthly, chapter-end test scores from November 2009 are available for the Burmese; Mathematics; Science and English subjects. Table 2 gives a summary of the data.

Each village and school is given a number from 01 to 19 and the particular class is labeled according to the mother tongue of the Grade 3 teacher in Nov 2009. So, for example, class B01 denotes the Grade 3 class in school 01 whose teacher speaks Burmese as her mother-tongue whereas class S04 denotes the Grade 3 class in school 04 whose the mother tongue is Sgaw. The three-letter codes in the ‘Teacher Language’ column indicate the pattern of languages of instruction used by the teachers who taught the present Grade 3 class while they were in Grades 1, 2 and 3. So, for example, SSB denotes that in Grades 1 and 2 the teachers were both Sgaw mother tongue speakers whereas the Grade 3 teacher was a Burmese mother tongue speaker. The final four columns give typical marks (as measured by the median for each class) for the four subjects on which the learners were tested, namely Burmese, Mathematics, Science, and English.
The data in Table 2 shows that there are only three different patterns of teacher language: SSS; SSB and BBB. There are 11 classes with the SSS pattern; 7 with SSB; and 1 with BBB. By totaling the appropriate columns it can be seen that there are 216 males, 176 females giving a total of 392 learners from 19 schools. The males make up 55% of the total sample and females 45%. Class B07 is the only one with the BBB teacher language pattern. We note that class B03 has the lowest marks of any of the schools, with over half the class failing the original tests in Burmese and Mathematics. One other aspect of B03 that stands out is the ratio of males to females, which is over 5:1. If there are differences in test performance for males and females, class B03 would be particularly affected. There is further discussion of the problems caused by a large proportion of failures in Section 5.2.3.
5.2 Test System

This section presents the test system and is divided into three sub-sections: test procedure; test papers; and test scores.

5.2.1 Test procedure

Learners are tested at the end of each month on the material studied that month. This is called a chapter-end test. According to the education system, in primary school, every student is supposed to move on to the next grade each year so they provide supplementary tests if the child fails the test the first time. Although officially Grades 1 and 2 learners can move on to next grade without passing the test, the teachers arrange the tests to give the learners motivation for wanting to try hard in the class.

Those learners who fail the original test (i.e. get a mark of less than 40%) are tested again. If they can’t pass even the supplementary test the teachers have to check the learners records and discuss with their parents to make a decision on whether the student should move on to the next grade or not.

5.2.2 Test papers

The English translations of the test papers along with the marking schemes for each subject are given below.
1. Put the punctuation where it is necessary in the text given. (5 marks)

For this question, a paragraph of three to four sentences is provided without any punctuation such as marks between phrases or marks at the end of the sentences. (Burmese has only two punctuation marks, roughly equivalent to a comma and a period in English.) The learners are to put those marks in the paragraph.

2. Fill in the blanks. (4 marks)

a. The bird received by the monks is ______.
b. Bees are living by ______.
c. When you play “htotesito” the leader is called ______.
d. In the battle for freedom, ______ participated.

3. Make a sentence using each word given below. (8 marks)

a. elder   b. rule   c. happily   d. martyr

4. Answer the questions. (8 marks)

a. What is “atakuchin”?
b. Describe the types of bees in a bee hive.
c. What benefit can you get by playing “htotesito”? 
d. What is the date that Myanmar became independent?
1. Choose the correct word given in the brackets. (5 marks)
   a. The boys are playing (in, under) the tree.
   b. The cow is (in, under) the tree.
   c. Su Su is (behind, under) the door. She is hiding.
   d. The blackboard is (behind, in front of) the class.
   e. The picture is (in, on) the wall.

2. Look at the pictures and write the words. (5 marks)
   a. ____________________________
   b. ____________________________
   c. ____________________________
   d. ____________________________
   e. ____________________________

3. Fill in the blanks with ‘is’ or ‘are’. (5 marks)
   a. Where _____ the apple?
   b. Where _____ the eggs?
   c. The stars _____ in the sky?
   d. The orange _____ beside the apple.
   e. There _____ many boats in the river.

4. Look at the pictures and answer the questions. (10 marks)
   a. Where is the flower? It is ____________.
   b. Where is the ball? It is ____________.
   c. Where is the spoon? It is ____________.
   d. Where are the two apples? They are ____________.
   e. Where are the three glasses? They are ____________.
1. Choose the correct answers. (5 marks)
   a. Three umbrellas at the same price cost 96 so one umbrella will cost
      i. 32 ii. 33 iii. 34
   b. The fraction, 1/4 is
      i.  
      ii.  
      iii.  
   c. 3/4 - 1/4 =
      i. 1/4 ii. 2/4 iii. 3/4
   d. 3 kyats 75 pyas + 6 kyats 25 pyas is
      i. 10 kyats ii. 11 kyats 10 pyas iii. 9 kyats 90 pyas
   e. 18 kyats 75 pyas – 9 kyats 25 pyas is
      i. 9 kyats 25 pyas ii. 9 kyats 50 pyas iii. 9 kyats 75 pyas

2. Fill in the blanks. (5 marks)
   a. You can subtract 2 from 8 _____ times.
   b. One out of 2, one half, and one part of a two sector circle is written in
      fraction as: _______.
   c. The numerator in 3/5 is _______.
   d. The denominator in 3/4 is _______.
   e. 3 kyats 25 pyas is equal to ______ pyas.

3. Calculate the sum. (a, b, c, d, e) (15 marks)
   a. Divide 936 by 3.
   b. If 12 oranges are kept in a bag, how many bags are needed for 927 and
      how many oranges are left.
   c. Calculate 1/4 + 1/4 by drawing the diagrams.
   d. Calculate 3/4- 1/2 by drawing the diagrams.
   e. If you bought a hoe for 160 kyats 50 pyas, a shovel for 112 kyats, a knife
      for cutting grass for 66 kyats 75 pyas and a sickle for 80 kyats 90 pyas, how
      much did you pay in total.
1. Choose the correct answer. (5 marks)
   a. When we hear the marching sound, we feel _______.
      i. afraid  ii. excited  iii. weak
   b. Rubbing two sticks of bamboo together can cause _______.
      i. heat  ii. light  iii. magnet
   c. In the day time, natural light comes from (the) _______.
      i. candle  ii. electricity  iii. sun
   d. At our age, we must find _______.
      i. money  ii. education  iii. religious teaching
   e. If you get pocket money, you should buy a snack that is _______ and makes you full.
      i. nutritious  ii. with toy  iii. wanted

2. Answer the questions (short answer). (8 marks)
   a. Describe a factor that can cause forest fires.
   b. State two kinds of pleasant sounds that you like.
   c. Write down two good deeds that you could do.
   d. What is unclean food?

3. Answer the question (long answer). (12 marks)
   a. Describe two kinds of sounds that make you feel pleasant and two kinds of sounds that make you feel unpleasant.
   b. If you got pocket money what kind of snack must you buy and eat. Give two examples.
   c. Is it good manners to hurt other people? Describe two kinds of actions that you should avoid at your age.
Note that the math questions refer to kyat and pya (100 pya = 1 kyat). Although pya coins were previously used in Myanmar, due to inflation they are no longer used and currently the smallest denomination currency is a 5 kyat note.

From the structure of the question papers, total scores might be expected to have a multi-peaked distribution. For example, if learners understand how to answer a particular question, they can then get marks from several parts of that question. However, if a student does not understand what is required in a particular question, they will not be able to answer any of the parts of that question and so all of the marks for that question will be beyond their reach.

**5.2.3 Test scores**
The test score data are recorded as percentages, but the tests were originally out of 25 and marks were multiplied by 4 to obtain a percentage. Half marks are apparently awarded since percentages of e.g. 50 and 42 are not divisible by 4. The fact that the original marks total was 25 will be of practical importance when interpreting differences between different groups. For example, a difference of 8% between two scores would be equivalent to two questions worth one mark each in the original test.

If a student passes the re-test, they are awarded a 40% in the mark list, no matter how much greater than 40% their score in the re-test. In the original test, if somebody scores 40%, their mark is recorded as 42% to show that they passed the original. It is thus always possible to identify which marks are from the retest. Marks of less than 40% in the recorded mark list could be either from the retest or from the original test if the student did not take the retest. In the analysis that follows it will not matter which test they are from.

The results show that many children, particularly boys, fail the original test. This is shown by the dramatic peak at 40% in the dotplot of all male scores in Burmese in Figure 5.
Schools do not keep records of the original scores for those learners who need to take the re-test. The data provided is therefore a kind of mixture distribution. The mean of such a mixture distribution is not of interest because it combines results from two different tests. Where a measure of typical score for a class is required, the median will be used, because the median of the mixture distribution is the same as the median of the original distribution as long as the number of failures in the particular subgroup for which the median is calculated is less than half the group. For example, the number of males who fail Burmese is less than half the total males, so the overall median score for male learners in Burmese is the same as the original. However, for school B03 in Burmese, there are 17 failures out of 21 boys in the class. So the median score of the male learners in Burmese for B03 is not the same as the median of the scores of the original test. The median of the original B03 scores was probably much lower. The following sections explore factors that might explain patterns in the data.
5.3 Description of Factors
There are two types of factors: those that could not be measured and those that were measured. These are described in the following subsections.

5.3.1 Unmeasured factors
It was not possible to obtain appropriate data to directly assess the effects of the following factors, both of which might cause differences between classes: teacher proficiency; environmental factors.

5.3.1.1 Teacher proficiency
Although no actual numbers were collected, the author's experience as a member of the Sgaw community which is similar to the Sgaw people from the target community is that there are differences between the Sgaw teachers and the Burmese teachers. The primary difference is that Sgaw teachers have Sgaw as their L1; Burmese as their L2 and English as their L3. The Burmese teachers have Burmese as their L1 and English as their L2. Sgaw teachers are often from local villages so have limited exposure to Burmese (outside of their own education) and even more limited exposure to English. The Burmese teachers on the other hand speak Burmese as their L1 and, since they are from the larger towns, have had more exposure to English. As far as teaching is concerned, the Burmese teachers teach their L1 and L2 as subjects whereas the Sgaw teachers teach their L2 and L3. Another difference between the Burmese and Sgaw teachers is their level of education. The Burmese teachers have often studied at higher levels, usually having a bachelor's degree whereas the Sgaw teachers often do not have a bachelor's degree. Most of the Sgaw teachers in the target area are the community village teachers who are the ones the village appointed to fill a real need for teachers.

