

## CHAPTER 3

### METHODOLOGY AND RESULTS

The purpose of this study is to investigate the models of English learning styles of all the second year undergraduate Industrial Education students in the field of Applied Arts, majoring in English and enrolling the course of “Reading 2” during the first semester of 2012 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL). Furthermore, this study is also designed to investigate whether all the students with different genders and different English reading abilities: high, mid, low appear to have the same models of English learning styles or not.

This chapter is divided into two main sections. The first section is methodology and the second section is results. The methodology section is consisted of four main parts. The first is population and sample. The second is the instrument of this study. The third is validity and reliability of the questionnaire and the fourth is data analysis and statistical procedures. The second section, the results, presents the research findings of the two main questions: (1) what are the models of English learning styles of Industrial Education Students at King Mongkut’s Institute of Technology Ladkrabang? (2) Do KMITL Industrial Education Students with different genders and different English reading abilities appear to have the same models of English learning styles?

### 3.1 Methodology

#### 3.1.1 Population and Sample

##### 3.1.1.1 Population

The population of this study is the second year undergraduate Industrial Education students studying during the first semester of 2012 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL).

### 3.1.1.2 Sample

The sample is all 40 second year undergraduate Industrial Education students in the field of Applied Arts, majoring in English and enrolling the course of “Reading 2” during the first semester of 2012 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL).

## 3.1.2 Instrument

### 3.1.2.1 The Questionnaire

The research instrument was the questionnaire. It consisted of two sections. The first section was students' demographic information that included students' gender and reading abilities: high, mid, low. The second section consisted of the Models of Learning Styles Questionnaire adapted from Reid’s framework (Reid 1984). This questionnaire was used to interpret the students' models of English learning styles when they study “Reading 2” during the first semester of 2012 academic year. It is also currently widespread used by various educators for understanding the English learning process and gaining information about students' background and learning styles. (Reid 1987, 1998; Boonsuk, 2008; Simsek, 2005).

According to the questionnaire, there were six categories concerned with the models of English learning styles: visual, auditory, kinesthetic, tactile, group learning, and individual learning styles (Reid 1987). Of all these six categories, there were 30 statements all together. Five statements were represented for each category. That is, the visual learning style was signified in statements 6, 10, 12, 24, and 29. The auditory learning style was signified in statements 1, 7, 9, 17, and 20. The kinesthetic learning style was signified in statements 2, 8, 15, 19, and 26, while the tactile learning style was signified in statements 11, 14, 16, 22, and 25. Group learning style was signified in statements 3, 4, 5, 21, and 23, while individual learning style was signified in statements 13, 18, 27, 28, and 30. As a result, each statement described particular type of model of learning styles the students’ used when they learnt English language. For example, “I prefer to learn by doing something in class,” “When I read instruction, I remember them better,” or “When I work alone, I learn better.”

All the students were also asked to respond to each statement quickly, without thinking too much about the statements, and they were asked not to change their responses after they marked them.

In addition, before answering the questionnaire, the students were emphasized to mark each statement that was best applied to their models when learning English. They also had to respond to the 30 statements in the questionnaire on the basis of a 5-point Likert scale ranging from strongly agree to strongly disagree, as shown in Figure 3.1:

**Figure 3.1: A 5-point Likert Scale**

A 5-point Likert Scale	
Scale	Point
Strongly agree	5
Agree	4
Undecided	3
Disagree	2
Strongly disagree	1

### 3.1.2.2 Criteria for interpreting Variables

In this study, the criteria for interpreting the Mean Score were presented according to the classification of the levels of learning styles models of Reid (Reid, 1987). Reid classified the learning styles models into three levels: major, minor, and negligible. A major learning styles model is indicated by the scores from 38-50. A minor learning styles model ranges from 25 to 37, whereas the scores for negligible learning styles model are from 0 to 24, as shown in table 3.1:

Table 3.1 Three Levels of Students' Learning Styles Models

(Adapted from Reid, 1987)

Levels of Learning Styles Models	Scores
Major	38 - 50
Minor	25 - 37
Negligible	0 - 24

### 3.1.3 Validity and Reliability of the Questionnaire

Every enterprise was used to evaluate the validity of the research instrument to derive the effectual information. For example, questionnaire's construction and development were not only based on the literature review and related research, but also were submitted to three scholars for reexamining instrument's validity and reliability before handing out for pilot project.

### 3.1.4 Data Analysis and Statistical Procedures

This research was a descriptive research using the questionnaires. All data were analyzed through computer program to find the results. To answer the research questions, statistical procedures were employed as follows:

**3.1.4.1 Arithmetic Mean and Standard Deviation:** To answer research question number one, the data from the PLSPQ were analyzed through the computer program to reveal the arithmetic mean and the standard deviation. The arithmetic mean provided average levels of the models of English learning styles the students used. Furthermore, descriptive statistics was used to classified the students according to their models of English learning styles preference into three categories: major, minor, and negligible.

**3.1.4.2 Independent Sample T-test:** To answer research question number two, the Independent Sample t-test was used to determine the level of significance if any of differences in the frequency mean do occur among the models of English learning styles of students from different reading abilities and genders.

### 3.2 Results

The second section, the results, indicates the research findings of the two main questions: (1) what are the models of English learning styles of Industrial Education Students at King Mongkut's Institute of Technology Ladkrabang? (2) Do KMITL Industrial Education Students with different genders and different English reading abilities appear to have the same models of English learning styles?

