A CORRELATIONAL-COMPARATIVE STUDY OF STUDENTS' PERCEPTUAL LEARNING STYLE PREFERENCES IN LEARNING ENGLISH AS A FOREIGN LANGUAGE AND THEIR ACADEMIC ACHIEVEMENT IN THE CETANA ACADEMIC PROGRAM FOR ENGLISH AT MYANMAR INSTITUTE OF THEOLOGY

Marina Mcc

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Education in Curriculum and Instruction Graduate School of Human Sciences Assumption University of Thailand 2016
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ABSTRACT

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Key Words: LEARNING STYLES, ACHIEVEMENT, STUDENTS’ PERCEPTUAL LEARNING STYLE PREFERENCES, MYANMAR

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Thesis Title: A CORRELATIONAL-COMPARATIVE STUDY OF STUDENTS’ PERCEPTUAL LEARNING STYLE PREFERENCES IN LEARNING ENGLISH AS A FOREIGN LANGUAGE AND THEIR ACADEMIC ACHIEVEMENT IN THE CETANA ACADEMIC PROGRAM FOR ENGLISH AT MYANMAR INSTITUTE OF THEOLOGY

Thesis Advisor: ASSOC. PROF. DR. SUWATTANA EAMORAPHAN

This study was conducted mainly to investigate the perceptual learning styles of the students in the Cetana Academic Program for English (CAPE) at the Myanmar Institute of Theology which is located in Insein Township, Yangon, Myanmar. This study was carried out to determine the preferred learning styles of the students and compare and correlate those learning styles with the students’ learning achievement. The research was conducted from December 8 to 9, 2016 at CAPE. In this study, Reid’s Perceptual Learning Styles Questionnaire was used as the primary source of data collection. The data collected from the 118 questionnaires were analyzed by percentage and frequency, mean and standard deviations, One-way ANOVA and Pearson product-moment correlation coefficient. This study found out that the
students preferred kinesthetic learning style most followed by mixed, group, auditory, visual and tactile and individual learning styles. There was no relationship between learning styles and learning achievement. The results of this study demonstrated that the Elementary to Upper-intermediate students did favor kinesthetic projects as their most preferred learning style. There was no significant difference between the Elementary to Upper-intermediate students’ learning achievement, according to their most preferred learning style. It is recommended that CAPE uses current data to plan future professional development and school-wide changes in teacher instruction to help create a learning environment that best supports students’ learning styles.

Field of Study: Curriculum and Instruction

Student’s signature……………………

Graduate School of Human Sciences

Advisor’s signature …………………

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CHAPTER I

INTRODUCTION

This chapter describes the background of the study, statement of the problem, research questions, research objectives, research hypotheses, theoretical framework, conceptual framework, scope of the study, definitions of terms and significance of the study.

Background of the Study

Students have different levels of motivation, different attitudes about teaching and learning, and different responses to specific classroom environments and instructional practices. The more thoroughly teachers understand the differences, the better chance they have of meeting the diverse learning needs of all of their students.

Recently, various studies for individual differences which determine success or failure in foreign language learning have been carried out, and learning styles have been studied extensively as one of those individual factors for differentiation (Katsuda, 2012). The aim of differentiated instruction is to respond students’ differences by providing different ways of teaching to support each student in order to understand the essential content. Differentiated instruction is based on the belief that students learn at high level when the instruction and their variation meet together (Tomlinson, 2010).

In foreign language acquisition, some students may learn effectively by listening to the teacher explaining, some may study well by seeing visual materials, some may like to study alone, and others may do well working with their peers.
(Bennett, 2003). Students have different predispositions and talents, and as they have more educational experiences, they create their own preferences for how they like to learn and the pace at which they learn (McCombs & Whisler, 2007).

Myanmar Institute of Theology (MIT) in Yangon serves as a Christian Theological Institute and issues bachelor, masters’ and Ph.Ds. degrees. Even though it provides tertiary education, it is registered as a religious institution. The Cetana Academic Program for English (CAPE) is one of the English programs which is running under Myanmar Institute of Theology. All the teachers from CAPE are the lecturers from MIT. There are four classes; Elementary, Pre-intermediate, Intermediate and Upper-intermediate in CAPE. Students come from a variety of states from Myanmar and speak various ethnic languages.

**Statement of the Problem**

Students attending at Cetana Academic Program for English (CAPE) bring unique cultural and background experiences that make differentiation and proper implementation of preferred learning styles in the classroom and it makes it more difficult for teachers to accomplish. The mismatch of teacher preference in presenting information and students’ preferred learning is a problem that affects the CAPE classrooms according to the researcher’s observation. These mismatches can lead to poor performance of the students in learning, assessments and motivation. Moreover, there had been no study carried out on learner differences, including learning styles of students at CAPE. The researcher was aware that English instructors do not have enough information and knowledge about their own students. In this study, the researcher attempts to find out the CAPE students’ preferred learning styles of English as a Foreign Language (EFL) and how they are related to their
achievement. Therefore, the researcher believes this study helped teachers to have a more comprehensive understanding of learning styles and their importance in student learning.

**Research Questions**

The followings are the research questions developed for this study.

1. What are the perceptual learning style preferences of Elementary to Upper-intermediate students in learning English as a foreign language in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology?

2. What is the level of Elementary to Upper-intermediate students in learning English as a foreign language achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology?

3. Is there any significant relationship between Elementary to Upper-intermediate students’ learning styles and their academic achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology?

4. Is there any significant difference between Elementary to Upper-intermediate students’ learning achievement, according to their most preferred learning styles in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology?

**Research Objectives**

1. To determine the perceptual learning style preferences of Elementary to Upper-intermediate students in learning English as a foreign language in the
Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

2. To determine the level of Elementary to Upper-intermediate students in learning English as a foreign language achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

3. To determine if there is a significant relationship between Elementary to Upper-intermediate students’ perceptual learning styles and their academic achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

4. To determine if there is a significant difference between Elementary to Upper-intermediate students in learning achievement, according to their most preferred learning styles in the Cetana Academic Program for English (CAPE) in Myanmar Institute of Theology.

Research Hypotheses

1. There is a significant relationship between Elementary to Upper-intermediate students’ perceptual learning styles and their academic achievement at .05 level in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

2. There is a significant difference of Elementary to Upper-intermediate students’ academic achievement according to their most preferred learning styles at a significant level of .05 in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.
Theoretical Framework

In this study, researcher followed the perceptual learning style preferences in language learning as a theoretical basis which was developed by Reid (1984) because it was developed especially for EFL learners.

Perceptual Learning Style Preferences

According to the Dunn’s researched with school children in the United States, there are four basic perceptual learning styles such as, visual, auditory, kinesthetic, and tactile learning styles (Dunn, 1983 and Dunn & Dunn, 1979, both cited in Reid, 1987). Reid (1984) added two more learning style categories; group and individual learning styles; and developed the Perceptual Learning Style Preference Questionnaire; and used as an instrument in her research to assess the learning styles of EFL learners. Therefore, in Reid’s questionnaire, there are six categories of learning styles: visual, auditory, kinesthetic, tactile, group and individual (Reid, 1998b). According to Reid (1998a), visual learners can learn more effectively by seeing through eyes, auditory learners by hearing, kinesthetic learns by bodily experience, tactile learners by hands-on experiences, group learners by working with peers and individual learners by working alone. This questionnaire is not only one of the most relevant to foreign language acquisition study (Katsuda, 2012) but also regarded as highly reliable, valid and is widely used (Renou, 2004).

Reid (1987) mentioned that the reason for investigating learning styles in language learning is to recognize students’ learning styles for implementing more effective teaching strategies and to achieve higher learning outcomes. She also pointed out that when it comes to learning style, it is not a simple variable. Other factors such as educational experiences of instructors and learning environment are also the reasons which can affect the learning style.
Reid’s Perceptual Learning Style Preference Questionnaire

Reid introduced the perceptual learning style preference questionnaire (PLSPQ) in 1984. The PLSPQ contains two parts; the first part is the interviewees’ demographics such as name, gender and class. The second part is a brief introduction of the questionnaire, describing the perceptual learning style preferences which have been classified into 6 levels, from strongly disagree to strongly agree. The questionnaire includes 30 questions and covers all visual, auditory, kinesthetic, tactile, group and individual learning styles.

Conceptual Framework

The research aimed to find the perceptual learning style preferences of the EFL students in CAPE in the academic year of 2016 at Myanmar Institute of Theology. The two variables of the research were the students’ learning achievement and their perceptual learning style preferences including visual, auditory, kinesthetic, tactile, group and individual styles. The academic achievement in learning English was represented by the scores in percentage from EFL exam. Figure 1 shows the conceptual framework of this study as below:

Figure 1. Conceptual framework.
Scope of the Study

The population was limited to the Elementary to Upper-intermediate students in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology. The research sample of this study was all the Elementary to Upper-intermediate students, (118 students) who were studying English as a Foreign Language in the academic year of 2016. Meanwhile, this study focuses on the learning styles preferences of EFL students and their academic achievement in English as a Foreign Language. Student academic achievement was represented to the EFL final exam scores in percentage.