5.3.1.2 Environmental factors
The descriptions in Chapter 4 give details about the general situation in most of the villages. All of the villages are relatively poor and parents often have little education themselves so are unable to provide much help to their children with school work. Extra tuition where learners pay for help with schoolwork outside of school is only available in a few of the villages. Some of the villages have more contact with Burmese-speaking villages than others. Such exposure to Burmese would be expected to benefit children in their study of Burmese and their understanding of
other aspects of the curriculum, although the exposure might not be sufficient to make any real difference in practice.

5.3.2 Measured factors

When analyzing the data it is necessary to consider all factors that might contribute to the pattern of tests scores observed. The focus of this study is the effect on the test scores of the language of the teacher. In order to claim that differences in test scores are due to differences in the language of the teachers of different classes, other factors must be accounted for. The data collected allows the following factors to be assessed directly: Class effect; Class size; Grade 3 teacher language. Grade 1 and Grade 2 teacher language were recorded for each class, but only one school, B07, had the BB pattern, all other schools have the SS pattern. There is therefore not enough data to estimate the effect of the BB pattern. In subsections 5.3.2.1 to 5.3.2.5 these measured factors will be explored one at a time, to check for evidence of correlations between each individual factor and test scores. In order to be concise, the explorations are only presented for one subject, namely Burmese. In Section 5.4, full analyses of test scores for all four subjects are presented. The explorations presented in the following subsections are not conclusive, rather they suggest potential relationships in the data which will be more rigorously examined in Section 5.4.

5.3.2.1 Class

Figure 6 shows boxplots of Burmese test scores for each class. The width of the boxes are proportional to the number of learners in the class, so the narrowest box is S15 which has 4 learners and the widest box is B07 which has 38 learners. The bold dots represent the median values for each class.
Figure 6 shows that median scores in classes with a Burmese teacher – grouped towards the left of the plot – are on the whole lower than the median score for classes with a Sgaw teacher. The median values vary greatly – from 40 for class B03 to 92 for class S15. The lengths of the boxes show that the distribution of marks within a class also varies considerably from class to class. The asterisks indicate scores that are extreme for a particular class. In other words, given the spread of the central 50% of the scores for a particular class (as depicted by the box) these scores are unexpectedly far from the nearest quartile (represented by the upper and lower edges of the box) and are considered extreme. There appears to be some correlation of class size with test score – for example, the high median score of the smallest class S15. (The narrowest box indicates it has the smallest class size.) However there are exceptions – for example the low median value of class B09. These observations suggest that the particular class a student is in has an effect on test score, apart from the effects of Grade 3 teacher language and class size.

Figure 6  Boxplots of scores in classes

Figure 6 shows that median scores in classes with a Burmese teacher – grouped towards the left of the plot – are on the whole lower than the median score for classes with a Sgaw teacher. The median values vary greatly – from 40 for class B03 to 92 for class S15. The lengths of the boxes show that the distribution of marks within a class also varies considerably from class to class. The asterisks indicate scores that are extreme for a particular class. In other words, given the spread of the central 50% of the scores for a particular class (as depicted by the box) these scores are unexpectedly far from the nearest quartile (represented by the upper and lower edges of the box) and are considered extreme. There appears to be some correlation of class size with test score – for example, the high median score of the smallest class S15. (The narrowest box indicates it has the smallest class size.) However there are exceptions – for example the low median value of class B09. These observations suggest that the particular class a student is in has an effect on test score, apart from the effects of Grade 3 teacher language and class size.
Since the true median value of the original test scores for class B03 is almost certainly much lower than the median (40%) of the mixture of both original test and re-test, this class is omitted from the following analysis. This is to prevent one extreme class from having too much influence on general conclusions that are drawn from the data.

5.3.2.2 Grades 1 and 2 teacher language

It is to be expected that the effect on student’s learning of not having a language in common with their teacher would be most acute in Grade 1 followed by Grade 2. It is therefore important to look at the effect on test scores of teacher language in Grades 1 and 2. As it turns out, the only class in the entire sample to not have Sgaw teachers in Grades 1 and 2 is class B07, which had Burmese teachers in both Grade 1 and Grade 2. This is probably due to the fact that there is a Burmese village in very close proximity to the village in which the school is located. There are even some Burmese-speaking children in the class.

Figure 7 shows median scores in Burmese for 18 classes differentiated by teacher language in Grades 1 and 2.

![Dotplot for Burmese median (by teacher language in Grades 1 and 2)](image)
As can be seen from Figure 7, the one class that had Burmese teachers in Grades 1 and 2 had the lowest median score in Burmese of the 18 classes. It should be noted that class B07 had the equal largest class size, namely 38 learners. While it is not possible to draw firm conclusions from just a single class, these results are consistent with what one would expect: if learners do not have a language in common with their teacher in Grades 1 and 2 it has a severe negative impact on student learning.

In the analyses that follow, class B07 is omitted to ensure that any teacher language effect is due to the Grade 3 teacher language.

5.3.2.3 Class size

The relationship between class size and test performance is visualized in Figure 8 of class median scores in Burmese versus class size. Figure 6 also indicates the language of the teacher for each class.

As can be seen from the plot, higher median scores tend to be associated with lower class sizes and lower median scores tend to be associated with higher class sizes. This pattern is true for both the scores from classes with a Sgaw teacher (symbolized by a cross) and classes with a Burmese teacher (symbolized by a circle). This is what one would expect as for a larger class the teacher's attention has to be divided.
between a greater numbers of learners. Another point to note from the plot is that for a given class size, the scores from classes with a Sgaw teacher are generally higher than the scores from classes with a Burmese teacher.

5.3.2.4 Gender

There are differences in social roles for girls and boys in the village communities where this study was based. Outside of school hours boys might be asked to help parents in the fields whereas girls stay at home possibly looking after younger siblings but generally having more opportunity to study than the boys. Gender is therefore an obvious factor to examine in performance.

The differences between male and female scores in Burmese are plotted in Figure 9 for each class. This ensures the comparison between typical male and female scores is done while other factors such as class size and teacher language are controlled.

![Comparing Male and Female Scores in Burmese](image)

**Figure 9** Difference in median Burmese test scores (Female minus Male)

As can be seen in the plot, the differences between the median score of male and female are shown on the vertical axis. Only two of the differences (for classes S04 and S08) are less than zero, meaning that in the remaining 15 classes the typical score for female learners is at least as great as that for the male learners. This suggests that gender is an important factor in test performance.
5.3.2.5 Grade 3 teacher language

There have been indications of the effect of Grade 3 teacher language in the plots in previous sections, for example in Figure 8 the median score for a class with a Sgaw teacher was generally higher than for a class of the same size with Burmese teacher. Figure 10 compares the cumulative distributions of test scores for learners with Burmese and Sgaw-speaking teachers. For a particular score on the Burmese test (shown on the horizontal axis) the corresponding value on the vertical axis shows what proportion of the students achieved scores less than that value. For example, the dotted line representing the students with Sgaw teachers shows that approximately 25% of those students (vertical axis) achieved scores below 50% (horizontal axis). Both graphs end at the same point because all test scores (on the horizontal axis) are less than or equal to 100% and on the vertical axis is plotted on a percentage scale.

As can be seen from Figure 10, the fact that the solid line representing the scores of learners with a Burmese-speaking teacher is always above the dotted line representing learners with a Sgaw-speaking teacher shows that the proportion of learners with a Burmese-speaking teacher getting marks below a certain value is always higher than for learners with a Sgaw-speaking teacher. In other words, learners in Sgaw classes generally get higher marks.
5.3.3 Summary of factors
To summarize, when examined one at a time, there is evidence that gender, Grade 3
teacher language, class, and class size are all associated with differences in test
scores in the Burmese subject. The analysis that follows examines the ability of
combinations of factors to predict the test scores. As will be seen, there are different
patterns between the different subjects, so each will be presented separately.

5.4 Analysis of Test Scores
This section presents the results of fitting statistical models to the data. The models
help to show the relative importance of each factor in predicting test scores. To rule
out the effect of Grades 1 and 2 teacher language, class B07 was not included in the
following analyses. Class B03 was also omitted because of its extremely high
proportion of failures. To overcome the problems caused by lack of normality in the
test scores, the test scores were first ranked and the models were fitted to the ranked
data.

5.4.1 Analysis of Burmese test scores
The best model for ranked Burmese scores was a mixed effects model including a
random effect for class plus fixed effects for Gender, Class Size, and Grade 3 teacher
Language. The relevant output from the R computer package is displayed in Figure
11.

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<th>Linear mixed-effects model fit by REML</th>
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<tr>
<td>Random effects:</td>
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<tr>
<td>Formula: ~1</td>
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<tr>
<td>(Intercept) Residual</td>
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<tr>
<td>StdDev: 41.80242 80.04392</td>
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<tr>
<td>Fixed effects: brank ~ gender + n + TL</td>
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<td>TLS 60.36728 25.201710 14  2.395364  0.0311</td>
</tr>
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</table>

Number of Observations: 329
Number of Groups: 17
The key points to note from this are illustrated by the graph in Figure 12.

Figure 12 shows four lines representing the predictions of the model for the average (mean) class rank, one for each Gender-Teacher Language combination. A high mean rank represents high overall performance in a class. There are 329 learners altogether, so the ranks of individual student scores in Burmese have a range of 1 to 329. Each line decreases as class size increases implying that learners in smaller classes on average get higher scores than learners in larger classes. Gender is shown to have an effect because the line representing female learners is above the line for male learners for both Sgaw teachers and Burmese teachers. Teacher language is shown to have an effect because both lines for Sgaw teachers are above the two lines for Burmese teachers. The coefficient for Teacher Language in the model is 60.37 (2 d.p.) which means that for a given class size, learners whether male or female would on average have their rank improved by 60 if they had a Sgaw teacher instead of a Burmese teacher.

For ease of interpretation, the model is fitted to the actual Burmese test scores. The relevant output from the R computer package is shown in Figure 13.
Linear mixed-effects model fit by REML

Random effects:
  Formula: ~1 | class
  (Intercept) Residual
  StdDev:  8.75503  16.73723

Fixed effects: Burmese ~ gender + n + TL

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Number of Observations: 329
Number of Groups: 17

**Figure 13** Output from R computer package for mean score on Burmese test

Figure 14 helps to illustrate the key features of the fitted model.

**Figure 14** Mean score on Burmese test
Figure 14 shows four lines representing the predictions of the model for the average (mean) class score, one for each Gender-Teacher Language combination. Each line decreases as class size increases implying that learners in smaller classes on average get higher scores than learners in larger classes. Gender is shown to have an effect because the line representing female learners is above the line for male learners for both Sgaw teachers and Burmese teachers. Teacher language is shown to have an effect because both lines for Sgaw teachers are above the two lines for Burmese teachers. The coefficient for Teacher Language in the model is 12.86 (2 d.p.) which means that for a given class size, a typical student whether male or female would have their score improved by approximately 13% if they had a Sgaw teacher instead of a Burmese teacher. This improvement is large enough to be of practical importance.

