



Completed Research Report

On

Developing Reading Methods

of Industrial Education Students at

King Mongkut's Institute of Technology Ladkrabang



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**Research Title :** Developing Reading Methods of Industrial Education Students at King Mongkut's Institute of Technology Ladkrabang

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## ABSTRACT

The objectives of this study were: (1) to investigate the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang. (2) To determine if developing reading strategies differ among Thai university first year engineering students of differing English reading abilities. (3) To investigate if developing reading strategies differ among Thai university first year engineering students of differing gender: male and female. The samples were all 60 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 2. The research instrument used in collecting the data was a five-point Likert scale, adapted from O'Malley and Chamot (1990). The questionnaire consists of 14 statements which include either metacognitive strategies, cognitive strategies and social or affective strategies. The quantitative data were analyzed using statistic programs: both arithmetic mean and standard deviation. Results of this study revealed that:

(1) All 60 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

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semester of 2015 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL) could develop their reading methods in moderate level (mean=3.13).

(2) High reading ability students had different levels of using reading methods to develop their reading from those of mid reading ability students. That is, high reading ability students (N=21) could develop their reading methods in great levels (mean=3.79) while mid reading ability students (N=39) could develop their reading methods only in moderate level (mean=2.78). In addition, high reading ability students could use either metacognitive reading methods or cognitive reading methods to develop their reading much better than mid reading ability students (for metacognitive reading methods: means = 4.22, 2.54; for cognitive reading methods: means = 3.89, 2.84 respectively).

(3) Male students (N=16) could develop their reading methods in great levels (mean=3.51) while female students (N=44) could develop their reading methods only in moderate level (mean=2.99). Moreover, male students could use either metacognitive reading methods or cognitive reading methods to develop their reading much better than female students (for metacognitive reading methods: means = 3.84, 2.90; for cognitive reading methods: means = 3.50, 3.02 respectively).

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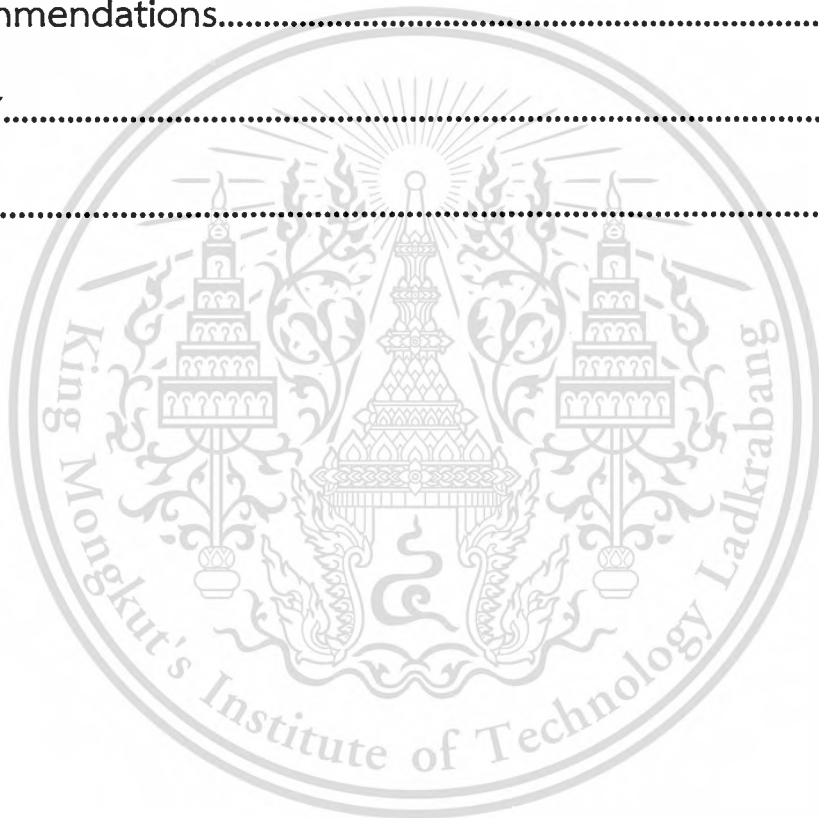
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Miss Rattana Sangchan and  
Associate Professor Dr. Pattaraporn Thampradit  
(Researchers)

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## CHAPTER I

### INTRODUCTION

Chapter one is divided into five parts: statement and significance of the problems, goals and objectives, scopes of the study, limitations of the study, and definitions or terms used.