The students’ perceptual learning style preferences refers to learners’ preferences in using their senses to acquire and process information in learning English situation. Reid firstly developed the concept of perceptual learning style preferences in 1984 and designed a questionnaire to investigate learners’ learning styles from six categories: visual, auditory, kinesthetic, tactile, group and individual learning styles (Reid, 1987). The Students’ most preferred learning style will be investigated by using the perceptual learning style preferences questionnaire.

Definitions of Terms

CAPE: Is an abbreviation of the Catena Academic Program for English in Myanmar Institute of Theology located in Insein, Yangon, Myanmar.

EFL: Is an abbreviation of English as a foreign language.

English Level: There are four English levels in CAPE. These are

(1) Elementary: The Elementary level of EFL class in CAPE.

(2) Intermediate: The Intermediate level of EFL class in CAPE.

(3) Upper-Intermediate: The upper-intermediate level of EFL class in CAPE.
Learning styles: Refers to the individual’s specific ways of learning and it describes how learners gather, sift through, understand, organize, come to ends about, and “store” information for further use.

Myanmar Institute of Theology (MIT): Refers to the Christian Institute which was founded in 1927 and located in Yangon, Myanmar. MIT offers Christian education for students who are in university level in education. Since its inception in 1927, MIT had offered theological degree programs exclusively bachelor, masters’ and Ph.Ds. degrees.

Perceptual learning style preferences: Refers to a specific ways of learning style which are the favorites in the use of senses when learners access and interact with new information or experiences (Dunn, 1983 and Dunn & Dunn, 1979, both cited in Reid, 1987)

Students: The Elementary to Upper-Intermediate students of Catena Academic Program for English in Myanmar Institute of Theology.

Student’s academic achievement: Is the outcome of learning and shows how much a student has learned. In this study, student academic achievement refers to the CAPE students’ academic achievement in learning English as a foreign language based on the Elementary to Upper-Intermediate students’ 2016 academic year percentage scores.

The PLSPQ: Is an abbreviation of the perceptual Learning-Style Preference Questionnaire developed by Reid (1984)

(i) Visual: Learners learn well by the visual channel or by presenting visually rather than listening to an oral explanation.

(ii) Auditory: Learners learn information effectively by hearing it.
(iii) **Kinesthetic:** Learners learn the more effectively when they get the more opportunities to involve physically in experiences.

(iv) **Tactile:** Learners learn best when they get chance to do hands on experiences.

(v) **Group:** Learners learn more easily and more successful completing work by working and learning with other classmates.

(vi) **Individual:** Learners learn best when they work on their own.

**Significance of the Study**

As there was no previous research on this study at the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology, this study will be beneficial for CAPE’s administrator/principal, teachers and students largely. It would bring advantages to the future researcher as well.

This research will help school administrators and principal of CAPE to be able to evaluate the students’ different preferred learning styles and develop better curriculum to organize teacher-training programs to develop an effective teaching and learning environment in CAPE.

Additionally, it will also benefit the teachers to recognize learning style preferences of first year EFL learners toward learning English and the findings will guide EFL teachers to have deeper understanding of their own students and develop more effective teaching and learning strategies, materials, and curriculum as well as apply differentiated instruction effectively while considering individual differences.

This study will be helpful for the students to get opportunities to learn English language with their preferred learning style and it will encourage and motivate them to learn English language actively.
Finally, the researcher believes that the result information and data will benefit future research to investigate learning styles of learners as well as application of these ideas for more effective teaching and learning.

**Summary**

In this chapter, the researcher represented the purposes of this research, the background, the theoretical and conceptual framework, the research questions, objectives and hypotheses, scope and significance of the study as well as definitions of terms. In Chapter II, the researcher will review the literature of perceptual learning style preferences, EFL Education in Myanmar and the background of the Cetana Academic Program for English (CAPE). Chapter III will be presented with a whole picture of the research methodology.
CHAPTER II

REVIEW OF RELATED LITERATURE

In the previous chapter, the researcher discussed the purposes and importance of this study. In this chapter, the researcher presents related studies and review of the important theories and literature on learning styles. The review of literature includes the learning styles, the concept of learning styles, types of learning styles, the Dunn and Dunn learning style model, Reid’s perceptual learning style preferences, Reid’s perceptual learning style preference questionnaire. Next, the previous research of learning styles will be discussed. Then, the focus will shift to the criticisms of learning styles. After that, EFL Education in Myanmar will be addressed. Finally, the background of the Cetana Academic Program for English (CAPE) in Myanmar Institute of Theology will be discussed.

Learning Styles

Every learner has various ways of perception, organization and retention according to their individual differences which affect learning. These differences can be grouped such as biological or physical, social and cognitive differences which are features of all human beings (Hattie, 1999). Some examples of biological/physical differences, which can affect learning are age, gender, ethnicity and in some cases aptitude. Examples of social differences are; values, beliefs, socio-economic status, family conditions, and peer relations. Some examples of the most important cognitive differences are, intelligence, learning styles, learning strategies, motivation, aptitude, interests, beliefs and values.
Among these various individual differences, learning style is the focus in the education field, and is considered as one of the most useful factors that influences learning and teaching. It has gained more and more extensive attention in recent years. More than 20 learning style dimensions have been identified until now (Workman, 2012).

Learning styles can be defined and classified in many different ways as general patterns to provide opportunities of learning and teaching. It is an individual’s preferences for conditions of the learning process that can affect one’s learning (Woolfolk, 2001), including where, when, and how learning takes place and with what materials. These styles may play an integral role in determining how the student perceives the learning environment and responds to it. Therefore, knowledge about learning styles could allow teachers to provide options in the classroom that would enhance the students’ learning.

The Concept of Learning Styles

There are many theories and definitions in the field of learning theories. Sometimes, the terms get intermingled or confused due their variety of usages noted (De Bello, 1990). The terms learning skills, learning styles, cognitive learning and approaches to learning are sued at various researchers and their written studies on learning styles. This confusion is especially frustrating to those that are new in the field of study (Hargreaves, 1995).

Learning styles are a result of thinking and processing information. Individuals think differently and use different parts of their mind to make connections to new information as they learn. Learning styles and thinking are intertwined as part of students’ preferred learning styles and how they use it to advance their thinking and
absorption of information. Cognitive style is referred to as an important part of learning and learning styles (Cassidy, 2003).

Learning styles are the way in which a student learns best or the method in which a student prefers to learn. Learning is either enhanced or diminished depending on the students preferred learning styles and the teacher’s methods of classroom instruction. Students’ learning styles are habitual and they have regular mental behaviors when they learn or apply new information to problem solving (Bennett, 2003). Learning styles are an approach that is used by students to perceive, categorize, store and recover information and concepts (Grant & Sleeter, 1998).

The study of learning styles and debate on the importance of learning style management has produced many theories, studies and teaching methodologies. Dunn & Dunn defined learning styles are the way in which people begin to concentrate process and retain information (Dunn & Dunn, 1992). An individual has his or her own unique way in receiving information that can be completely different from another individual. An individual may learn best by listening to information or using music to enhance the learning process. Other individuals may need to see things mapped out or in graph form with colors and charts to gain full understanding of the concept. Some individuals will do best with hands on situations so they can physically manipulate and experiment to learn how to do new things. Many people need to be alone or in a quiet environment to have effective learning, while others like to be in groups and enjoy a learning environment filled with peers and activity.

Types of Learning Styles

Although there are many different approaches to describe the classification of learning styles, Felder (1995) divided them into four categories;
cognitive, affective, physiology and behavioral learning styles. Furthermore, Reid (1995), who examined a number of learning style research studies related to second or foreign language learning, identified three major categories of learning styles. These three categories are cognitive, sensory and affective learning styles, which are described below.

**Cognitive learning styles.** According to Renou (1987), cognitive learning styles are related to people’s thinking skills and ability to organize information and solve problems. It can be differentiated into field-dependent and field-independent learning styles. The field-dependent learner represents a person who has the tendency to look at the whole picture of a learning task that consists of different items. In contrast, a field-independence learner is concerned with a type of person who can identify or concentrate on specific items. As Gollnick and Chein (1994) stated, people possessing such styles are not distracted by surrounding items in the background. Stated differently, field-independent learners are able to easily filter the essential details from among a confusing set of distracting items but field-dependent learners experience difficulty doing that. Some studies have focused on the impact of Field-dependent and Field-independent cognitive style on foreign language learning. The studies carried out by Brown (2000) and Chapelle and Green (1992) show that there seems to be a positive correlation between field-independence and successful performance in second language learning classrooms.

**Sensory learning styles.** Sensory learning styles can be categorized into perceptual learning styles and environmental learning styles (Reid, 1987). Perceptual learning styles includes learning styles such as visual, auditory, kinesthetic, tactile, individual and group learning styles.
Environmental learning styles can be classified into physical and sociological. Physical preference learners learn better when certain physical variables play a role such as sound, light, temperature and time. Sociological learners learn more effectively when certain sociological factors are taken into account, such as individual, group and teamwork (Reid, 1987).

**Affective learning styles.** Affective learning style is also known as temperamental learning styles. These consider students’ values, feeling, and personality factors (Reid, 1995).