5.4.2 Analysis of Science test scores
The best model for ranked Science scores turned out to include interaction terms as well as individual factors. Figure 15 shows relevant output from the R computer package.

Linear mixed-effects model fit by REML

Random effects:
Formula: ~1 | class
(Intercept) Residual
StdDev: 41.77581 80.42206


<table>
<thead>
<tr>
<th>Value</th>
<th>Std.Error</th>
<th>DF</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>142.38716</td>
<td>57.99760</td>
<td>308</td>
<td>2.4550527</td>
</tr>
<tr>
<td>gender</td>
<td>167.99627</td>
<td>55.55933</td>
<td>308</td>
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</tr>
<tr>
<td>n</td>
<td>-0.35354</td>
<td>3.30067</td>
<td>13</td>
<td>-0.1071120</td>
</tr>
<tr>
<td>TLS</td>
<td>105.74594</td>
<td>71.57372</td>
<td>13</td>
<td>1.4774409</td>
</tr>
<tr>
<td>gender:n</td>
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<td>308</td>
<td>-2.2918351</td>
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<tr>
<td>gender:TLS</td>
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<td>66.63374</td>
<td>308</td>
<td>-3.0183723</td>
</tr>
<tr>
<td>n:TLS</td>
<td>-3.49487</td>
<td>3.71476</td>
<td>13</td>
<td>-0.9408074</td>
</tr>
<tr>
<td>gender:n:TLS</td>
<td>9.47231</td>
<td>3.19594</td>
<td>308</td>
<td>2.9638571</td>
</tr>
</tbody>
</table>

Number of Observations: 329
Number of Groups: 17

Figure 15  Output from R computer package for mean rank on Science test
The data in Figure 15 shows that the three-way interaction term gender:n:TLS is significant and is needed in the model. This implies that all of the other terms are also needed. In other words, Gender, Class Size, and Teacher Language along with the random class effect are needed in the model that best predicts rank of science scores. However, the relationship is complex because the effect of varying one factor depends on the levels of the other factors. Figure 16 shows the model predictions for mean ranks of science.

Figure 16  Mean rank on Science test

Figure 16 shows that for each Teacher Language-Gender combination, mean rank decreases with class size. The effect of increasing class size is approximately the same for Females with a Sgaw teacher and Males with a Burmese teacher: both show a slight decrease in mean rank as class size increases. However, increasing class size affects Girls with a Burmese teacher and Boys with a Sgaw teacher more acutely. For the range of class sizes the following observations can be made:

For Girls in classes with less than 16 learners, having a Burmese teacher leads to higher performance, whereas for classes larger than 16 having a Sgaw teacher leads to higher performance. The mean rank for girls with a Burmese teacher shows a dramatic decline as class size increases. For boys in classes with less than 30 learners having a Sgaw teacher leads to higher performance, whereas for classes larger than 30 having a Burmese teacher leads to higher performance.
5.4.3 Analysis of Mathematics test scores

The data in Figure 17 is the relevant output from the R computer package.

Linear mixed-effects model fit by REML

Random effects:
  Formula: ~1 | class
    (Intercept) Residual
  StdDev:   64.54845 75.79769


<table>
<thead>
<tr>
<th>Value</th>
<th>Std.Error</th>
<th>DF</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>119.44582</td>
<td>79.47835</td>
<td>308</td>
<td>1.5028725</td>
</tr>
<tr>
<td>gender</td>
<td>142.13487</td>
<td>52.43433</td>
<td>308</td>
<td>2.7107216</td>
</tr>
<tr>
<td>n</td>
<td>1.73016</td>
<td>4.60608</td>
<td>13</td>
<td>0.3756257</td>
</tr>
<tr>
<td>TLS</td>
<td>56.52478</td>
<td>96.91592</td>
<td>13</td>
<td>0.5832352</td>
</tr>
<tr>
<td>gender:n</td>
<td>-6.11498</td>
<td>2.71584</td>
<td>308</td>
<td>-2.2515955</td>
</tr>
<tr>
<td>gender:TLS</td>
<td>-182.01964</td>
<td>63.03019</td>
<td>308</td>
<td>-2.8878167</td>
</tr>
<tr>
<td>n:TLS</td>
<td>-2.45137</td>
<td>5.15790</td>
<td>13</td>
<td>-0.4752652</td>
</tr>
<tr>
<td>gender:n:TLS</td>
<td>8.42364</td>
<td>3.01892</td>
<td>308</td>
<td>2.7902826</td>
</tr>
</tbody>
</table>

Number of Observations: 329
Number of Groups: 17

Figure 17  Output from R computer package for mean rank on Mathematics test

The data in Figure 17 shows that the three-way interaction term gender:n:TLS is significant and is needed in the model. This implies that all of the other terms are also needed. In other words, Gender, Class Size, and Teacher Language along with the random class effect are needed in the model that best predicts Mathematics scores. However, the relationship is complex because the effect of varying one factor depends on the levels of the other factors. Figure 18 illustrates the key features of the model.
Figure 18 shows that for both boys and girls class size has the opposite effect on classes with a Sgaw teacher to its effect on classes with a Burmese teacher. For classes smaller than 22, girls with Burmese teachers score higher whereas for classes larger than 22, girls with Sgaw teachers score higher. For boys these results are reversed: for classes smaller than 23, boys with Sgaw teachers score higher whereas for classes larger than 23, boys with a Burmese teacher score higher.

5.4.4 Analysis of English test scores
The best model for English test scores was based on a random effect for class plus the variable Gender. In other words it was better to omit Class Size and Teacher Language from the model. The data in Figure 19 is the relevant output from the R computer package.
Linear mixed-effects model fit by REML

Random effects:
Formula: ~1 | class

(Intercept) Residual

StdDev: 57.98148 73.44893

Fixed effects: erank ~ gender

Value Std.Error  DF  t-value p-value
(Intercept) 162.44795 15.306416 311 10.61306  0.0000
gender       17.60931  8.289542 311  2.12428  0.0344

Number of Observations: 329
Number of Groups: 17

Figure 19  Output from R computer package for mean rank on English test

Figure 20 shows the plot of mean score versus class size illustrates the model.

Figure 20  Mean rank on English test

The two lines are horizontal which shows that Class Size makes no difference to average (mean) class scores. Similarly Teacher Language makes no difference to
mean test scores in the model – the only difference is due to Gender. The vertical difference between the two lines is around 18, meaning that the typical rank of a Female student is 18 places higher than the typical rank of a Male student.

5.5 Summary of Findings
The findings revealed an important issue, gender is shown to be a vital factor in predicting student performance for each of the four academic subjects. In almost every case, female learners perform better than male learners.

A random class effect is shown to be vital for all four academic subjects. This captures something of the unmeasured factors such as teacher proficiency and 'environmental' factors particular to each class.

Grade 3 teacher language is shown to be vital for three of the four academic subjects. In almost every case, classes with a Sgaw-speaking teacher perform better than classes with a Burmese-speaking teacher.

Class Size is shown to be a vital factor for three of the four academic subjects. In almost every case, an increase in class size is associated with a decrease in predicted performance.

Although the sample only included one class that had not been taught by Sgaw teachers in Grades 1 and 2, the generally low scores of that class support the expectation that learning would be greatly impeded by not having a language in common with the teacher in these first two years in school. Even if learners have had Sgaw teachers in Grades 1 and 2, it is also generally detrimental to learning to not have a Sgaw teacher in Grade 3. The test results analyzed in the previous section were from November. That means it is about halfway through the June-February school year, so even in such a short period of time, the impact of language of instruction is detectable.

The strength of results varies across subjects, but in probably the most important subject, namely Burmese, there is very strong evidence that having a Sgaw teacher enables the learners to achieve higher scores. Moreover the size of the benefit is large enough to be of practical importance. These results are all the more remarkable since all the tests taken by the learners are in Burmese, so even if learners with a Sgaw teacher gain an advantage by having explanations in their mother tongue, they must still know enough Burmese to understand the questions and be able to answer them in Burmese. It is expected that if the whole dataset from
the original tests were available (including the scores of those learners that failed the original test) these analyses would show even larger differences between the classes with Sgaw teachers and those with Burmese teachers.

5.6 Discussion of Results

The analysis of test results in the previous sections shows different behavior for the different academic subjects. Here is a possible explanation of why the results show strongest evidence for the advantage of having the teacher speak the learners' mother tongue in Burmese followed by Mathematics and Science followed by English:

Sgaw teachers are fluent in Burmese, so they are able to teach it well as a subject. The questions on the test are in the language of the subject. The advantage of Sgaw is greater than for other subjects because there are fewer additional skills to master to perform well on the test.

In Science and Mathematics, Sgaw teachers produce better results, but the fact that the learners have to learn the Burmese vocabulary as well as understand the concepts reduces their advantage in the tests. Often Sgaw teachers have not got a bachelor's degree so their lower level of education probably means they are less proficient at teaching Mathematics and Science. In Science and Mathematics Sgaw teachers produce better overall average results than Burmese teachers. This can be seen by subdividing the schools in Table 2 by Grade 3 teacher language and calculating the median class scores for each subject. These median class scores are presented in Table 3 below.

Table 3  Teacher language median results for the class data in Table 2

<table>
<thead>
<tr>
<th>Grade 3 Teacher Language</th>
<th>Class Size</th>
<th>Male</th>
<th>Female</th>
<th>Burmese</th>
<th>Mathematics</th>
<th>Science</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burmese</td>
<td>20.5</td>
<td>11</td>
<td>7</td>
<td>56.25</td>
<td>61</td>
<td>64.5</td>
<td>73.5</td>
</tr>
<tr>
<td>Sgaw</td>
<td>24</td>
<td>11</td>
<td>12</td>
<td>82</td>
<td>73</td>
<td>80</td>
<td>70</td>
</tr>
</tbody>
</table>

Despite the apparent advantage of Sgaw over Burmese as shown by the greater overall averages achieved in Science and Mathematics, the unclear patterns in Figures 16 and 18 shows that the situation is complex. It is most likely that the advantage gained by Sgaw teachers being able to communicate with the students in their class is reduced by the fact that learners have to understand the Burmese
vocabulary as well as the concepts. Also, Sgaw teachers often do not have a bachelor's degree so their lower level of education probably means they are less proficient at teaching Science and Mathematics.

Sgaw teachers learn English less well than Burmese teachers. Their lower proficiency means they are not so good at teaching English as the Burmese teachers. This means that the advantage gained by being able to explain in Sgaw is reduced by the teachers' lower proficiency in the subject.