#### 1.1 Statement and Significance of the Problems

Although there are varieties of studies being focused on teaching students to use a variety of reading methods in order to read better, there haven't been a lot of studies concerned about developing reading methods used by Thai students at the upper secondary level of industrial education field. Therefore, this study investigated the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang.

From the researcher's experiences as an English teacher, it has long been found that when reading English texts, students can achieve the comprehension in reading with different levels. Some require a lot of time in reading using various types of reading methods. Sometimes they have to slow down their reading speed, stop and pause when they encounter unfamiliar words. Moreover, they use their lips voicelessly as if they were reading aloud to themselves, which reduced their reading speed, while the others can comprehend the texts without too many difficulties.

Additionally, when asking students who had already graduated from school about how they transferred their knowledge from reading courses to use in their university study, some said that they seldom used the knowledge gained from their reading courses, and their reading background was inadequate for their

English academic needs in the university. The others informed that they needed more practice in developing English reading since they still had problems in reading textbooks.

Therefore, this study was carried out to investigate the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang. With the hope that the results and suggestions obtained from this study will be advantageous, at least, for teachers who are teaching English reading and also for students who are studying English reading at King Mongkut's Institute of Technology Ladkrabang (KMITL). Since the teachers should help their students by providing them with appropriate effective reading methods and encouraging the use of such methods according to the needs of their students. As a result, the significance of this study should serve as a starting point for raising the level of students' proficiency in reading.

## 1.2 Goals and Objectives

The purpose of this study were to (1) investigate the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang. (2) To determine if developing reading strategies differ among Thai university first year engineering students of differing English reading abilities. (3) To investigate if developing reading strategies differ among Thai university first year engineering students of differing gender: male and female.

## 1.3 Scopes of the Study

### 1.3.1 Population

The population is the second year undergraduate Industrial Education Students studying during the first semester of 2015 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL).

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### 1.3.2 Sample

The sample is all 60 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).

### 1.3.3 Variables Used in This Study

1.3.3.1 Independent Variables are students’ personal factors: genders: male and female, and levels of English reading abilities: high, mid, low.

1.3.3.2 Dependent Variables are students’ developing reading methods of Industrial Education students at King Mongkut’s Institute of Technology Ladkrabang.

### 1.3.4 Research Questions

1.3.4.1 What are the developing reading methods of Industrial Education students at King Mongkut’s Institute of Technology Ladkrabang?

1.3.4.2 What are the developing reading strategies used by students with different reading abilities while reading an English text?

1.3.4.3 What are the developing reading strategies used by male and female subjects while reading the text?

### 1.4 Limitations of the Study

1.4.1 This study focused only on the investigating of the developing reading methods of 60 second-year KMITL Industrial Education students enrolling in

“Reading 2” during the first semester of the 2015 academic year at King Mongkut’s Institute of Technology Ladkrabang.

1.4.2 The sample in this study deals with the small sample size, with the main focus on only Thai second-year English major students, enrolling in “Reading 2” during the first semester of the 2015 academic year, in Industrial Education field at KMITL: cannot be generalized to other students, institutes, languages or nations.

### 1.5 Definitions or Terms Used

The terms used throughout this study were defined as follows:

- Developing reading methods:** Any reading method, behavior, or process that the readers use in developing reading, to be able to read and comprehend texts more effectively.
- EFL student:** An English language student whose mother tongue is not English, and for whom English is not spoken or used as an official language or on a daily basis in his or her country, region, or area.
- ESL student:** An English language student whose mother tongue is not English, but for whom English is spoken or used as an official language, in addition to his or her native language.
- Genders:** Male and female of all 60 second year undergraduate Industrial Education Students in the field of Applied Arts, majoring in English and enrolling the course of

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“Reading 2” during the first semester of 2015 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL).

**Levels of English reading abilities:** Three levels of English reading abilities: high, mid, low were designed according to the results of “Reading 1” Final Examination. Based on the students’ results, the students recommended as *high English reading ability level* in this study had to possess the following characteristics: they had to obtain a score of at least 75%. In contrast, the students recommended as *mid English reading ability level* had to obtain a score of 65-74%, and the students recommended as *low English reading ability level* had to obtain a score of no more than 64%.