**The Dunn and Dunn Learning Style Model**

Rita and Kenneth Dunn have developed and introduced the Dunn and Dunn learning style model over the last thirty-five years (Dunn & Dunn, 1991a), comprising 228 items and aimed at eliciting factors in learning for children in grades 3 to 12 in the U.S. The Dunn and Dunn model’s purpose is to enhance student learning by making connections to the brain through stimuli. This model incorporates 21 elements in the assessment of learning styles. Those elements are classified into five groups of stimuli: environmental, emotional, sociological, physiological and psychological stimuli (Dunn & Honigsfeld, 2009). The Figure 2 below shows the Dunn and Dunn Learning Style model designed by Dr. Rita Dunn and Dr. Kenneth Dunn in 2009.
### STIMULI

#### Dunn and Dunn Learning Style Model

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<td>Perceptual</td>
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**Figure 2.** Dunn and Dunn learning style model (Dunn & Honigsfeld, 2009).

*Environmental stimuli* refer to factors such as sound, light, temperature and sitting design. For example, whether a classroom is noisy or not, or whether the desk setting is free style or traditional can affect learning (Dunn, 1984).

*Emotional stimuli* refer to factors such as motivational support, the degree of persistence, personal responsibility and need of structure. A student may achieve better learning outcomes via continuous motivation from the instructor. Another learner may achieve better learning because he or she is highly committed on certain tasks (Dunn, 1984).

*Sociological stimuli* refer to the way students learn; whether the students prefer to learn individually, in pairs, group learning or with the guidance of an adult. All these factors can affect learning (Dunn, 1984).

*Physiological stimuli* refer to factors such as perceptual preferences, which include auditory, visual, kinesthetic, tactile as well as time arrangement and flexibility (Dunn, 1984).
Psychological stimuli refer to factors concerning cognitive processes such as global, analytical, impulsive and reflective. Some students can learn analytically (learning facts step by step) or globally (learn overview of concepts first and relate the content to themselves). Learners who prefer to rush to come up with a conclusion are seen as impulsive learners. The opposite is, learners who can stop and think before coming up with a response. These are seen as a reflective learner (Dunn, 1984).

Teachers often teach students in the same way without considering any individual differences. However, after introducing the concept of learning styles, teachers are encouraged to recognize diverse ways of instruction as well as individual differences in student learning processes. As a result, teachers made more efforts to adjust instructional and assessment strategies. When students knew how they learn most effectively, they will be able to modify their learning conditions and processes, which seemed to improve their performances as well as their self-efficacy (Dunn & Honigsfeld, 2009).

Reid’s Perceptual Learning Style Preferences

The Dunn and Dunn learning style model includes four basic perceptual preferences, which are visual, auditory, kinesthetic and tactile learning preferences. Reid (1984) added two more categories, group and individual learning preferences, which are classified as sociological factors in Dunn and Dunn’s model, and used in developing the Perceptual Learning-Style Preference Questionnaire. Perceptual learning style refers to how learners interact and interface with the environment and then understand and internalize new information or experiences using different senses (Reid, 1987). Research findings by Dunn and other researchers indicated that very
young children have mostly tactile or kinesthetic learning styles. Through elementary school years, their visual strength develops, and in the fifth or sixth grade, they start to use more auditory senses to retain new knowledge (Prince, Dunn, & Sanders, 1980, as cited in Reid, 1987).

In terms of English as a foreign language, before Reid’s study of perceptual learning style preferences, most studies had focused on cognitive learning styles, such as field independent/dependent learning styles (Reid, 1987). EFL students who had a variety of cultural and educational backgrounds were often taught uniformly since teachers had little knowledge about individual differences in learning styles. Most teachers and students were not aware of the frustration and difficulty which students might face due to individual or cultural differences in learning styles. Reid’s study of perceptual learning style preferences of EFL students was designed to provide information and insights such as cultural and individual differences of EFL learners, and it was considered to be useful for future research as well (Reid, 1987).

In 1987, Reid published the results of her large-scale survey of perceptual learning style preferences of about 1300 EFL students studying in English language programs across the United States. Their mother languages included Arabic, Spanish, Japanese, Malay, Chinese, Korean, Thai and Indonesia. In her questionnaires, students were asked to self-identify their preferred learning styles among six categories, which were; visual, auditory, kinesthetic, tactile, group, and individual. The degree of preference was classified as major, minor, or negative (Reid, 1984). Choosing major indicated a strong preference, by the learner for learning most effectively using this style. Negative or negligible learning style indicated that it may have been difficult for the learner to learn using this method. The major learning styles of six different categories are explained below (Reid, 1984, 1998a).
• **Visual major learning style preference.** Refers to the learner who can learn well through a visual channel. This kind of learner more easily understands the information by reading the words or seeing the graphics in books, on whiteboards or power points. Some visual preference learners need to take notes of oral lectures to retain classroom information.

• **Auditory major learning style preference.** Refers to learners who learn more effectively through hearing. They remember information well through oral explanation, lectures, class discussions and audio materials. A teacher who can repeat information several times will help auditory preference students to learn more effectively.

• **Kinesthetic major learning style preference.** Learners with kinesthetic major learning style preference like to learn through physical involvement in experiences. They learn better when they participate in activities, field trips and role-playing.

• **Tactile major learning style preference.** If the learner has tactile major learning style preference, they learn well from hands-on experiences, such as laboratory experiments, building models, touching and working with materials. In some research, tactile and kinesthetic preferences learners are often grouped together but differ as tactile preference learners need to touch during the learning process. They can stay at the same place and happily make three-dimensional models for a long time, that’s the obvious difference with kinesthetic preference learners.

• **Group major learning style preference.** Those who have a group major learning style preference like to learn with others. They like to share and communicate with other classmates and come up with new knowledge. They
value group interaction and believe that the outside approval of self-worth will help to improve their self-esteem.

- **Individual major learning style preference.** Those who have an individual major learning style preference learn well by working alone. They can understand new information and achieve more effective learning outcomes when they study by themselves.

**Reid’s Perceptual Learning Style Preference questionnaire**

Reid introduced the perceptual learning style preference questionnaire (PLSPQ) in 1984. The PLSPQ contains two parts: the first part is the interviewees’ demographics such as name, gender and class. The second part is a brief introduction of the questionnaire, describing the perceptual learning style preferences which have been classified into 6 levels, from strongly disagree to strongly agree. If an interviewee chooses strongly disagree, they get one point for that item. If an interviewee chooses strongly agree, they get six points for that item. The questionnaire includes 30 questions and covers all visual, auditory, kinesthetic, tactile, group and individual learning styles.

According to Renou (2011), Reid’s PLSPQ was the first well-known instrument to research people’s perceptual learning style preferences, and has been widely used in other research up to now. However, Reid’s PLSPQ focuses on perceptual learning style preferences and is broadly used in the second language learning field (Renou, 2011).

**Previous Research of learning styles**

Many researchers are aware of the research in the fields of learning styles and multiple intelligences and have developed instruments to find out the relationship
between learning styles and academic achievements of students. Reid’s Perceptual Learning-Style Preference Questionnaire (PLSPQ) (1984) was the first widely known instrument specifically developed for assessing the learning styles of language learners (Cesur & Fer, 2009).

Reid conducted a large-scale survey in the US. She has applied her PLSPQ with 1388 ESL students, who were studying English in the United States, and then published her findings in 1987. The 1388 students have been asked to self-identify their preferred learning styles preferences. From that research, Reid found out that among 1388 ESL learners in US in 1987, most of them preferred kinesthetic and tactile learning styles. In addition, most of them have negative degree in group style. Reid also found out through her research that cultural factors affect the degree of learners’ learning style preferences. Furthermore, the major differences are also influential factors towards learning style preferences. For example, a music major student enjoys auditory learning style and an engineering major student may prefer tactile learning style.

Reid (1987) also believed that if teachers can be proactive to observe students’ learning style preference, and then carry on actions based on their observations, they will be able to apply various strategies to teach and learners will benefit from the strategic teaching and achieve more effective learning. Then students will be able to develop their maximum potential.

Finely (2000) made a study on the learning styles and academic achievements of the high school students in United States. The result indicated that 81 percent of the kinesthetic learners took an active part in the class and learned better than the passive students. The additional result showed that 64 percent of the students
could become global learners when they get opportunity to learn with relevant
tables of the subject.

A study in Turkey the Orhun and Orhun (2005 & 2006) investigated the
relationship of learning achievement with one hundred and forty-two university
students’ preferred learning styles. The results showed that the Physics students had a
significantly different achievement, according to the students’ different learning
styles.

Wilson-Hull (2008) investigated whether the teachers address learning
styles at the middle school level in the Mississippi Delta Region. The investigation
focused on learning styles and the impact of learning styles in the teaching process. In
addition, the study identified which learning styles were addressed in lesson plan,
instruction, and assessment. The result indicated that the learning styles that are
addressed in lesson plans, instruction, and assessment enhance educational
achievement.

Juris, Ramos, and Casteneda (2009) explored the learning styles of
students and whether the teaching styles of teachers matched the learning styles of
students in the public and private schools of four cities in Colombia. Two hundred
fifty-four students and 9 teachers participated in the study. The result showed that the
most preferred style was kinesthetic and follow by tactile learning style and then
auditory. An additional observation is that the teachers did not teach in style that
matched with the students learning styles.