In addition to the suggested explanation given above for why the performance over different subjects is mixed, it is important to compare this study with previous research to put the data analysis and results in perspective. The following points are relevant:

Studies of MTB MLE normally compare performance over several years: this study was done where the difference in teacher language was over approximately six months.

Other studies of MTB MLE examine the use of the mother tongue not only as an oral language of instruction but also as a true language of instruction which included curriculum and materials in the learners' L1 as well. In this study, the mother tongue was used as an informal oral language of instruction, but the curriculum and all materials were in the National language. Moreover, the tests which generated the data for this analysis were in the National language.

Other MTB MLE studies have been conducted with greater consistency of qualifications among teachers. In this study, although no information was gathered on the qualifications of teachers, it is almost certain that there were considerable differences between qualifications between Burmese and Sgaw teachers.
Chapter 6
Analysis of the Interviews and the Classroom Observations

This chapter presents a qualitative analysis of the data collected by conducting interviews with the community leaders, school principals, and teachers and observing two Grade 3 classrooms. The qualitative analysis attempts to give evidence only on one factor, namely, the teacher’s first language rather than all factors discussed in Chapter 5.

6.1 Overview of the Data
The information collected by conducting interviews, by making casual observations in the village, and by carrying out careful classroom observations was qualitatively analyzed. Interviews with teachers, principals as well as the village leaders and community leaders were conducted by the researcher. There were altogether 12 main informants including 3 education field officers who were staff from local non-governmental organizations which mainly focus on community education programs. The background information of the villages collected from the community leaders is described in detail in chapter 4.

Both classes were observed for eight days each. There were four sessions a day; Burmese, and English in the morning and Mathematics and Science in the afternoon. There were 23 learners in the class in class 1 and 24 learners in the class in class 2. The teacher in the Grade 3 class in class 1 was taught by a Burmese-speaking teacher while in class 2 the Grade 3 class was taught by a Sgaw-speaking teacher. The learners from both classes had gone through Grades 1 and 2 with Sgaw-speaking teachers.
<table>
<thead>
<tr>
<th></th>
<th>Class 1</th>
<th>Class 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Situation</strong></td>
<td><strong>Remark</strong></td>
<td><strong>Situation</strong></td>
</tr>
<tr>
<td>Text books</td>
<td>Burmese-medium</td>
<td>Except English subject</td>
</tr>
<tr>
<td>LOI</td>
<td>NL</td>
<td>The teacher is a Burmese native speaker so she used only Burmese when she taught the lessons</td>
</tr>
<tr>
<td>Talking during the lesson</td>
<td>Mostly the teacher talks.</td>
<td>The teacher tried to lead a discussion but it failed. She talks a lot using many words and examples to stimulate the children to talk. The children seem to be interested or happy to hear what the teacher said but they do not talk back to the teacher.</td>
</tr>
<tr>
<td>Giving instructions</td>
<td>Not always clear</td>
<td>Clear</td>
</tr>
<tr>
<td>Explaining concepts</td>
<td>Not always clear</td>
<td>Teacher struggled and took a lot of time using many</td>
</tr>
<tr>
<td>Class 1</td>
<td>Class 2</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Situation</td>
<td>Remark</td>
<td>Situation</td>
</tr>
<tr>
<td>illustrations, but sometimes the learners remained confused sitting silently without asking questions back to the teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checking comprehension</td>
<td>Rare</td>
<td>Frequent</td>
</tr>
<tr>
<td>Questions &amp; prompts</td>
<td>Rare</td>
<td>Takes a long time</td>
</tr>
<tr>
<td>Range of feedback from the teacher</td>
<td>Rare</td>
<td>Communication problems</td>
</tr>
<tr>
<td>Language support</td>
<td>Very rare</td>
<td>The teacher asks Sgaw teacher for help to explain the concepts.</td>
</tr>
<tr>
<td>Approachin the teacher to asking questions</td>
<td>Very rare</td>
<td>More often</td>
</tr>
<tr>
<td>Group, pair and individual work</td>
<td>Rare</td>
<td>More often</td>
</tr>
<tr>
<td>Range of respondents from among the learners</td>
<td>Very rare</td>
<td>Usually only one or two girls lead the whole class. The class is silent most of the time.</td>
</tr>
</tbody>
</table>
Classroom processes observed in both classes in schools 1 and 2 can be seen in Table 4. The data in Table 3 shows how well the teachers could carry out the classroom activities and how well the learners could perform in the classroom.

6.2 Analysis Procedure
The rich and complex raw data from the observation notes and interviews was transcribed and entered into the computer in order to arrange all types of data neatly. The data was entered manually by the researcher using the transcript. The data was carefully investigated through many cycles of searching for key words or phrases that fit or support the research questions. Over time, and through multiple rounds of such analysis, constant repetitions of the same problems and recurrent pedagogical and interactional patterns in the data were identified. After having analyzed the data, the patterns of the data are discovered. Then the patterns are sorted into related groups. Finally after having done the categorization of the patterns of the data, the significant features that have an effect on teaching and learning were discovered.

The significant features found from the data:

Features of the classroom where only NL is spoken
- Difficulties for the teacher teaching in NL
- Difficulties for the learners in understanding difficult content
- Difficulties for the learners in memorizing and writing/answering tests
- Difficulties for the learners in developing confidence and good personal study habits

Features of the classroom where both NL and MT is spoken
- Advantages for the teacher teaching in MT
- Advantages for the learners in understanding difficult content
- Advantages for the learners in memorizing and writing/answering tests
- Advantages for the learners in developing confidence and good personal study habits

General Features
- Using the national language in the early years impedes comprehension
- Using the mother tongue promotes the development of cognitive skills
- Using the mother tongue facilitates both good teaching and good learning strategies
6.3 Evidence of the Impact of Language Choices

Based on the analysis of the data from the interviews and classroom observations, we can clearly see the weakness of teaching in a language the children are not familiar with and the strengths of teaching in the mother tongue. The features which are mentioned in the previous section are the evidence that proves a clear answer to the second research question: How does classroom interaction demonstrate the effect of the language of instruction on children’s experience of learning in school?

6.3.1 Effects of teaching in the national language

The research shows the negative impacts of using only the national language in teaching and learning in class 1. The teacher is a Burmese-speaking teacher who does not know Sgaw which is the language learners speak. The teacher in class 2 uses both the national language and the children’s mother tongue, so some negative effects can also occur in this class when the national language is used. The four important categories found in the data are: the difficulties for the teacher; difficulties for the learners in understanding difficult content; difficulties in memorizing and answering the test; and difficulties in developing confidence and good personal study habits.

6.3.1.1 Difficulties for the teacher

The teacher in class 1 found it hard to teach the academic knowledge in a language the children are not familiar with. She tried her best to explain those terms again and again to the children using easy everyday Burmese and many illustrations. For example, when teaching about the topic, “The Farmers” in the Burmese literature class, the words “plowing” and “geography” were difficult to explain. Based on what the researcher observed the classroom process and the report from a teacher, each new topic is to be taught four sections in a week. Every time they worked on a topic they had a time for discussion. The learners from the class in class 2 taught by Sgaw-speaking teacher, could take part in the discussion time fully from the beginning of the first session to the end of the last session. The learners came to absorb the knowledge and could think more and talk. On the other hand the learners from the class in class 1, taught by Burmese-speaking teacher, could not understand all the lessons in the topic and could not follow what the teacher was talking about from the beginning of the lesson. They could not even understand the lessons well and respond to the teacher by the last session. Therefore the only thing they could do to answer the questions in the lessons was to rely on their memorizing skills.
In the General Science class, the teacher struggled to explain the technical terms for the three different parts of the river. The more she used Burmese words to explain the more the children got confused. The children cannot understand unless the teacher explains in a language the children can understand.

The Burmese teacher in class 1 said, “I have to ask one or two girls in the class who are the only ones who understand Burmese better than the others to explain in Sgaw what I said. They explained the words to the class in Sgaw because the other learners did not understand when I explained in Burmese.”

A Sgaw principal stated that Burmese teachers have to ask Sgaw teachers for help to explain the words in Sgaw. The researcher also happened to be asked for help to explain a word to the class while she was observing the class.

Sometimes, at least 2-3 times a month, especially at the end of the month, just before the chapter exams, Sgaw teachers are asked by Burmese teachers for help to explain the old lessons to the children (a Sgaw teacher in class 2).

A Burmese teacher once was teaching a Grade 5 class and he was explaining a topic. A Sgaw-speaking teacher who was teaching in the next-door classroom heard him and she knew that the learners could not understand what their teacher said so she asked him to let her help with explaining the terms when she could not bear to see her friend and the learners struggling to communicate the information in the lessons. Then the children could understand the topic. When the children understand the lessons well they can easily memorize them. The Burmese teachers who are assigned to be the teachers in Sgaw villages find it difficult to communicate with the children and they have to learn Sgaw. The learners asked their teachers questions in Sgaw and the teacher could answer only in Burmese if they could guess what the children ask otherwise the Burmese teachers need to ask for help from Sgaw teachers (the principal in class 2).

6.3.1.2 Difficulties for the learners in understanding difficult content
In the Burmese subject, there are many words in the text book like, “waso, wakaung, etc.,” which are words for the names of the lunar months that Burmese people in present time do not usually use instead they use English names for them. There are
also words such as names of places like train station or hospital which could not be
seen in the learners’ environment. In General Science, there are short notes for the
learners to memorize but it is difficult for the learners to understand the abstract or
academic concepts since they have to learn the words in unfamiliar language.
Besides, there are questions that can be understood immediately if they hear it in
Sgaw but they had a hard time to answer when the teacher asked them in Burmese.
For instance, “When you see a thing owned by other people will you (a) keep it (b)
throw it away (c) give it back”? When the teacher asked this question to the
learners, some of the learners answered by copying a student who picked one
answer and other learners followed the first student. When the teacher asked them if
they were sure then they changed their answer. In Mathematics, the key words in
the text of the sum that give the instruction to calculate, add, subtract, multiply, or
divide have to be learned by heart. For examples, how many pencils will be left?
How much money will be added? When the learners are calculating the figures they
were taught by a traditional method of reciting the multiplication tables in Burmese.
It was very difficult for them to memorize the numbers and words in Burmese since
they only use the numbers in Sgaw in their daily life. They have to do two tasks at
the same time, reciting the words and calculating. English is taught as a subject by
translating the words or the sentences into Burmese.

In the classroom in class 2, when the Sgaw teacher used Burmese, the learners
became silent; the teacher could not move on with the lesson, so she needed to
switch back to Sgaw.