## CHAPTER 2

### LITERATURE REVIEW

This chapter is divided into five main sections. The first is the definitions of reading method. The second is the classification of reading methods. The third is the categories of Anderson's reading methods. The fourth is the categories of O'Malley and Chamot's reading methods and finally, the research related to reading methods in L2 learners is reviewed.

#### 2.1 Definitions of Reading Method

Generally, the term, "method" is defined as "a well-planned series of actions for achieving an aim." (Longman Concise English Dictionary, 2014: 1426). According to this definition, it may be easily applied in a learning reading context that it is a reading strategy that has become a means or a plan, to achieve the goal of linguistic competence.

Since the 1970s, under the influence of psychology development and learner-based approach in teaching English as a foreign language, many experts in psychology and applied linguistics (Rubin1975, Stern1975, Naiman1978) started to focus their researches on reading strategies/methods, and generalized some common features shared by "good language learner". Then, in the past twenty years, language learning and reading strategies/methods have almost become one of major issues in the field of second language acquisition.

Since the early studies from Stern and Naiman et al. (Stern1975, Naiman1978), there were many other researchers in language reading strategies/methods that developed conceptual notions of language-learning and reading methods. However, there has been no definitely explicit answer to what is the exact meaning of the "reading strategies or methods". Generally, researchers have offered their own opinions on it. For example, (1)

reading methods are the behaviors and thoughts that a learner engages in before, during, or after reading that are intended to influence the learners' encoding process. (Weinstein & Mayer 1986). (2) Reading methods are techniques, approaches or deliberated actions that students take in order to facilitate the learning and reading process, and to recall of both linguistic and content area information. (Chamot 1987). (3) Reading methods are strategies which contribute to the development of the language system which the learner constructs and affect learning reading directly. (Rubin 1987). (4) Reading methods are the special thoughts and behaviors that individuals use to help them comprehend, learn or retain new information from the written contexts (O'Malley and Chamot, 1990). (5) Reading methods are specific actions, behaviors, steps or techniques that students employ, and mostly, consciously to improve their progress in internalizing, storing, retrieving, and using the second language actions, especially in reading process (Oxford 1993). (6) Reading methods may also be defined as processes which are consciously selected by learners and which may result in action taken to enhance the comprehension and/or use of a second or foreign language, through the storage, retention, recall, and application of text information throughout their reading process. (Cohen 2000)

Hence, even though the definitions of "reading method" are different from one to another, there still has one thing in common: all these reading strategies or methods share features of control, goal directness, and autonomy, which can contribute to much more efficiency in study reading.

## 2.2 Classification of Reading Methods

Similar to the definition of reading methods, so far, no consensus has been reached on the classification of the reading methods since researchers have been classified the methods from different angles and used different terms to describe them.

The followings are some examples:

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Reading methods describe the difficult tasks readers face. "Bottom-up" reading method holds that readers start with the perception of letter features and eventually identify letters, words, syntactic units, and finally whole ideas that they place in long-term memory.

### 2.2.2 Top-down Reading Method

In contrast to "Bottom-up Reading Method", "top-down" reading method indicates that readers' prior knowledge directs what information they take from a page, and that readers formulate hypotheses about what they will find and then sample enough text to confirm or reject the hypotheses.

Although these two methods differ in their starting points, they share the notion that reading is a linear process consisting of many steps.

### 2.2.3 Interactive-compensatory Reading Method

The "interactive-compensatory" reading method hybridizes the bottom-up and top-down models, and allows for readers to work from the bottom up (beginning with text features), from the top down (beginning with their prior knowledge), or from the middle out. Readers with strengths at one level of the process can rely on those strengths to help compensate for weaknesses at other levels. For example, readers who possess a great deal of knowledge about a topic would not have to decode the text from basic features because they could rely on information in their long-term memories (LTM) to guide inferences about incoming information. Alternatively, a reader who is facile with the language and syntax used in a text could rely on that ability to ease the process of linking new information to information in LTM. In fact, readers who have achieved automaticity of lower level steps, such as decoding words and interpreting syntactic relationships, have an easier time moving on to the steps involved in comprehension.

Once readers start to encode words and identify syntactic relationships in the text, they begin to build a hierarchical mental representation, or situation model, of

the text. To build this representation, they collect bits of information from the text and connect them to other text-based information as well as to information in their. When the relationships among information bits in the text or between the text and the readers' prior knowledge are unclear, readers make inferences to further develop the information network in their LTMs. Readers make these connections and inferences within and across sentences, paragraphs, pages, and so on.