Karthigeyan and Nirmala (2013) have also conducted Reid’s perceptual
learning style preferences in second language learning research. They have
interviewed 582 secondary school students in India, and found out that visual learning
style and auditory learning style are the preferred learning styles among 582 Indian
students in English as second language learning.

La San (2013) created a study on comparative learning styles in
Myanmar. The study had 70 respondent students who participated in the Reid
Perceptual Learning Style Preference Questionnaire. The results of the study showed
that the mean score for the students were 27% for tactile, 23% for auditory, 23% for
kinesthetic, 17% for individual and 10% for group as preferred learning styles.

**Criticisms of Learning Styles**

Although many researchers tried to discover the relationship between
learning styles and learning development, there are still many criticisms existing
(Renou, 2011). These criticisms concern the concept of learning styles; application of
learning styles, unintentional labeling of learners, and the belief about the
effectiveness of matching teaching with learning styles.

Fujita (Fujita, 2008, as cited in Katsuda, 2012) claimed it is very difficult
to identify essential factors of learning styles, because there are too many potential
components that construct learning styles.

Reid herself has also mentioned the research of learning styles is very
complicated. Reid (1987) claimed that the learning style models become more and
more complicated, because there are always new elements being added that will affect
the instruments. The increasing complexity of models and instruments will confuse
teachers when attempting to use them in the classrooms. Furthermore, due to the
continuously changing aspects, the research results sometime conflict with each other
and leads to further challenges towards this theory. Among many critics, there are three major voices concerning learning style theory (Renou, 2011).

The debate of learning styles causes the labeling of the learner and their failures of learning to be an excuse to blame the teacher and classroom instruction that does not match their preferred learning style (Scott, 2010). Garton, Spain, Lamberson and Spiers (1999) investigated the practical relationship of learning styles and teaching styles. They concluded that there is no practical relationship between teaching styles and learning styles.

Learning styles and the study of their relationship to classroom instruction is an emerging concept that needs further study and understanding. The study of learning styles is useful to give more practical insight to the effectiveness of teaching and learning (Dornyei & Skehan, 2005).

**EFL Education in Myanmar**

Over the past several years, EFL education in Myanmar has been undergoing many changes, along with wider changes in the country’s educational system. After decades of decline due to underinvestment and civil disorder, the state education system is beginning to recover and develop as Myanmar has become increasingly open to international influences. There are many issues related to the development of EFL education in Myanmar.

Historically, reasons for learning English in Myanmar have varied in accord with changing political, social, and economic circumstances. Today, about 67% of the population speaks Myanmar as their mother-tongue, while other languages are spoken among the 135 different ethnic groups in the country. English language instruction is compulsory at all levels of education. Prior to the colonial era,
Myanmar, which has a long literary tradition, was the most widely spoken language. During the period of British rule (1886-1948) the status of Myanmar declined and English was adopted as the official language of public administration and the medium of instruction in education. However, in the 1920s and 1930s nationalist sentiment led to Myanmar being reinstated as the language of instruction at some universities. Upon gaining independence in 1948, the new government declared Burmese to be the country’s official language. In 1964 there was a major reform of the education system and Burmese language became the medium of instruction at all levels, with English taught only as a foreign language. However, it was soon recognized that standards of English were declining and in the 1970s English was again made a compulsory subject from kindergarten and also came to be used as the medium of instruction at higher levels of education (Wong, 2005). As seen above, English has played an important role in Myanmar in educational, political, and social spheres. Accordingly, citizens of Myanmar have been motivated to learn English for academic and professional advancement.

Furthermore, the political reforms in 2010, have opened the country up to international influences and have led to even greater interest in learning English. Students at the university level are required to study their subjects in English. One student explained that, “In our country we have to learn everything, like in engineering or medicine and other subjects, through the English medium. If you do not know English you cannot be an expert in your subject” (Magistac, 2012, p. 199). To meet this rising demand, new English language schools have been opened throughout the country. One teacher at such a school commented on his students’ desire to learn English as follows. “Now we can deal with a lot of foreign companies and foreigners. Before, we could not deal this way, because the country closed the
doors when we were young. The children now are very lucky” (Magistac, 2012, p. 113). Many younger Myanmar’s in particular see the growing market in tourism as an employment opportunity and are consequently motivated to learn English (Takahashi, 2014, p. 213). MOE is also striving for the development of higher education with the vision: “To upgrade the education standard to the standard of ASEAN universities and to transform the universities in Myanmar into Business Hubs that will play an important role for the achievement of the Knowledge-based Economic System”. In his examination of language education policy in Myanmar, Lwin noted that, “learning the English language may lead to economic advantages, help in dealing with the outside world, and improve prospects of study abroad and employment” (Lwin, 2011, p. 103). However, he also pointed out that, “a potential threat among rising generations is that they prefer the pragmatic value of learning English rather than the culture value of indigenous natural languages” (Lwin, 2011, p. 108). Lwin’s recommendation regarding this dilemma is to have elementary school students study in three languages: their mother-tongue, the official language (Myanmar), and English.

In these days, MOE is also striving for the development of higher education with the vision: “To upgrade the education standard to the standard of ASEAN universities and to transform the universities in Myanmar into Business Hubs that will play an important role for the achievement of the Knowledge-based Economic System”. To realize the vision, the Departments of Higher Education have set the mission to produce highly qualified graduates and human resources required for building the modern developed democratic nation. In promoting higher education, they have set three targets: (a) to upgrade the universities in Myanmar and strive to gain international recognition; (b) to offer degrees, diplomas and certificates which are accredited by international universities and academic institutions; and (c) to
nurture graduates who have necessary expertise, knowledge and skills for practical
application in workplaces.

**Background of the Cetana Academic Program for English (CAPE)**

Cetana (pronounced say-d’na) is a Buddhist Burmese word that means
giving without expecting a return. Cetana focuses on educating young people, the
hope of the future. The Cetana Educational foundation began in 1993 in response to a
plea from Burmese educators who were disheartened by the military junta’s
disruption of higher education. It is dedicated to help and develop the people of
Myanmar future leaders providing educational opportunities without regard to
religion or ethnicity, and assist local institutions with educational resources and
professional development. Cetana is far beyond a family foundation, with a strong
advisory board and partner organizations in the US, Myanmar and Southeast Asia.

The first learning center, the Cetana English Proficiency Center (CEPC)
was established in Yangon in the early 2000’s. Its focus then and now is to offer
Burmese youth affordable classes in English.

Cetana’s second learning center in Yangon, on the campus of the
Myanmar Theological Institute, provides opportunities for students who prefer to
attend courses outside the crowded downtown area. It also helps MIT students gain
English fluency as they work toward their degrees.

Myanmar Institute of Theology (MIT) was founded in June 1927. Soon
after its establishment, MIT was affiliated with the Northern Baptist Theological
Seminary of Chicago, Illinois, USA. Since its inception in 1927, MIT had offered
theological degree programs exclusively until now. It is accredited for the offering of
its degree programs by the Association of theological Education in South East Asia
In 2007, the Cetana Academic Program for English started in MIT as an extension of the English Proficiency Center. Many CAPE students are enrolled at the Myanmar Institute of Theology (MIT), although enrollment in CAPE is available without entering an MIT program. CAPE offers three terms per year, with four levels of competency, Elementary, Pre-intermediate, Intermediate and Upper-intermediate. Since Burmese education is strongly oriented toward rote learning and memorization, Cetana stresses the development of critical thinking skills and it offers a series of courses directed to build a skill base for students who want to participate in the global opportunities provided with the opening of Myanmar to the West. Courses are held in the morning and afternoon on weekdays.

Teachers at CAPE use the latest methods for teaching English, professional writing and research skills. More importantly, teachers employ a critical thinking approach that requires rigorous interaction between students and the teacher. As students learn to freely express themselves they gain confidence in their ability to exercise independent judgments.

Summary

This chapter has discussed the perceptual learning style preference in depth and presented the EFL education in Myanmar and the English language classes and EFL students at CAPE has been described thoroughly. In Chapter III, the researcher will discuss the research design and detailed instrument.
CHAPTER III

RESEARCH METHODOLOGY

In Chapter II, the researcher presented a literature review related to learning styles, EFL education in Myanmar, and English language and EFL students at LAP. In this chapter, the researcher will present the research method and procedure of this study which included; research design, population, sample, research instrument, collection of data, data analysis and summary of the research process.

Research Design

This was a quantitative, correlational-comparative research study which was utilized both descriptive and inferential statistics. Perceptual Learning Style Preferences Questionnaire was applied to investigate the following research objectives:

1. To determine the perceptual learning style preferences of Elementary to Upper-intermediate students in learning English as a foreign language in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

2. To determine the level of Elementary to Upper-intermediate students in learning English as a foreign language achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

3. To determine if there is a significant relationship between Elementary to Upper-intermediate students’ perceptual learning styles and their academic
achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

4. To determine if there is a significant difference between Elementary to Upper-intermediate students in learning achievement, according to their most preferred learning styles in the Cetana Academic Program for English (CAPE) in Myanmar Institute of Theology.