6.3.1.3 Difficulties for the learners in memorizing and
writing/answering tests (even when they understand the
content)
Sometimes the learners can easily understand the content because it is very familiar
to them from their daily life. However it is not an easy task for the learners to
memorize a long Burmese text and keep it in memory for a long time. The principal
at class 1 reported that she checked the answer papers. One girl could write down
the whole text that she had memorized but the answers did not fit to the questions.
The examples of the learners who had difficulties in memorizing and answering tests
are mentioned in the following quotes from the teachers.

In the exam, the questions are in Burmese. Though I could explain the
question in Burmese to the learners, they wrote down as they pronounced
the words with Sgaw accent. The words that they spell according to their Karen accented pronunciation are considered spelling mistakes and marked wrong by the teacher. Outside school, the children do not have access to the Burmese language used in textbook and not enough exposure to Burmese in their surroundings. Then the learners make many mistakes in spelling (the Grade 3 teacher in class 2).

When the learners answered the questions in the oral test, they made mistakes in pronunciation because they just pronounced as they had written down with the wrong spelling in the class. Then the answers did not make sense at all (the principal of class 1).

6.3.1.4 Difficulties for the learners in developing confidence and good personal study habits

Although the Burmese teacher explains many times, the learners do not understand well. As a result, the teacher could not be patient any longer and frequently beats the children. Then the children are afraid to approach the teacher to ask questions. When the teacher asked questions, one or two of the learners started to answer and the other learners followed them. If the teacher asked them individually they could not answer.

The learners are scared to approach the Burmese teachers since they know that their teacher will not understand what they ask because they cannot use Burmese. Even when they come to know the teachers and are not afraid to talk they tend to use Sgaw so there are still difficulties in communication (a Sgaw teacher reported).

A mother who is also a school teacher gave an example of the children having difficulties in understanding Burmese using her son’s experience to cope with the language.

My son memorized the words that his teacher said in the class then came home and told them to me. Then I had to interpret those words into Sgaw. For example, ‘The exam will be next week.’ He knew what the word ‘exam’ means in Burmese but he did not know the meaning of the word, ‘next week’. There are some other words such as, ‘tomorrow, the day after tomorrow, the next two days, etc. Some words are really hard to understand if you are not Burmese (a parent of a student).
She also mentioned that other children are, like her son, bring words home and ask their parents to interpret the words. However, most of the parents finished only Grade 5 and do not speak Burmese well so they could not help their children with their lessons. Finally, the children have to go to the Sgaw teachers to get help.

When the question, “How do the children learn Mathematics?” is asked. The learners try to understand the important phrases and key terms that can give clue how to calculate the sum from the text. For examples, how many pencils will be ‘left’? How much money will be ‘added’? When they see those words they will do adding or subtracting. Then they will have to learn Burmese classifiers which categorize nouns differently from Sgaw classifiers. The learners could do better if they understood well and if the whole concept of the sum were explained in Sgaw; instead they just have to memorize the words.

There are some learners who really struggle with their lessons who come to me and I explain the lessons to them. There are also some learners who become afraid and unhappy to do the lessons since they don’t know the language. Then they don’t want to attend school anymore and finally they drop out. Once I was asked to move up from Grade 2 to teach Grade 3, because the principal and the other teachers from higher grades thought it would be more effective to have a Burmese-speaking teacher teach the lower grade. My learners were crying because they are afraid to attend the class taught in Burmese only. They prefer to learn the lessons with Sgaw teachers. Now I am teaching Grade 3 with my learners from the last year in Grade 2. But there are also four learners, the repeaters who were with a Burmese-speaking teacher. It is hard to make them participate in the class in the beginning of the year. However they are now more active than before (a Grade 3 teacher).

6.3.2 Effects of teaching in the mother tongue

The learners’ first language is used as an oral language of instruction in the class and the teacher switches between the languages, Burmese and Sgaw. This kind of language use in teaching and learning is seen in the classes taught by Sgaw teachers. There are four significant facts that explain why teaching and learning is positively affected if the language of instruction is in learners’ first language: advantages for the teacher; advantages for the learners in understanding difficult concepts;
advantages for the learners in memorizing and writing/answering tests; advantages for the learners in developing confidence and personal study habits.

6.3.2.1 Advantages for the teacher (easy to explain difficult concepts)
The teacher herself is more comfortable to use Sgaw with the learners. The teacher orally used Sgaw for the children's comprehension of the abstract or academic terms. She said, “We can’t leave them with an explanation using only Burmese, instead we need to use Sgaw all the time.” When the teacher gives the instructions and asks for the responses she uses Sgaw the first time and later repeats it in simple Burmese. The teachers can make sure that the concept in the written text is taught and reinforced in the child’s first language. The teacher makes sure that children have an opportunity to hear, talk about, and retell the content of a topic in their home language, and to describe and discuss the related stories of their own in Sgaw first. She switched the languages in accordance with the teaching strategies. Sgaw is the learners' mother tongue. The learners can clearly understand and pay attention to the teacher when the teacher uses Sgaw.

6.3.2.2 Advantages for the learners in understanding difficult concepts
The children learn new concepts and new language with the constant support of their first language. Sgaw is the only language that can really help the children comprehend the lessons though the textbooks are in Burmese. The learners could understand the lesson because the teacher used Sgaw when she explained the content of the subjects. The learners can write about the topic in Burmese but they could not talk about it in Burmese but in Sgaw.

The children do not understand the lesson if the teachers do not use Sgaw when they explain the content of the subjects. It is hard for them to memorize the lessons unless the lessons are explained in Sgaw. It would take so many hours to learn those by heart. The teachers try to talk in Burmese but the children do not understand, they have to switch from Burmese to Sgaw so that the learners could understand the lessons. Children from this village do not have contact with other Burmese villages. So, the children do not know Burmese at all. The children from other villages which are closer to the Burmese villages have contact with those Burmese speaking villages. So,
the children know Burmese a little bit. Even in Grade 5, the learners still need the lessons to be explained in Sgaw (the principal of class 2).

6.3.2.3 Advantages for the learners in memorizing and writing/answering tests

When working on the sums: after reading the text in the sum the teacher translated each word into Sgaw. Then they did calculation. Science subject is orally tested in the exam. The Sgaw teacher can use Sgaw to explain the questions so that the children can understand the questions and answer the test well. If the teachers are Sgaw teachers they explain the questions in Sgaw and the learners understand what the questions ask and they were able to write down the right answer to the questions in Burmese.

A Burmese teacher once gave the G 4 learners some time to memorize a lesson about the names of different parts of the rivers with the descriptions. I was there and I noticed that it took so long for the children to learn those words by heart. I knew that they did not understand what they were reading and trying to memorize. Then I went to the front of the room and explained the meaning of the words. After that I saw the learners could memorize the words in a few minutes. It is hard for them to memorize the lessons unless the lessons are explained in Sgaw (the principal of class 2).

6.3.2.4 Advantages for the learners in developing confidence and good personal study habits

In the discussion time, the whole class is noisy with the children’s voices because all the children talk a lot and participate. The interaction between teachers and children is clearly going well since the language is well known by both the teacher and the children. The teachers got responses from every child so she could check learners’ understanding of the subject lessons. The learners are not frightened to ask questions to the teachers. They need to make sure that they understand the lessons and the instructions for doing the homework exercises. Otherwise they would need to ask their parents who could not help them with their homework since they do not speak Burmese well or have no education beyond primary school. Therefore in this case, the learners learning with the Sgaw-speaking teacher can do their homework without asking anyone at home.
The children who had been through ECCD classes are not troubled when they attend a school with Karen teachers. If they are in a class which is taught by a Burmese teacher, they have many difficulties in learning. Even if the Burmese teacher is nice and kind to the children, the children will be very upset since they do not understand the language. Eventually they are upset and not interested in learning and they do not go to school regularly. If a Burmese teacher does not understand the children and he/she is not very nice to the children, there would be problems between the parents and the teachers. Some parents, who do not know the important or the value of education very much, do not want to send their children to school and let them stay at home instead. They could not help or don’t have time to help their children with the lessons. I myself did not recognize this kind of problem at first but I came to notice these when I gained more experience as a field manager of an ECCD program and primary school. (a field officer from ECCD).

Why do the children face problems when they go to school after ECCD? The officer answered that the teachers in the ECCD program use the mother tongue with a child-centered approach (using many visual aids). The children learned the knowledge in a fun way. The children and the teachers used the same language. However in the primary schools the teachers did not use the language that the children understood. Besides, there were not enough visual aids in teaching for sure.

6.3.3 Reasons why mother tongue-based education is needed
As discussed in Chapter 2, international research findings are clear about the importance of children’s mother tongue for their educational development. There are three main reasons for the need of mother tongue-based education: using only the national language in the early years impedes comprehension; using the mother tongue promotes the development of cognitive skills; using the mother tongue facilitates both good teaching and good learning strategies.

6.3.3.1 Using only the national language in the early years impedes comprehension
The achievement of the learners is negatively affected if their first language is not used for teaching and learning (UNESCO 2008). Children have to learn the subjects in Burmese but they do not have access to that language in their daily lives. Those
children can have access to Burmese only through the textbooks and the speech of Burmese teachers. The children cannot link the daily experience to the content of the curriculum since the language spoken at home and school is different. Besides, they copy the text from the board and memorize the lessons without completely understanding them. The Burmese teacher and the children do not understand each other. Instead of learning the lessons easily in their first language, they have to learn it in a difficult way by using the language they do not know. Burmese teachers could not teach in Grade 1, Grade 2 and sometimes Grade 3 since the children are not ready to learn academic concepts in Burmese and they did not even have literacy in their first language. Grades 5 and 6 learners still faced the same language problems of difficulties in learning academic content in Burmese. Besides, the teachers were asked by the education leaders to use Burmese only. Without being aware of the learners’ difficulties in understanding Burmese, they instead think that using more Burmese can help the learners get in touch with the language and do well in the next Grade levels, the leaders sometimes even put pressure on the teachers to use Burmese only. However it is not possible in the real situation.

The principal asked me to use Burmese only. My classroom is just next to her classroom so I try to use Burmese a lot when I teach. If I use a lot of Sgaw she always reminds me to use Burmese. But I could see the learners’ blank faces. Then I could not go on with the lessons. It was very difficult (the Grade 3 teacher at class 2).