The data were analyzed by comparing the values of arithmetic mean, and standard deviation of students' models of learning styles. Independent Sample t-test was used to determine any significance differences at the significance level of 0.05. The findings of the study were presented according to the two research questions mentioned as follows:

#### 3.2.1 Students' Demographic Background

Table 3.2: The Students' Demographic Background

Students' Demographic Background	N=40	Percent
Gender		
Male	7	17.5
Female	33	82.5
<b>Total</b>	<b>40</b>	<b>100</b>
Reading Ability levels		
High	17	42.5
Mid	23	57.5
Low	-	0.00
<b>Total</b>	<b>40</b>	<b>100</b>

Table 3.2 showed the students' demographic background by genders and their reading ability levels. All 40 second year undergraduate Industrial Education Students in the field of Applied Arts, majoring in English and enrolling the course of "Reading2" during the first semester of 2012 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL) were 7 male students (17.5%) and 23 female students (82.5%). Interestingly, it showed that there were 17 students having high reading ability level (42.5%) and 23 students having mid reading ability levels (57.5%). No students having low reading ability level.

### 3.2 Result of Research Question One: What are the models of English learning styles of Industrial Education Students at King Mongkut's Institute of Technology Ladkrabang?

To answer the research question one, the data were shown in Table 3.3 below:

**Table 3.3: Models of Students' Learning Styles**

Categories of Learning Styles	Mean	SD.	Levels of Learning Styles
Visual	37.60	5.21	Major
Auditory	35.80	4.85	Minor
Kinesthetic	34.95	4.41	Minor
Tactile	35.90	4.13	Minor
Group	35.60	4.78	Minor
Individual	28.85	4.79	Minor

Table 3.3 indicated that the models of learning styles of all 40 second year undergraduate Industrial Education students in the field of Applied Arts, majoring in English and enrolling the course of "Reading 2" during the first semester of 2012 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL) were in major levels only on Visual learning style ( $\bar{X}$  =37.60), while other categories of learning styles: Auditory, Kinesthetic, Tactile, Group, and Individual learning styles, students appeared to use them

only at minor levels ( $\bar{X}$  =35.80, 34.95, 35.90, 35.60, and 28.85 respectively). Interestingly, there were no Negligible levels on any students' learning styles models.

### 3.3 Result of Research Question Two: Do KMITL Industrial Education Students with different genders and different English reading abilities appear to have the same models of English learning styles?

To answer this research question and to investigate whether the six learning styles were influenced by genders: male and female, and by the levels of English reading abilities: high and mid or not, the results were demonstrated as in Table 3.4 and Table 3.5 below:

**Table 3.4: Models of Students' Learning Styles Classified by Genders**

Categories of Learning Styles	Genders	N=40	Mean	SD.	Levels of Learning Styles
Visual	Male	7	42.00	6.33	Major
	Female	33	36.67	4.52	Minor
Auditory	Male	7	37.14	3.98	Minor
	Female	33	35.52	5.03	Minor
Kinesthetic	Male	7	39.14	4.14	Major
	Female	33	34.06	3.98	Minor
Tactile	Male	7	36.86	4.30	Minor
	Female	33	35.70	4.17	Minor
Group	Male	7	38.57	5.97	Major
	Female	33	34.97	4.34	Minor
Individual	Male	7	29.15	1.95	Minor
	Female	33	28.79	5.22	Minor

Table 3.4 illustrated that male students had different levels of learning styles models from those of female students in three categories: Visual, Kinesthetic and Group learning styles. That is, all these three categories of learning styles (Visual, Kinesthetic and Group learning styles), male students used them in Major levels ( $\bar{X}$  =42.00, 39.14, 38.57, respectively) while female students used them in Minor levels ( $\bar{X}$  =36.67, 34.06, 34.97, respectively). However, in the other three categories: Auditory, Tactile, and Individual learning styles models, both male and female used all these categories in Minor levels.

Table 3.5: Models of Students' Learning Styles Classified by RA (English Reading Abilities)

Categories of Learning Styles	RA	N=40	Mean	SD	Levels of Learning Styles
Visual	High	7	39.64	4.76	Major
	Mid	33	36.09	5.10	Minor
Auditory	High	7	37.88	4.66	Major
	Mid	33	34.26	4.48	Minor
Kinesthetic	High	7	36.35	3.41	Minor
	Mid	33	33.91	4.84	Minor
Tactile	High	7	37.53	3.57	Major
	Mid	33	34.70	4.16	Minor
Group	High	7	35.88	3.57	Minor
	Mid	33	35.39	5.58	Minor
Individual	High	7	30.00	3.00	Minor
	Mid	33	28.00	5.69	Minor

Table 3.5 showed that high reading ability students had different levels of learning styles models from those of mid reading ability students in three categories: Visual, Auditory, and Tactile learning styles. That is, all these three categories of learning styles (Visual, Auditory, and Tactile learning styles), high reading ability students used these styles in Major levels ( $\bar{X}$  =39.64, 37.88, 37.53, respectively), while mid reading ability students used them in Minor levels ( $\bar{X}$  =36.09, 34.26, 34.70, respectively). However, in the other three categories: Kinesthetic, Group, and Individual learning styles, both male and female used all these categories in Minor levels.