**Population**

The population of this research was the Elementary to Upper-intermediate students who studied English as a Foreign Language during the academic year of 2016 in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

**Sample**

The sample of this study was the students who studied English as a foreign language from Elementary to Upper-intermediate classes at the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology. The researcher used all the population as the sample from Elementary to Upper-intermediate classes in the academic year of 2016, 118 students in total. Below table was the detailed student numbers of each class.

Table 1

*The Number of CAPE Students from Elementary to Upper-intermediate Level (Academic year 2016)*

<table>
<thead>
<tr>
<th>Students level</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>38</td>
</tr>
<tr>
<td>Intermediate</td>
<td>26</td>
</tr>
<tr>
<td>Post Intermediate</td>
<td>29</td>
</tr>
<tr>
<td>Upper Intermediate</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
</tr>
</tbody>
</table>
Research Instrument

The researcher used Perceptual Learning Style Preferences Questionnaire developed by Reid (1984) (see Appendix A) which was translated into the Burmese language by La San (2013) (see Appendix B). The questionnaire determined the students preferred learning styles to be correlated and compared to their learning achievement scores. EFL language achievement test scores were used to measure the achievement level of the EFL students in CAPE.

The Perceptual Learning-Style Preference Questionnaire

The PLSPQ was originally developed by Reid (1984) to assess the perceptual learning style preferences of ESL students in the United States. It has been used by many researchers in many studies to assess the learning styles of language learners and its validity and reliability have been demonstrated. Therefore, the researcher chose this questionnaire to assess the learning styles of CAPE students learning English as a foreign language. The researcher attached a cover letter with the questionnaire. The intention of the letter was to explain the objective of the study and to promise that all the information of respondents would be held strictly confidential and that the results would only use in this study. In the demographic part of the questionnaire, the researcher asked for the students’ name, gender and class. The purpose of asking for their name was to identify the students’ achievement scores for learning English as a Foreign language.

The questionnaire has three parts.

1. A cover letter which intend to explain the purpose of the research.
2. The demographic part which aims to collect personal information of the respondents’ data; name, gender and class.
3. Perceptual learning style preferences for English language learning from the Perceptual Learning Style Preferences Questionnaire (PLSPQ) (Reid, 1984).

There are six categories of perceptual learning style preferences in the PLSPQ which are visual, auditory, kinesthetic, tactile, group and individual. It consists of 30 items. There are five questions for each learning style category. Each item refers to one of six learning style categories. Table 2 below shows the question item numbers for each learning style preferences.

Table 2

<table>
<thead>
<tr>
<th>Specifications for the Perceptual Learning-Style Preference Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Styles</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Visual</td>
</tr>
<tr>
<td>Auditory</td>
</tr>
<tr>
<td>Kinesthetic</td>
</tr>
<tr>
<td>Tactile</td>
</tr>
<tr>
<td>Group</td>
</tr>
<tr>
<td>Individual</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

There are five-point Likert scales in this questionnaire to determine the attitude of students towards each statement. Students will be asked and must decide whether they agree or disagree with each statement. After they decided, they need to mark one of the boxes: strongly disagree, disagree, undecided, agree, or strongly agree.
Table 3

*The Scores, Scales Representing the Level of Agreement for PLSPQ*

<table>
<thead>
<tr>
<th>Level of agreement</th>
<th>Score</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>1.00-1.49</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>1.50-2.49</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
<td>2.50-3.49</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
<td>3.50-4.49</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>5</td>
<td>4.50-5.00</td>
</tr>
</tbody>
</table>

Table 3 shows the numerical values, scores, scales representing the level of agreement.

The students answered the Reid’s PLSPQ by putting a (✓) in the appropriate box for each item. The researcher computed the mean scores of the Likert Scale for each learning style based on the replied data. The following table shows the criteria of deciding the preferred learning style.

Table 4

*The Criteria of Deciding the Preferred Learning Style*

<table>
<thead>
<tr>
<th>Learning Style Preference</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td>3.8 - 5.0</td>
</tr>
<tr>
<td>Minor</td>
<td>2.5 - 3.7</td>
</tr>
<tr>
<td>Negligible</td>
<td>0 - 2.4</td>
</tr>
</tbody>
</table>

Table 4 shows the criteria of deciding the preferred learning style. In this study, major learning style preference will be concerned only. The highest mean scores showed the most preferred learning style.
The following Table 5 is the example for deciding students’ learning styles based on their mean scores. In this research, Major Learning Style Preference scales used as the criteria of deciding the most preferred learning style.

Table 5

*Example for Deciding Students’ Learning Styles Based on Their mean scores*

<table>
<thead>
<tr>
<th>Student</th>
<th>Mean score of Visual</th>
<th>Mean score of Auditory</th>
<th>Mean score of Kinesthetic</th>
<th>Mean score of Tactile</th>
<th>Mean score of Group</th>
<th>Mean score of Individual</th>
<th>Most preferred Learning Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.80</td>
<td>4.20</td>
<td>5.00</td>
<td>4.60</td>
<td>4.00</td>
<td>4.40</td>
<td>Kinesthetic</td>
</tr>
<tr>
<td>2</td>
<td>4.00</td>
<td>4.40</td>
<td>4.20</td>
<td>3.80</td>
<td>4.60</td>
<td>5.00</td>
<td>Individual</td>
</tr>
<tr>
<td>3</td>
<td>4.60</td>
<td>4.40</td>
<td>4.20</td>
<td>5.00</td>
<td>3.80</td>
<td>4.00</td>
<td>Tactile</td>
</tr>
<tr>
<td>4</td>
<td>3.00</td>
<td>3.60</td>
<td>3.80</td>
<td>2.20</td>
<td>4.20</td>
<td>2.00</td>
<td>Group</td>
</tr>
<tr>
<td>5</td>
<td>4.40</td>
<td>5.00</td>
<td>4.00</td>
<td>4.60</td>
<td>3.20</td>
<td>1.40</td>
<td>Auditory</td>
</tr>
</tbody>
</table>

Table 5 shows the examples of the most preferred learning styles of five students based on their highest mean scores between 3.8 – 5.0.

The researcher has categorized students’ learning style preferences into 7 styles according to their highest score, learning style type 1 was visual, learning style type 2 was auditory, learning style type 3 was kinesthetic, learning style type 4 was tactile, learning style type 5 was group and learning style type 6 was individual. For students who had two or more than two of the same highest scores of learning style preferences, this kind of students were categorized as learning style 7 to answer the research objective one. Please see below Table 6 for the interpretation.

Table 6

*Interpretation of Seven Learning Style Types*

<table>
<thead>
<tr>
<th>Learning style type</th>
<th>Visual</th>
<th>Auditory</th>
<th>Kinesthetic</th>
<th>Tactile</th>
<th>Individual</th>
<th>Group</th>
<th>More than 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest score</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 6 shows the interpretation of seven learning style types.
Validity and Reliability of PLSPQ Questionnaire

The Perceptual Learning Style Preferences Questionnaire (PLSPQ) was designed by Reid in 1984 and has been extensively used to investigate students’ perceptual learning style preferences (see, e.g., Katsuda, 2012; Khatib & Ghosheh, 2013; La San, 2013). Table 7 shows the results of Cronbach’s alpha as reported by previous study and this study.

Table 7

Reliability Statistics on Different Studies of PLSPQ (N=118)

<table>
<thead>
<tr>
<th>Value Component</th>
<th>Number of items for each component</th>
<th>Item numbers</th>
<th>Khatib and Ghosheh Cronbach’s alpha of the PLSPQ (2013)</th>
<th>Alpha value of this study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>5</td>
<td>6,10,12,24,29</td>
<td>.72</td>
<td>.76</td>
</tr>
<tr>
<td>Auditory</td>
<td>5</td>
<td>1,7,9,17,20</td>
<td>.71</td>
<td>.72</td>
</tr>
<tr>
<td>Kinesthetic</td>
<td>5</td>
<td>2,8,15,19,26</td>
<td>.75</td>
<td>.75</td>
</tr>
<tr>
<td>Tactile</td>
<td>5</td>
<td>11,14,16,22,25</td>
<td>.72</td>
<td>.72</td>
</tr>
<tr>
<td>Individual</td>
<td>5</td>
<td>3,4,5,21,23</td>
<td>.75</td>
<td>.66</td>
</tr>
<tr>
<td>Group</td>
<td>5</td>
<td>13,18,27,28,30</td>
<td>.80</td>
<td>.87</td>
</tr>
</tbody>
</table>

Khatib and Ghosheh conducted a reliability analysis of the PLSPQ in 2013 and the results showed that the Cronbach’s alpha coefficient of the PLSPQ ranged from .71 to .80. The resulting data of this study shows that the Cronbach’s alpha for each learning style ranged from .66 to .87 and overall alpha value is .69. According to Wintergerst et al. (2002), Cronbach’s alpha over than .70 shows good support for internal consistency reliability. In this study, although Cronbach’s alpha for a couple of subscales were lower than .70, the researcher considered that over all, they were still acceptable.
Translation Process

The questionnaire and the cover letter used in this survey is translated from English to Burmese for the convenience of Myanmar students by the previous researcher (La San, 2013, Appendix B) and used them in his research. The literally consistent and grammatically accurate of questionnaire had been approved by three experts who have native level skills in both English and Burmese, who have teaching experience more than five years and who were all master degree holder in educational field. Therefore, this researcher adopted his questionnaire in this study.