The learners are frightened when they go to school because they do not understand what the teacher is saying to them. A Sgaw teacher said that the Sgaw teachers are asked to explain the lessons to the learners even in Grades 4, 5, 6, and 7 as well because they are taught by Burmese teachers and do not understand Burmese. The learners come to the Sgaw teachers asking for explanations for every subject. Teachers have to translate Burmese words which are not usually used in daily life into Sgaw. Sometimes the learners have to learn new Sgaw words as they were introduced to new concepts in the lessons. The learners are not familiar with the concept or word in either Sgaw or Burmese. So they learned new Sgaw words that would help them to acquire the words in Burmese.
6.3.3.2 Using the mother tongue promotes the development of cognitive skills

The way in which using the mother tongue certainly helps the children build cognitive skills can be clearly seen in the classroom taught by Sgaw teachers who use both Burmese and Sgaw. When the mother tongue is used in teaching, children can successfully learn the abstract knowledge. The Sgaw teachers using Sgaw encourage the children to think and share their experiences in the class. The learners have complete confidence in themselves to talk and discuss the topic in the class when they have the chance to use their own language. When they read the lessons, they are not just pronouncing the words but they fully comprehend what they are reading. Then it is easy to learn the text by heart for preparation for their exam. Learners have a real opportunity to build cognitive skills through the mother tongue. Learners find it most comfortable to learn new concepts and information based on what is already familiar to them, working from simple concepts to the knowledge that is more complex.

6.3.3.3 Using the mother tongue facilitates both good teaching and good learning strategies

The article EdQual Policy Brief No. 2 (2010: 2) stated, “When teachers teach in L1, their pedagogy is richer: they use more teaching strategies than in L2”. That statement is truly supported by the events observed in this research in the classrooms taught by Burmese and Sgaw. When the learners can use their mother tongue with the Sgaw teacher, they are not afraid to talk with the teacher to request her to correct their work. They are not frightened to respond to the questions and participate in the discussion. In the classroom activities, no one is left behind sitting on the bench instead they all enjoy the activities and are happy to compete with each other answering the questions. On the other hand, in the class taught by the Burmese teacher, the children are quiet and the teacher talks most of the time. In the discussion time, only one or two children respond to the teacher.

If the learners were taught in Sgaw they would do school lessons better. If the test were in Sgaw, we could find the higher achievements of learners. It would be great. It is because of language problems that the learners got 40%. In Grades 1 and 2 the teachers are Sgaw. The learners find it really difficult to learn the lessons with a Burmese teacher when they immediately move on to the next level, Grade 3. They have trouble studying the lessons. The
learners are disappointed to go to school. The children in this village do not speak or understand Burmese well until they are in Grade 11. If we could teach the lessons using learners’ language in writing or speaking, it would be great. We could help them to express their own ideas and thoughts. They have many ideas. It would be very useful for them in their long term education.

In my opinion, it is not important for the children to be able to use Burmese but it is important to learn the knowledge from the curriculum. That could be possible if we taught in Sgaw. The knowledge can guide them for their better life. That is important. Especially, the subject social studies and lessons for morality from General Science are important for the children to understand. It is not good if the learners were only taught in Burmese and memorize just for passing the exam. It is not a problem if the sentences are not long. However in this subject it is difficult to catch the meaning and the sentences are long (The principal at school B07).

In the class, in which the learners are not familiar with Burmese, it has been clearly observed that learning is positively affected by the Sgaw teacher using both Burmese and Sgaw and negatively affected by the Burmese teacher using Burmese only. By using Sgaw the teacher gave clearer instructions and explanations. She also checked the learners’ comprehension by asking question and getting responses. Then she gave feedback on what the learners had done in their homework.

6.4 Summary of Findings
To sum up, all the interviews and observations have revealed that the teachers teach more effectively and the learners learn better when the lessons are taught in the learners’ mother tongue rather than in the national language. The learners are having difficulty with the language used in schools rather than the abstract knowledge of the lessons. When the learners have no language in common with the teacher, but nonetheless are taught through the teacher's language, the language of instruction (LOI) has a severe negative impact on all learning of the learners, particularly in early grades. Using the NL as the only LOI with children with no proficiency in the NL does not lead to good acquisition of the NL. When the learners are taught by a teacher with whom they share a language and this language is used even as an oral language of instruction, their acquisition of the NL is improved tremendously.
The checklist, adapted from Save the Children (2009: 2), in Table 4 can be used to find out whether the learners are having difficulty in learning or not with respect to the language use. If the answer to two or more of these questions is ‘yes’, language is likely to be one of the biggest obstacles to children’s educational progress.

**Table 5 Checklist for the student learning (Save the Children 2009: 2)**

<table>
<thead>
<tr>
<th></th>
<th>class 1</th>
<th>class 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do children use a different language at home from the one used for teaching in school?</td>
<td>yes</td>
</tr>
<tr>
<td>2</td>
<td>Is the language of instruction only national language?</td>
<td>yes</td>
</tr>
<tr>
<td>3</td>
<td>Are these children very silent in class?</td>
<td>yes</td>
</tr>
<tr>
<td>4</td>
<td>Do they answer questions with only one or two words?</td>
<td>yes</td>
</tr>
<tr>
<td>5</td>
<td>Do children find it difficult to follow the teacher’s instructions?</td>
<td>yes</td>
</tr>
<tr>
<td>6</td>
<td>Are there only one or two children in the class who can easily answer questions?</td>
<td>yes</td>
</tr>
<tr>
<td>7</td>
<td>Can children copy text from the blackboard, yet are weak at completing tasks or passing tests?</td>
<td>yes</td>
</tr>
</tbody>
</table>

The data in Table 4 shows that the learners in the Grade 3 in class 1 face a lot of disadvantages in learning because of the language barrier.

### 6.5 Discussion of Analysis

As a result of findings, it is clear that the learners learn better in their mother tongue, the language they speak well than in the national language. However, comparing the learners' test scores from the classes with Sgaw-speaking teachers to those from the classes with Burmese-speaking teachers, the former have scores only slightly higher than the latter. This may be due to at least the following five reasons:

- all testing is in the L2 in which the learners have limited proficiency, and several teachers acknowledged that if testing were in the L1, many learners would do much better than in the L2,

- the classroom situations in this study do not by definition represent first language-based education, but rather informal oral use of the L1 as an
auxiliary language, and thus full benefits of mother tongue-based multilingual education should not be expected,

• according to international research all learning benefits of first language-based education will be apparent only after several years of first language instruction and learning the L2 as a second language,

• learners taught by teachers sharing the L1 with them perform significantly better in Burmese subject (according to the quantitative analysis in chapter 5), than pupils having a teacher from the L2-language community, meaning that short-term use of the L1 as an informal oral language of instruction cannot necessarily address all underlying challenges in the education system, and finally

• learning achievement in general in these schools is rather low, irrespective of the language used, and thus teaching the L2 in a way that the pupils understand is a major part of the instruction by a teacher speaking the L1, the learning of the L2 and the consequent learning results are more dramatic than in other subjects whose contents most pupils seem to have a very low comprehension of (as stated by several teachers in the interviews).
Chapter 7
Conclusion and Discussions

This study has tried to assess the impact of using the national language instead of the learners’ mother tongue in primary education. The analysis of the collected quantitative and qualitative data provides the evidence of the impact of language use on teaching and learning. This chapter provides an overview of the study, a summary of the research findings, conclusions drawn from the findings, implications of the findings and suggestions for further research.

7.1 Overview of the Study
The present study was designed to determine the effect of the language used for instruction in primary education for the ethnic minority learners from a monolingual environment. The challenge of this study was to offer a clear understanding of how children’s education can benefit from the use of the learners’ mother tongue as the language of instruction. It aimed to achieve this through a twofold approach: firstly, quantitative analysis of test scores was carried out; secondly qualitative analysis of ethnographic data was conducted. The information about the focus area was collected over three separate survey trips: firstly to find the villages which had a similar background in which the effect of language of instruction on education could be observed and in which test scores could be collected; secondly to observe teaching in the classrooms; and lastly to confirm the information regarding the learners with very low tests scores in each class.

Data for the quantitative analysis came primarily from surveys conducted in 19 Sgaw villages in which a Christian organization takes care of the holistic development of the villages. The test scores of the Grade 3 learners from 12 classes in which both the national language and the learners’ mother tongue were used as an oral language of instruction and 7 classes in which only the national language was used were collected and, together with the background information on the language of instruction those learners had experience during Grades 1 and 2, was used for the statistical analysis. The statistical analysis was done with the help of Dr. Robert Wyn Owen. The quantitative analysis was done to show the impact of
language used on the learners’ achievement. This analysis provided the answer to the first research question: How do test scores reflect the effect of the language of instruction on children’s learning achievement in school?

Data for the qualitative analysis was gathered by conducting interviews with the community leaders, school principals, and teachers and by observing two Grade 3 classrooms: one taught by a Burmese-speaking teacher and the other taught by a Sgaw-speaking teacher. The interviews were done through informal discussions with the community leaders: villager heads, pastors, education leaders, teachers, and school principals. Classroom observations were conducted in two Grade 3 classrooms for eight days each. Full details of the classroom process were collected in order to conduct the analysis. The qualitative analysis was done to provide evidence of how language of instruction affected teaching and learning. This analysis provided the answer to the second research question: How does classroom interaction demonstrate the effect of the language of instruction on children’s experience of learning in school?

7.2 Conclusions from the Findings
The findings discussed in the analysis chapters: chapters 5 and 6, confirm the hypotheses: (1) The use of learners’ mother tongue facilitates greater learning achievement; (2) The use of learners’ mother tongue provides a more positive experience of learning. In this section, the conclusions that can be drawn from the analysis of the quantitative and qualitative data are presented.

7.2.1 Conclusions based on quantitative analysis
The first research question was: How do test scores reflect the effect of the language of instruction on children’s learning achievement in school? The statistical data revealed that there are numerous contributing factors though the focus of this study is the effect of the language of the teacher on the test scores. There are two types of contributing factors. On the one hand, the unmeasured factors such as teacher proficiency factors and environmental factors. These could not be used to directly assess the effects since appropriate data were not available. On the other hand, the measured factors included class size, student gender, and teacher language. These were measurable and were found to cause significant differences in the achievement of individuals and classes.
The research revealed that gender is a vital factor in predicting student performance for each of the four academic subjects. In almost every case, female learners performed better than male learners. The proportion of failure among the male learners is twice as high as the proportion of failures among the females. A random class effect is shown to be significant for all four academic subjects. This is most likely because of the unmeasured factors such as teacher proficiency and the environmental factors particular to each class. Grade 3 teacher language is shown to be a significant factor for three of the four academic subjects. In almost every case, classes with a Sgaw teacher perform better than classes with a Burmese teacher. The median scores in classes with a Burmese teacher were on the whole lower than the median score for classes with a Sgaw teacher. Class size was also shown to be a significant factor. In almost every case, an increase in class size is associated with a decrease in performance.