Students’ Academic Achievement

The researcher used the CAPE students’ final exam scores in percentage of EFL students to determine the academic achievement level of learning English as a foreign language to be compared with their achievement of their preferred learning styles. The researcher collected the EFL test scores of 2016 academic year from the head of the CAPE and the scores were calculated in percentage to determine the level of students’ academic learning achievement. The researcher used Table 6 to determine the level of the Elementary to Upper-intermediate students’ EFL learning achievement at CAPE, CAPE has used the scores based on 0 - 100 points to determine students’ academic learning achievement. This standard scale is used to determine if students pass or fail classes. Please see below Table 8 for the interpretation.

Table 8

The Interpretation of Academic Achievement

<table>
<thead>
<tr>
<th>Score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>81-100</td>
<td>Very High</td>
</tr>
<tr>
<td>61-80</td>
<td>High</td>
</tr>
<tr>
<td>41-60</td>
<td>Moderate</td>
</tr>
<tr>
<td>21-40</td>
<td>Low</td>
</tr>
<tr>
<td>0-20</td>
<td>Very Low</td>
</tr>
</tbody>
</table>
Collection of Data

The researcher received the permission from the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology in November, 2016. The researcher distributed the questionnaire to the CAPE students on December 8 to 9, 2016. The students’ perceptual learning style preferences of students were collected with the Perceptual Learning Style Preferences Questionnaires (PLSPQ) and the EFL achievement scores in percentage were collected from the principal of CAPE on December 15, 2016.

The researcher distributed a total of 118 questionnaires to the targeted population. The data was collected by the researcher personally. The 118 questionnaires were received and the respondents’ return rate was 100%. The Process of data collection was shown below (see Table 9).

Table 9

Data Collection Process

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
<th>How</th>
<th>Who</th>
<th>Where</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting the in permission from CAPE (Myanmar)</td>
<td>November 2016</td>
<td>Verbal and Documented</td>
<td>Administration</td>
<td>CAPE at MIT</td>
</tr>
<tr>
<td>Thesis proposal defense presentation</td>
<td>November 2016</td>
<td>Present to committees</td>
<td>Researcher</td>
<td>Assumption University</td>
</tr>
<tr>
<td>Distribute &amp; collect questionnaire</td>
<td>December 2016</td>
<td>Distribute hard copies of questionnaire</td>
<td>Researcher</td>
<td>CAPE at MIT</td>
</tr>
</tbody>
</table>

Data Analysis

The researcher used a statistical software program to do the data analysis. For objectives 1, The highest mean scores were used to determine the
preferred learning styles of CAPE students. Then frequency and percentage were used to determine the students’ preferred learning styles in learning English as a foreign language of the CAPE students.

For objective 2, descriptive statistics involving means and standard deviation were used to determine the level of students’ achievement in learning English as a foreign language.

For objective 3, the researcher used the mean scores of the students’ most preferred learning styles and their academic achievement and Pearson product moment correlation coefficient was used to find the relationship between the students’ preferred learning styles and their academic achievement.

For the objective 4, one-way analysis of variance (ANOVA) was used to compare the CAPE students’ academic achievement of learning English as a foreign language according to their most preferred learning styles by using the mean scores of each student’s most preferred learning style and academic achievement of each student for all the 118 students. If there is significant difference, the researcher will use Scheffe post hoc test to compare each pair of the means.
### Summary of the Research Process

**Table 10**

**Summary of Research Process**

<table>
<thead>
<tr>
<th>Research Objective</th>
<th>Source of Data or Sample</th>
<th>Data Collection Method or Research Instrument</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To determine the perceptual learning style preferences of Elementary to Upper-intermediate students learning English as a foreign language in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.</td>
<td>(PLSPQ) Questionnaire</td>
<td>Percentage and frequency</td>
<td></td>
</tr>
<tr>
<td>2. To determine the level of the Elementary to Upper-intermediate students’ learning English as a foreign language achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.</td>
<td>Elementary to Upper-intermediate students in CAPE</td>
<td>EFL achievement test</td>
<td>Descriptive statistics (mean, standard deviations)</td>
</tr>
<tr>
<td>3. To determine if there is a significant relationship between Elementary to Upper-intermediate students’ perceptual learning styles and their academic achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.</td>
<td>Total: 118 students</td>
<td>(PLSPQ) Questionnaire</td>
<td>Pearson product moment correlation coefficient</td>
</tr>
<tr>
<td>4. To determine if there is a significant difference between Elementary to Upper-intermediate students in learning achievement, according to their most preferred learning styles in the Cetana Academic Program for English (CAPE) in Myanmar Institute of Theology.</td>
<td>(PLSPQ) Questionnaire</td>
<td>EFL achievement test scores</td>
<td>One-way analysis of variance (ANOVA)</td>
</tr>
</tbody>
</table>
Summary

In this chapter, the researcher described the research design, population and sample, research instrument, data collection, data analysis and summary of the research process. In Chapter IV, the research findings will be presented.
CHAPTER IV

RESEARCH FINDINGS

In this chapter, the researcher presents and discusses the statistical analyses of data obtained from 118 respondents. The researcher conducted the survey from December 8 to 10, 2016. The researcher distributed a total of 118 questionnaires to the targeted population at the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology and 118 of questionnaires were received back.

The researcher presented the findings of this study in two sections. The first section was findings of objective one, two, three and four. The second section was additional findings.

Research Finding of Research Objective One

The researcher collected data from the PLSPQ for objective one.

1. To determine the perceptual learning style preferences of Elementary to Upper-intermediate students’ learning English as a foreign language in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

The PLSPQ was designed to indicate the students preferred perceptual learning styles from six categories: visual, auditory, kinesthetic, tactile, group and individual learning styles. Thirty items comprised the PLSPQ and a 5-point Likert scale (strongly agree, agree, undecided, disagree and strongly disagree) was used to investigate the students’ preference toward each item of the questionnaire. The researcher computed the mean scores for each learning style based on the replied data, and identified the highest means scores to represent the students’ most preferred learning style.
Table 11

Frequency & Percentage of the Students’ Preferred Learning Style of the Elementary to Upper-intermediate Students

<table>
<thead>
<tr>
<th>Learning Styles</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>12</td>
<td>10.2</td>
</tr>
<tr>
<td>Auditory</td>
<td>13</td>
<td>11.0</td>
</tr>
<tr>
<td>Kinesthetic</td>
<td>24</td>
<td>20.3</td>
</tr>
<tr>
<td>Tactile</td>
<td>22</td>
<td>18.6</td>
</tr>
<tr>
<td>Group</td>
<td>16</td>
<td>13.6</td>
</tr>
<tr>
<td>Individual</td>
<td>11</td>
<td>9.3</td>
</tr>
<tr>
<td>Mixed</td>
<td>20</td>
<td>16.9</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 11 shows the frequency and percentage of the preferred learning styles of elementary to upper-intermediate students at CAPE. The results pointed out that the most preferred learning style of elementary to upper-intermediate students is Kinesthetic (20.3%) and followed by Tactile (18.6%), mixed (16.9 %), Group (13.6%), Auditory (11.0%), Visual (10.2%) and Individual (9.3%).

Research Finding of Research Objective Two

The data was collected from Elementary to Upper-intermediate students’ the academic achievement scores in learning English as a foreign language at CAPE to answer research objective two.

2. To determine the level of Elementary to Upper-intermediate students’ learning English as a foreign language achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

The data analysis result is presented in Table 10.

Table 12

Means and Standard Deviation of the Learning Achievement of the Elementary to Upper-intermediate Students
Table 12 shows the mean and standard deviation for research objective two: To determine the achievement level of the Elementary to Upper-intermediate students in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology. The mean score of 66.71 in achievement demonstrates that the Elementary to Upper-intermediate students showed a high level of achievement at CAPE based on the Table 12 criteria of learning achievement.

Research Finding of Research Objective Three

The data was collected from the section of perceptual learning style preferences and test scores of EFL academic achievement to answer the research objective three.

3. To determine if there is a significant relationship between Elementary to Upper-intermediate students’ perceptual learning styles and their academic achievement.

The data analysis result is presented by Table 13.

Table 13

<table>
<thead>
<tr>
<th>Learning style</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement Level</td>
<td>.081</td>
<td>.382</td>
<td>118</td>
</tr>
</tbody>
</table>

Table 13 shows the Pearson Product – Moment Correlation Coefficient for research objective three: To determine the relationship between Elementary to Upper-intermediate students’ learning styles and their achievement in learning English as a foreign language. The significance result of .382 is bigger than .05,
which indicates that there was no relationship between Elementary to Upper-intermediate students learning styles and their achievement at .382 significance level.

**Research Finding of Research Objective Four**

The data was collected from the section of perceptual learning style preferences questionnaire to answer research objective four.

4. To determine if there is a significant difference between Elementary to Upper-intermediate students’ learning achievement, according to their most preferred learning styles.

Table 14 shows the comparison of Elementary to Upper-intermediate students’ achievement, according to their most preferred learning styles for research objective three. The researcher used One-Way ANOVA to compare the students’ achievement, according to their most preferred learning style.

Table 14

<table>
<thead>
<tr>
<th>Learning Styles</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>105.67</td>
<td>29</td>
<td>3.64</td>
<td>1.01</td>
<td>.465</td>
</tr>
<tr>
<td>Within Groups</td>
<td>317.10</td>
<td>88</td>
<td>3.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>422.78</td>
<td>117</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 14 indicates that the probability of .465 is bigger than .05 at .05 level of significance, which means there were no significant differences of the Elementary to Upper-intermediate students’ learning achievement according to their most preferred learning styles. Therefore, research hypothesis one indicated that here is a significant difference of Elementary to Upper-intermediate student’s achievements, according to the students’ most preferred learning styles was rejected.
and there were no significant differences among Elementary to Upper-intermediate students’ learning achievement to their most preferred learning styles.

Summary

In this chapter, the researcher presented the research findings of this study. In Chapter V, the researcher has discussed the links between the findings presented above and previous research.
CHAPTER V

CONCLUSION, DISCUSSION, AND RECOMMENDATIONS

In this chapter, the researcher presented a summary of this study, including the research objectives, hypotheses, the research methodology and findings. It will also provide a conclusion for the study and a discussion of those findings. In this chapter the researcher also makes recommendations based on the study for future researchers.

Summary of the study

In this study, the researcher examined students’ preferred learning styles, the level of students’ academic achievement in learning English as a Foreign Language. The study aimed to find out if there was the relationship between students preferred learning styles and their achievement and also investigated the difference between the students’ achievement according to their most preferred learning style. The sample was Elementary to Upper-intermediate students from the Cetana Academic Program for English (CAPE) in Myanmar Institute of Theology.

This was a quantitative research study which utilized both descriptive and inferential statistics. The researcher used the PLSPQ questionnaire as the instrument for collecting data for the study. The learning achievement levels were obtained from the students’ final exam’s total grade percentage. A total of 121 questionnaires were distributed and 118 of them returned their answer. This study was based on the following research objectives:
1. To determine the perceptual learning style preferences of Elementary to Upper-intermediate students’ learning English as a foreign language in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

2. To determine the level of Elementary to Upper-intermediate students’ learning English as a foreign language achievement in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology.

3. To determine if there is a significant relationship between Elementary to Upper-intermediate students’ perceptual learning styles and their academic achievement.

4. To determine if there is a significant difference between Elementary to Upper-intermediate students’ learning achievement, according to their most preferred learning styles.

There were two hypotheses in this study:

1. There is a significant relationship between Elementary to Upper-intermediate students’ perceptual learning styles and their academic achievement at the .05 level.

2. There is a significant difference of Elementary to Upper-intermediate students’ academic achievement according to their most preferred learning styles at a significant level of .05.

This study was a quantitative, comparative and correlational study based on the PLSPQ, alpha value is .69, used to investigate the perceptual leaning style preference of Elementary to Upper-intermediate students in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology. This survey also indicated the students’ level of learning achievement from their final exam’s total score percentage. The concept of perceptual learning style preferences developed by Reid (1984) was used as the base theory. The data was collected from
118 Elementary to Upper-intermediate students in the Cetana Academic Program for English (CAPE) at Myanmar Institute of Theology. The data was analyzed by using descriptive statistics.

**Research Findings**

1. The data from the questionnaire showed that the respondents as a whole (Elementary to Advanced students) preferred learning styles are: 24 students (20.3%) preferred kinesthetic learning style, 22 students (18.6%) preferred tactile learning style, 20 students (16.9%) preferred mixed learning style, 16 students (13.6%) preferred group learning style, 13 students (11.0%) preferred auditory learning style, 12 students (10.2%) preferred visual learning style and 11 students (9.3%) preferred individual learning styles.

2. The Elementary to Upper-intermediate students had a high level of achievement.

3. There was no significant relationship between Elementary to Upper-intermediate students learning styles and their achievement at the level of .05.

4. There were no significant differences of Elementary to Upper-intermediate students’ learning achievement according to their most preferred learning styles at the level of .05.

**Conclusion**

The following conclusions are drawn from the findings of the study. The Elementary to Upper-intermediate students preferred kinesthetic learning style mostly followed by tactile, mixed, group, auditory, visual and individual learning style, and Elementary to Upper-intermediate students have a high level of achievement.

There was no significant relationship between the Elementary to Upper-intermediate students learning styles and their achievement, and no significant
differences between the means of Elementary to Upper-intermediate students’ achievement, according to their most preferred learning styles.

**Discussion**

The results of this study demonstrated that the Elementary to Upper-intermediate students of the Cetana Academic Program for English (CAPE) do favor kinesthetic learning style most followed by tactile, mixed, group, auditory, visual and individual learning style as the least favor.

As mentioned in Chapter II, Reid had conducted the PLSPQ in the United States in 1987 and there were 1388 EFL students involved into the study. This study result was similar to Reid’s study in 1987 which result had kinesthetic and tactile as major learning styles. The researcher assumes that the students experienced only teacher-centered instruction throughout their student lives. Then they experience new instructional strategies at CAPE and kinesthetic learning style appeals them most since it is easy, fun and practical for them compared to other styles. Moreover, the students come from various ethnic backgrounds which are usually less-developed regions of the country. So, their background knowledge of English is poor which is why they like kinesthetic learning style.

In terms of group learning style preference, the findings of this study differ from Reid’s research in 1987. Reid’s research found out the EFL students had negligible group learning style preference, and this study showed the students preferred group learning style as well.

In Asian culture, a sense of belonging to the community and being close to the relatives is much stronger compare to the Western culture. For example, in Myanmar, people know the names of their neighbors or the family that live across the street. Asian cultures prefer closer relationships in public more than western culture.
So, it is not surprising to see that the findings of this study showed that the students of CAPE do not really prefer individual learning style preference. As most of the students come and study from the different parts of the country, they have different educational background, the learning environment and technology. Most students need to use computer to complete their assignments and projects daily, these kinds of challenges discourage students to learn alone. Handling every assignments and learning tasks individually in the new environment, school, syllabus, teaching styles requires more than their individual capability. Therefore, by working in groups, they can divide the tasks, depend on each other and learn from each other.

According to Reid’s research of English as a second language (Reid, 1987), individuals have different learning styles. Learning style preferences can be affected by many factors, such as culture, major and age. Reid (1987) claimed that Vietnamese learners prefer visual learning while Spanish learners prefer kinesthetic and tactile learning styles. It is not surprise to see that the learning style preferences are different.

Juris, Ramos, and Casteneda (2009) explored the learning styles of students in the public and private schools of four cities in Colombia. 254 students and 9 teachers participated in the study and the most preferred style was kinesthetic followed by tactile learning style and then auditory. The respondents of this current study also preferred kinesthetic learning style most and followed by tactile and mixed learning style. There were group, auditory, visual and individual learning style as the learning style while there were no individual and group learning style in Juris, Ramos, and Casteneda’s study. This difference might be due to the differences in culture, size of the samples from this study (254 and 118) and instructional methods.
The study used the students’ final exam scores in percentage for measuring the students’ achievement. The analysis of the data showed that Elementary to Upper-intermediate students’ learning achievement is high, according to the CAPE’s grading scale. This may be because most of the students attending in CAPE are trying to pass the entrance exam of Liberal Arts Program which is a Bachelor Degree program in Myanmar Institute of Theology. Therefore, to pass the entrance exam motivate them to try hard to get high level of achievement in EFL.

Most for the students are hardworking and disciplined in education by culture and all the students aim to join the Liberal Arts Program in Myanmar Institute of Theology which require a high score. This mean a huge intrinsic motivation for them to excel in the test. Therefore, these are the good reasons to have a high level of achievement at CAPE. In contrary to that, another possible reason for this case can be the discriminating power of the test. It might be that the test does not have a good discriminating power or the assessments did not provide a large opportunity for the student to express their understanding uniquely and extensively.

As stated in Chapter II, Finely (2000) developed a study on learning styles and academic learning achievement of high school students. The study showed that 81% of the kinesthetic students were more active in their participation in the class. The kinesthetic students had higher learning achievement than the passive students.

This study’s data determines that there is no relationship between Elementary to Upper-intermediate perceptual learning styles to their achievement. The Elementary to Upper-intermediate students in this study mostly use kinesthetic learning style. Despite their use of kinesthetic learning style, it does not increase their achievement. No matter what learning preferences a student may have, he can still
achieve high. This does not mean that some students do not benefit from their learning style preferences, but as a whole, the students’ learning styles do not show a significant relationship to their achievement. Moreover, students’ achievement can be altered by the learning environment and learning styles implemented properly during classroom instruction. Often students that are strong in their academics can excel using several different types of learning styles.