Having a Sgaw-speaking teacher has an extremely positive effect on learners’ learning. Notably, the most significant effect was seen in the Burmese language subject, which is the most important subject for the learners and the one the most difficult for ethnic minority learners. This gives strong evidence that the learners learn best through instruction in their mother tongue. Though the learners have to learn Burmese vocabulary as well as the abstract concepts in Science and Mathematics, the tests performance of learners with a Sgaw-speaking teacher was still better than the performance of learners with a Burmese-speaking teacher. Therefore the learners really need to use their own language in order to learn the lessons successfully. In the English subject, the learners with the Sgaw-speaking teacher could not do much better than the learners with the Burmese-speaking teacher. Sgaw-speaking teachers could not explain the lessons in the English subject well enough because of their lower proficiency in the subject, not because of their lack of teaching ability. It can be concluded that the Sgaw teachers would benefit from further development of their English language proficiency.

7.2.2 Conclusions based on qualitative analysis
The second research question was: How does classroom interaction demonstrate the effect of the language of instruction on children’s experience of learning in school? The analysis of the interviews and classroom observations supported the findings of the quantitative analysis. There are weaknesses in teaching in the national language which the children are not familiar with and there are many benefits of teaching in their mother tongue language. The four important areas where these weaknesses or
benefits were discovered in the data were: teaching strategy; learners' understanding of content; memorizing and answering the tests; and developing confidence and good personal study habits. The quotations from the participants' interviews and the report of the classroom observations give strong evidence of the impact of language choice. The learners with the Sgaw-speaking teacher were positively affected in those areas whereas the learners with the Burmese-speaking teacher were negatively affected. Thus using a language that the learners do not have in common with the teacher as the language of instruction becomes the greatest barrier to learners' academic achievement. The data also shows that using only the national language in the early years in a minority area impedes comprehension. On the other hand, use of the mother tongue appears to promote the development of cognitive skills as well as facilitate both the use of good teaching and learning strategies. Even though Sgaw is not officially allowed to be used in this context, Sgaw-speaking teachers instinctively use it as an oral language of instruction to communicate with the learners, explain the lessons, and give opportunities to learners to discuss in a language they know. If the use of the mother tongue could be officially endorsed and increased in the classroom, it is likely that the teaching and learning processes would be more effective and the learners' academic performance would improve.

7.3 Implications of Research Findings

The findings from the research presented lead to the following conclusions regarding implications for primary education in the learners' mother tongue, implications for planning education with smooth L1-L2 transition, and implications for awareness raising for mother tongue-based education.

7.3.1 Implications for primary education in the learners' mother tongue

Based on this research, it was found that the use of a familiar language is an essential condition for effective cognitive learning processes and teaching practices. Using a language that is familiar to learners as the medium of instruction from the beginning of the primary level of education provides a strong foundation for acquiring complex knowledge. In this study there is a large amount of evidence on the effectiveness of using the learners' mother tongue in early grades instead of the national language. The greater the proportion of time the mother tongue is used in teaching lessons, the better the scores in the assessment of performance in the second language. The learners from the Sgaw-speaking teachers' classes had higher
scores in Burmese relative to the other three subjects. Therefore, an effective way to lay the foundations for quality education for Sgaw children in this context is to use familiar media of instruction for several years, and to apply effective first and second language teaching methods. Besides, by going through the primary education in their mother tongue, the children can develop appropriate cognitive and reasoning skills that will help them in learning new things throughout their entire education process.

### 7.3.2 Implications for planning education with smooth L1-L2 transition

Most ethnic minority children in Myanmar attend primary schools where the subjects are taught in the national language which they have never used in their home and daily life before. They have to learn the lessons in the national language immediately after they completed pre-primary in their mother tongue. Even for the children who have had the opportunity to go through Grades 1 and 2 in classes where their mother tongue was used as an oral language of instruction, when they move to Grade 3 they might face the difficult task of learning the national language while they are trying to learn new concepts. They have trouble learning the lessons: understanding the teacher's language, grasping the content of the subjects, answering the tests, and building confidence and good habits of learning. This could lead them to a big failure in their future in life-long learning. So the community educator should develop an education program that enables a smooth transition from the mother tongue to the national language and then to an additional language such as English.

If the children could have a class in their mother tongue outside of the school hours, where they are provided with full discussion of the topics of the subjects, and new vocabulary in Burmese, it would be a great opportunity to acquire the national language and the valuable knowledge in the subjects. In the villages where research was conducted, such an out-of-school program could happen in conjunction with the pre-existing morning chapel where the children currently learn Sgaw language. It would also help them build confidence and feel competent enough to use Burmese in higher grades.
7.3.3 Implications for promoting mother tongue-based education

Although some educators understand the importance of the mother tongue in the early years of children's education, others think that early use of the national language in education is a good idea to help the children learn the lessons better and provide language skills for higher grades. Because of a lack of knowledge about ethnic minority education issues, and a lack of access to the case studies related to those issues, minority children's language learning needs are not realized. Sometimes, educators think that the children are too lazy to do their lessons, or not interested in their homework. They do not recognize that the reason the children could not do well was because of the situation in which the children do not have a chance to learn the lessons in their own language. Therefore, there is a definite need to conduct awareness raising about mother tongue-based education in the wider community by giving proof of how learners' mother tongue can be a suitable language for the children's learning leading to full success.

7.4 Suggestions for Further Research

It is recommended that further research relating to this study be undertaken in several areas. First one is to conduct broader research on the issues addressed in this study and secondly to conduct research on other issues arising from this study.

7.4.1 Further investigation of the present study

In this study, 19 villages were included out of a possible total of 54 villages in Pathein Township. Though the primary purpose of the study was to find out the effect of the LOI learners' school achievement, there were other factors such as gender and class size that also had a vital effect on the test scores. Therefore, extending the study to those factors would be helpful to better understand all issues involved. The research could also be expanded to the other villages. In addition, follow-up evaluation of test scores from Grades 4 or 5 could also be conducted to examine the effects of teacher language on student performance over a longer time period. Further research could also explore the environmental factors mentioned in chapter 5 to understand whether language and other classroom situation factor or those environmental factors have more effect on children’s learning.
7.4.2 New topics arising from the present study

A future study conducting longitudinal research on learners’ achievement and learning experience in school from Grade 1 to 11 would be very interesting. By doing this kind of research, it would help the community to gain deeper knowledge of the role of language, including the learners’ MT, in educational success. It might give evidence that mother tongue-based education builds a good foundation for acquiring national language and other additional languages as well as learning concepts in the long term education process.

Sgaw Karen people live all over Myanmar. The children in this study live in ethnically homogenous communities, in villages with only Sgaw people. Many Sgaw children also live in urban areas, which are ethnically diverse. They live in communities which, for example, may have equal populations of speakers of different language groups, such as Burmese and Sgaw-speaking people. There are also some children who live in the city where the national language or regional language is dominant in daily life. It would be very interesting to research on the children in those situations to investigate how they cope with studying in the national language and achieve academic success in their education.

There are many other ethnic minority groups in Myanmar. Similar to the children in this study, the children from those groups also surely face difficulties in school because of the language barriers. However they might be in other different complex situations according to their context. It would be very useful to conduct research in other language communities for the benefit of children in those communities.
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Class 1

G2: The teacher looked around the classroom and checked the exercises books of the learners. She wrote down the spelling two similar words from a B lesson on the board and asked the children to read. Teacher asked the children to stand up and said the children to pay attention carefully on the lesson. Teacher led a spelling drill. After that let the children copy and write down the words on the boards. Children use the slates to practice writing and went to the teacher for checking. The teacher checked, gave feedback talking to each student in S. Then they write the exercises in their books again. Teacher called the roll. A student was absent and his friend answered ‘te-o-bo’ means ‘not here’. (Sometimes I couldn’t hear what the teacher spoke very well because of the loud voice from other classes.)

G3: (10:45) Subject: English; (a field supervisor from PCF also was there for supervision) Teacher explained the topic of the Burmese subject using Sgaw. Then asked a student group to stand up and they answered, and teacher checked with other groups. Teacher told them to check and ask to clap. Teacher asked one from each group.

(11:15) PCF supervisor looked at the teacher teaching the class and gave feedback toward the teacher. He suggested that to be careful to use CCA, child-centered approach. He also encouraged teacher to ask student questions a lot for their thinking skill.

Teacher said she changed the learners place to place mixing them who are cleaver and who are not so cleaver. For the fun time, the teacher led the learners to draw. Teacher said that she posted the cards of the lesson on the wall only on the day the lesson was taught because she worried that the learners would destroyed if she put them on all the time.

(11:40) Subject: English; Teacher greeted the learners in English. She posted the chart on the wall. She invited some volunteers to compare fat and thin, tall and short, big and small. She showed the pictures and the opposite words.
Teacher in B: These words are called ‘Adjectives’ and it is called ‘namawitheythena’ (Pali word). The words which are ended with ‘thaw’ Teacher wrote on the board and said in S: Now this is lesson 11.
Teacher used S so that the learners can understand then the learners responded in S.
Teacher in B: How do you say ‘thin’ in English? The words which are shown in comparison are called ‘namawitheythena’. They are called ‘sankyinbat = the opposite_sagalone = words.’
Teacher in S: Do you understand what is ‘sankyinbat’.
The learners in S: “We don’t understand, teacher.”
Then teacher explained it in S.
Reading Sentences
“This girl is tall. This boy is short.”
Teacher in B: How do you say ‘dote (B)’ in English?
Learners: ‘stick’
Teacher: Spell it (B).
Teacher showed a bell and asked the learners.
T in B: What is this?
S in B: kaungloung.
T in B: How do you say it in Sgaw?
Teacher checked the words in E, B and S as well.
The whole class answered.
T in B: How do you say ‘haoungda’ in E?
T in B: How do you say ‘thithaw’?
T in S: How do you say ‘athaw (=thithaw)? (Teacher became a little bit impatient to ask again switching languages)
Teacher wrote down the words and meaning on the board.
T asked a student what is umbrella and bottle?
(When the learners seemed to pay attention any longer, teacher called individual learners’ name and ask them.)
Teacher said, “Pay attention or you won’t go out for lunch.”
Doing exercises with games.
Teacher wrote down on the board, ‘Sankyinbat_thaw_sone_sagalone (B)’
Fill in the blanks the opposite words.
T: Look at those and you will be called by each and have to answer. What will I do to you if you cannot answer?
A girl in B: ‘khone-baw-tat’ stand up on the chair.
[Teacher always use S to confirm that the children follow the lessons and they all took part in the game. For example, mada-tekweba-odia (S), “Who else don't come and write on the board?”]
Teacher led reading the sentences in the text book.
Learners repeated after the teacher.
Lunch Break
(1:42) Mathematics; Teacher called the roll. Teacher wrote down on board “Lesson 4”
Let the learners recite the charts of multiplying numbers. Then teacher asked the learners individually. Doing exercises: Fill in the blank. (On the board) 7 x ___ = 42
After a student answered, she checked the answer with the whole class.
[It is raining heavily I could not hear very well.] Teacher wrote down the charts of numbers multiplied by 11 and let the children read. After she asked the learners to memorize and told that the learners would to recite by heart next morning.
After the learners read that and copied them into their note books.
(2:20) Subject: General Science; “patwonkyinshi-ye-amyomyo = Types of water from the environment” Teacher wrote down the topic on the board and led the children talk about it. Teacher asked the learners to tell, “What the waters you can see in different types are? What colour? What smell? [Most of the learners can response the teacher if only they were explained the questions in S. One or two learners can guess what the question is because they are very clever.] Teacher reminded about the homework.
(3:30) School closed

Grade 1: (9:40) Principal said: There were 2 Burmese learners in Grade 1. They are from a Burmese village nearby. Their parents don’t send them to school in their village because they don’t get along with the teachers. The two children could not understand when I am teaching using Sgaw. Teacher called the roll.