According to the research findings, there was no significant difference between the Elementary to Upper-intermediate students’ learning achievement according to their most preferred learning styles. In 2005 and 2006, Orhun and Orhun investigated the relationship between learning styles and achievements of Turkish students in Physics I and Calculus I in the Physics Department of Anadolu University. 142 university students participated in their study. They applied Kolb’s learning style inventory to collect the data. The result showed that there is a statistically significant difference in the physics course achievement according to the students’ different learning styles. On the other hand, there was no significant difference in the Calculus course achievement according to the students’ different learning styles (Orhun and Orhun, 2005-2006). According to the different result, it can be assumed that students’ achievement could be difference according to their preferred learning styles depending on specific major fields.

La San (2013) created a study of Burmese students determining that their preferred learning style was tactile. The study also showed that there was no significant difference in the Burmese students’ achievement, according to their preferred learning style. This researcher’s study had similar results of no significant difference in achievement, according to the Elementary to Upper-intermediate students’ preferred learning of kinesthetic learning. The difference result in the
preferred learning style of Burmese students tactile and the Elementary to Upper-intermediate students of CAPE might be due to the different languages taught.

**Recommendations**

According to the findings of this study, Elementary to Upper-intermediate students from CAPE had three major learning style preferences in learning English as a foreign language. They were kinesthetic, tactile and group. The students had three minor learning style preferences were found in this study. Therefore, the researcher would like to provide some recommendations as below.

**Recommendations for Teachers:**

It is crucial to know that basically every individual student has a different learning style preference from another. Since students do not prefer one particular style to another, each student should be encouraged to learn in all possible ways. Therefore, the researcher strongly recommends for teachers to be aware of the different learning styles of the students and create lessons allowing the students to learn with different learning styles.

The researcher strongly recommends to teachers to apply active, and cooperative learning strategies such as, class presentations, showing movies, discussions, field trips, games, and other activities. Teachers should create flexible or differentiate instructions and a wide range of instruction in order to meet the student differences in learning styles. For the auditory learning style, teachers should use discussion to approach various topics using English language. The activities such as, role-playing and games will help the kinesthetic learners to learn the English as a Foreign Language affectively. Providing writing tasks such as easy writing, and making posters related to the lessons will engage the students who have the tactile
learning style. Moreover, providing activities, assignments, and discussions with the students paired, grouped and alone will benefit both the group and individual learners learning English as a foreign language. Especially for the visual learning style, the researcher recommends to teachers to use a variety of visual and multi-media materials, such as pictures, photos, videos, Power Points, diagrams and charts because students’ learning styles could be extended, adapted, and changed depending on their educational experiences change. By doing the above recommendations, students will be able to utilize different learning styles to learn more effectively. They can also get chance to develop multi-learning style preferences, which can be beneficial to their learning.

**Recommendations for Administrators:**

According to the finding of this study, the students do prefer kinesthetic learning style over the other types of learning styles. School administrators should help both teachers and students to find better ways of presenting information in the classroom. Professional development sessions can be used to help teachers to benefit from learning style concepts and use them in their daily classroom instruction. Parents and students can be given a voice to help guide the administration towards classroom instruction that favors learning styles that are natural and more enjoyable for students to use.

**Recommendations for Future Researchers:**

For future researchers who are interested in perceptual learning style preferences in English as a foreign language learning, below are some recommendations.

Future researchers could adapt new educational technologies into the PLSPQ instrument. The PLSPQ instrument was developed over 20 years ago, with the
rapid change of educational technologies, to modify the PLSPQ will help researchers to better understanding the current learning styles, which will lead to more accurate results. Finally, this researcher recommends using a qualitative and mixed study with interviews, surveys, classroom observations with pretests and posttest to broaden the scope of a future study.
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APPENDIX A

Perceptual Learning Style Preference Questionnaire

(Copyright 1984, by Joy Reid. Explanation of learning styles was adapted from the C.I.T.E. LearningStyles Instrument, Murdoch Teacher Center, Wichita, Kansas 67208)

Directions:

People learn in many different ways. For example, some people learn primarily with their eyes (visual learners) or with their ears (auditory learners); some people prefer to learn by experience and/or by “hands-on” tasks (kinesthetic or tactile learners); some people learn better when they work alone while others prefer to learn in groups.

This questionnaire has been designed to help you identify the way(s) you learn best – the way(s) you prefer to learn.

Decide whether you agree or disagree with each statement. And then indicate whether you:

- Strongly Agree (SA)
- Agree (A)
- Undecided (U)
- Disagree (D)
- Strongly Disagree (SD)

Please respond to each statement quickly, without too much thought. Try not to change your responses after you choose them. Please answer all the questions.

Name - _________________________
Gender - ________________________
Class - _________________________
# PERCEPTUAL LEARNING STYLE PREFERENCE QUESTIONNAIRE

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>When the teacher tells me the instructions I understand better.</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
</tr>
<tr>
<td>2.</td>
<td>I prefer to learn by doing something in class.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>I get more work done when I work with others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>I learn more when I study with a group.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>In class, I learn best when I work with others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>I learn better by reading what the teacher writes on the chalkboard.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>When someone tells me how to do something in class, I learn it better.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>When I do things in class, I learn better.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>I remember things I have heard in class better than things I have read.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>When I read instructions, I remember them better.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>I learn more when I can make a model of something.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>I understand better when I read instructions.</td>
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<td>13.</td>
<td>When I study alone, I remember things better.</td>
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<tr>
<td>14.</td>
<td>I learn more when I make something for a class project.</td>
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<tr>
<td>15.</td>
<td>I enjoy learning in class by doing experiments.</td>
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<tr>
<td>16.</td>
<td>I learn better when I make drawings as I study.</td>
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<tr>
<td>17.</td>
<td>I learn better in class when the teacher gives a lecture.</td>
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<tr>
<td>18. When I work alone, I learn better.</td>
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<tr>
<td>19. I understand things better in class when I participate in role-playing.</td>
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<td>20. I learn better in class when I listen to someone.</td>
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<td>21. I enjoy working on an assignment with two or three classmates.</td>
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<td>22. When I build something, I remember what I have learned better.</td>
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<td>23. I prefer to study with others.</td>
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<td>24. I learn better by reading than by listening to someone.</td>
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<td>25. I enjoy making something for a class project.</td>
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<tr>
<td>26. I learn best in class when I can participate in related activities.</td>
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<td>27. In class, I work better when I work alone.</td>
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<td>28. I prefer working on projects by myself.</td>
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<td>29. I learn more by reading textbooks than by listening to lectures.</td>
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<tr>
<td>30. I prefer to work by myself.</td>
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</table>
APPENDIX B

THE QUESTIONNAIRE (BURMESE VERSION)

အမိုးခွဲ/အများများ

ဗီ စာရင်းအများက မိခိုက်သည်နှင့်ပတ်သက်သော သင်္ချာပြောင်းလဲရေး အခါမှာ သင်္ချာပြောင်းလဲရေး ကြည့်ရှုရေး စစ်တစ်ခု ကို အဖြစ်သို့ သင်္ချာပြောင်းလဲရေး ကြည့်ရှုရေး စစ်တစ်ခု ကို အဖြစ်သို့ သင်္ချာပြောင်းလဲရေး ကြည့်ရှုရေး စစ်တစ်ခု ကို အဖြစ်သို့ သင်္ချာပြောင်းလဲရေး ကြည့်ရှုရေး စစ်တစ်ခု ကို အဖြစ်သို့ သင်္ချာပြောင်းလဲရေး ကြည့်ရှုရေး စစ်တစ်ခု ကို အဖြစ်သို့ သင်္ချာပြောင်း}

အမိုးချင်/အများများ

(၁) အမိုးချင်/အများများအား မိခိုက်သည်နှင့်ပတ်သက်သော သင်္ချာပြောင်းလဲရေး အခါမှာ သင်္ချာပြောင်းလဲရေး ကြည့်ရှုရေး စစ်တစ်ခု ကို အဖြစ်သို့ သင်္ချာပြောင်းလဲရေး ကြည့်ရှုရေး စစ်တစ်ခု ကို အဖြစ်သို့ သင်္ချာပြောင်းလဲရေး ကြည့်ရှုရေး စစ်တစ်ခု ကို အဖြစ်သို့ သင်္ချာပြောင်းလဲရေး ကြည့်ရှုရေး စစ်တစ်ခု ကို အဖြစ်သို့ သင်္ချာပြောင်း}
| အ* | ထပ်ဝိုင်း အမွေ | ဗ* | အခြေခံကိုလာမှုများ | န* | အခြေခံကိုလာမှုကို အခြေခံသော်လည်း |
|---|---|---|---|---|
|   |   |   |   |   |

| အ* | ထပ်ဝိုင်း အမွေ | ဗ* | အခြေခံကိုလာမှုများ | န* | အခြေခံကိုလာမှုကို အခြေခံသော်လည်း |
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<p>| အ* | ထပ်ဝိုင်း အမွေ | ဗ* | အခြေခံကိုလာမှုများ | န* | အခြေခံကိုလာမှုကို အခြေခံသော်လည်း |
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<th>ကမ္ဘားအမည်</th>
<th>ဦးပို့ချက်</th>
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座右銘 (ဥပမာ: ချစ်သူကိုကြား)
<table>
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<th>အမျိုးအစားအခွံ</th>
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