(9:15) School bell rings. Other teachers haven’t arrived yet. G3 learners are memorizing Burmese old lessons.
(9:30) Roll call. Subject: Burmese
T in S; what did I asked you yesterday?
T in S: What do you say “kyizushin-oogyimyar” (the topic of the lesson)?
If your father is “taunthu-oogyi”, please stand up? 70% of the learners stood up and the others’ fathers are fishermen. [The teacher led the whole discussion about the topic in S. During the discussion, Burmese meanings of the vocabularies are asked to
the learners and checked again in S alternatively. When they read the text, the
teacher always checked the understanding of the meaning of vocabularies in S.
(Questions to ask the teacher: How many sentences are there in the long question?
How many times you teach one topic? How many times you do the revision?)
When the teacher asked to stand up if the learners don’t understand, “What the
meaning of ‘sar-wit-nay-ya’ is?” just 4 learners did not stand up. It takes at least
four times to teach a Burmese lesson; topic discussion, reading text, doing exercises.]
(11:00) English; Children are warming up the old lessons by themselves helping
each other, memorizing the vocabularies.
(11:15) Dictation
(12:00) Reading sentences and teacher led to drill the lessons and the vocabularies
(1:30) Mathematics; Reciting the multiplying numbers. Working on the sums after
reading the text in the sum teacher translated each word into Sgaw. Then they did
calculation.
(2:45) Science
(3:00) School closed and attended mid-week service at the church.

19.8.2010 Thursday
G3: Burmese; Topic of the lesson: “Three Seasons” Learners wrote down by heart.
Teacher checked their answers. Then learners reviewed exercises of the last lessons.
Making words into the sentences was done while the teacher was checking their
answers and preparing the materials for the next lessons. In exam paper: (1)
Punctuation (2) Sentence (3) Blank (4) Long question (5) Poem. Teacher translated
Burmese words which are not usually used in daily life. So the children have to learn
new Sgaw words as well in the class. “sainlan in B = larhay in S” Children can write
down about the topic in Burmese but they couldn’t talk about those in Burmese But
in Sgaw. [I asked the teacher: If you lead the discussion about the topic in Burmese
would it be ok? No. There are many words in the text book like, “waso, wakaung”
Those are like old words that Burmese people in present time do not usually hear
them. They use other words for them.
(11:15) Roll Call
(12:00) Subject: English. Revision yesterday lesson/ [Sometimes, at least 2-3 times a
month, especially end of the month, chapter ended exam season, Sgaw teachers are
asked for help by Burmese teachers to explain the old lessons to the children. Asked
by G4, 5, 6, and 7 as well. Sometimes, learners from those Grades came to her and
ask to explain the lessons to them. She was asked for every subject, from Grade 7
especially English subject. Sometimes, children don’t know the words in Sgaw, and then you have to teach them?

(1:30) Mathematics  New lessons/Reciting multiplying numbers/Doing exercises/Teacher asked the children: “Aplay-atho (S word)” How do you say it in Burmese “playplay shawshaw (S word)” Teacher asked an S word to say in B but the children said that word in another form in S.

(2:38) Subject: General Science. All children can take part in discussion on a topic in S very well. Teacher had to use Sgaw and she tried to introduce Burmese words to the children by explaining the topic for 3-4 times then children fed up with and become less concentrated then teacher asked them in Burmese but they could not answer. [It seemed that the children were not able to relate the meaning of B and S.]

20.8.2010 Friday
(9:00) Subject: Burmese Revision “Three Seasons” [Teacher needs training urgently. Teacher thinks children can memorize for long time. Teacher need to prepare the games that can help children understand comprehend, memorize the lessons and help children think creatively. Question: Can I have a look teacher guide for General Science?]

(2:15) Mathematics
(3:00) Science

23.8.2010 Monday
(9:15) Teacher asked children to bring their toys of animals last week for new lessons and some brought their toys.

(9:37) Video Recording Teacher discussed about the topic and play with paper to make a toy. Teacher talked about the topic again showing pictures from the text book again. (Children only answered in Burmese only teacher asks them how to call it in Burmese.) Teacher said, “I have explained in S already now we are going to talk about it again in Burmese”. (In group, teacher used Burmese but with each student teacher used S. Though she tried to use B she had to switch to S again and again, otherwise the children lost the main point of the topic.) Teacher led the reading the text and she asked the children to point the text when they follow her. She led two times and let the children read it again by themselves. Let each group read. Let each individual read parts of the story when the first ones stop other will continue from the stop point of the first. Teacher let all the learners read the text. Teacher led the reading again. Teacher talk about the topic in S again and teacher translated sentence by sentence; she read each sentence and explain in S. After that teacher
asked the questions to the children about their experiences related to the topic. Teacher asked the children to read to practice as homework then she said that she would ask them to read next morning. Teacher asked the children to copy the text from the textbook into their note books. The story has 10 sentences in three paragraphs and at least 1-2 lines in a sentence. In the last paragraph out of 3-4 paragraphs, there is only one long sentence.

Chatting with G3 teacher: There are altogether 130 learners in primary level and 50 in G6 and 7. Last year 27 learners out of the whole school did not pass the exam. 10 learners from G4 did not pass. Normally 2-4 learners failed the exam in a year. If the learners are not really qualified to move on to G4 from G5, the principal ask them to repeat the level. There are two repeaters in G2 and one of those learners was a girl who has mentality health problem. There is a teacher for the General Science subject. In the teacher guide, there are more questions that are not included in the text book. There is no teacher guide for other subjects. General Science lessons are taught in the same way as Burmese lessons. General Science can be divided into three parts: basic science, moral, and health. General Science exam is done as oral test in G1 and 2. Sgaw teachers ask the questions in Burmese and Sgaw as well. Mostly the learners answered in Sgaw. Even if they answered in Burmese that is only a short answer; one or two words but they don’t have to answer long sentences it is easy for them. WV supported text books parents have to pay tuition fees. If a student fail and repeat the class and one’s books are damaged PCF support the books.

(11:15) Subject: English Teacher wrote down the meaning on the board waiting for the learners who are slow to copy. T in S: Today we will start new lessons, do meaning first. (Video 11mins) Teacher explained words and groups of the children read the words in English. All the children individually read and group of boys and Girls read in turns. Teacher picked some learners to read the sentences. The whole class read the sentences talking about the pictures in the text book. (Video 5mins)

(12:20) Finish reading and start writing copying from the text into their note books

(1:10) Mathematics (Video 1min 8sec) Revision; do sums and figure out the answer.

(2:30) General Science Revision (Up from G4 learners have been through ECCD. 70% of houses have TV in 2S.)

Class 2
25.8.2010 Wednesday
Morning Chapel: (Video recording) PCF teacher (or community teacher) taught the children Bible knowledge, songs and Sgaw writing at Morning Chapel. She wrote down the Sgaw spelling drill on the board. Children form Grades 3, 4, and 5 copy
them into their books. The teacher waited till they finish and start the lesson by prayer. There are 92 children in the school. Even though the village is not so convenient because of lacking proper roads to walk to school (very muddy, bridges make up of thin bamboos). Children come to school with full of thenetkar, Myanmar traditional make up on their face neatly and wearing uniforms tidily.

(9:35) Roll call
G 3 Burmese teacher: Revision of Burmese lesson. Children went to the teacher and read the lessons by heart. The children wrote down them into their note books. (Teacher made good disciplines.) Teacher asked children to look old Science lessons or warming up. Teacher asked the children to fill in the blanks individually. 2 boys could not answer. (There are 92 children all together in the school, no dropouts, no repetitions. There are 199 houses in the village.

(Mathematics) Revision continue/Doing Burmese subject exercises; fill in the blanks
There will be exam next week. Chatting with teacher: Moral lessons in General science had done by doing filling the blanks, true or false, objectives types, only one out of 18 learners wrote down the answers. When I looked around them, most of the learners did not write down the answers. I saw a student wrote the answers and checked his (or her) answer sheet, but it was the wrong answers. Then I explained the question and let them think. Thought it took so long there were no answers. (She is a Burmese teacher so she could only use Burmese when she explains the questions.) I tried to use good examples or illustration to explain the topic since I cannot speak Sgaw that is their language. When I could not find a suitable example for the topic I found that it was difficult to understand what I meant. I can see on their face.

The example questions in General Science subject,

A) When you see a thing owned by other people will you a) keep it or b) throw it or c) give it back?
The teacher could explain that question by using the learners’ name and the children could understand.

B) A student must be a person who is honest and a) bully or b) sympathetic or c) the smartest.
For this question the teacher found hard to explain the meaning of the word; sympathetic. The teacher used many examples to explain that word but the children could not understand. Only a student could answer but she didn’t seem very sure of her answer. (Though the teacher uses a lot of Burmese the children use Sgaw to each other.)
All most all of the parents passed G4 or 5. In the past they did not encourage the education of their children but when WV and PCF started working with the community they came to encourage education.

G2 teacher said: Last year G3 learners are very lazy to work on their lessons because there were two teachers changed places to teach the class. The teachers are Burmese teachers.

(9:57) Subject: Burmese Teacher explained a Burmese poem using picture form textbook. There were many new words. There were little responses from the children when the teacher asked; only a certain learners, one or two who are always responded her questions. They are girls. The teacher asked what is ‘letun = plow’ and the children couldn’t say anything and she explained it. Though she explains using many words and long sentences the children couldn’t understand most of the time. The more she used many words the more the children were confused.

27.8.2010

9:55 Burmese New Lessons (Video) Teacher led reading sentence by sentence and let the children practice. When the whole class reads the text and if they found some difficult words they paused, don’t know how to pronounce, a girl who usually response to the teacher pronounced it.

(10:40) Mathematics
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