#### 2.2.4 Constructively Responsive Reading Method

Constructively responsive reading method is in accordance with well-known theories of reading such as Rosenblatt's (1978) reader response theory, in which the transaction between readers and texts is emphasized (Pressley and Afflerbach's, 1995). The concept of constructively responsive reading consists of key principles of the top-down processing model of reading reflected in schema theory (Anderson & Pearson, 1984), bottom-up processing emphasized by Van Dijk and Kintsch (1983), and the comprehension monitoring processes supported by several researchers (Baker & Brown, 1984; Garner, 1987; Paris & Winograd, 1990)

### 2.3 Categories of Anderson's Reading Methods

Like other researchers (Brown, 1980; Garner, 1982, 1994; Garner, Macready & Wagoner, 1984; Guthrie & Wigfield, 1999; Winograd & Hare, 1988), Anderson (1991) concurred that readers must know how to use a reading method successfully and orchestrate its use with other methods. That is, a reader must also be able to apply the reading methods strategically. According to Anderson, reading methods can be classified into three main categories: (a) cognitive reading strategies, (b) metacognitive reading strategies, and (c) compensating reading strategies. Each category is comprised of specific reading strategies as follows:

#### 2.3.1 Cognitive Reading Strategies:

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1. Prediction: predicting the content of an upcoming passage or section of the text.
2. Grammar concentration: concentrating on grammar to help understand unfamiliar construction
3. Finding the main idea: identifying the main idea to comprehend the entire reading.
4. Expanding vocabulary and grammar: expanding vocabulary and grammar to help readers increase their reading.
5. Guessing meanings from context: guessing meanings of unfamiliar words or phrases to let readers use what they already know about English
6. Analyzing theme, style, and connections: analyzing theme, style, and connections to improve reader's comprehension.
7. Distinguishing between opinions and facts: distinguishing between opinions and facts to aid in understand reading.
8. Break down larger phrases into smaller parts: break down larger phrases into smaller parts to help readers understand difficult passages.
9. Translation: linking what readers know in their first language with words in English or vice versa, translate the words in English into their first language.
10. Creating graphic organizers: Creating a map, diagram, or drawing of related ideas to enable you to understand the relationships between words and ideas.

11. Summarizing: writing a short summary of what readers read to help them understand the main ideas.

### 2.3.2 Metacognitive Reading Strategies:

12. Setting goals: having purposes in reading to help improve areas that are important to the reader.
13. Vocabulary listing: making lists of relevant vocabulary to prepare for new reading.
14. Working with classmates: working with classmates to help reader develop their reading skills.
15. Reviewing: Taking opportunities to practice what readers already know to keep readers progress steady.
16. Evaluating: evaluating what readers have learned and how well they are doing to help them focus their reading.

### 2.3.3 Compensating Reading Strategies

17. Relying on what readers know: relying on what readers already know to improve their reading comprehension.
18. Note-taking: taking notes to help readers recall important details.
19. Remembering: trying to remember what readers understand from a reading to help them develop better comprehension skills.
20. Reviewing the purpose and tone of a reading: reviewing the purpose and tone of a reading passage so reader can remember more effectively.

21. Picturing scenes in readers' mind: picturing scenes in readers' mind to help them remember and understand their reading.
22. Reviewing key ideas and details: reviewing key ideas and details to help them remember.
23. Using physical action: to using physical action help readers remember information they have read.
24. Classifying words into meaningful groups: to classifying words into meaningful groups to remember more clearly.

#### 2.4 Categories of O'Malley and Chamot 's Reading Methods

According to O'Malley and Chamot (O'Malley and Chamot, 1990), reading methods can be classified into three main categories: (1) metacognitive reading strategies, (2) cognitive reading strategies, and (3) social and affective reading strategies. Of all these three categories, there were 14 statements all together; the first three statements were categorized as metacognitive reading strategies. Statements 4 to Statement 11 were categorized as cognitive reading strategies. The last three statements were categorized as social and affective reading strategies. As a result, each statement described particular type of reading methods readers used when they study English reading texts. The details of each statement were modified as follows:

##### 2.4.1 Metacognitive Reading Methods:

1. I look for opportunities to read English materials, and try to learn cultures of English-speaking countries.
2. I pay attention to time when having English reading assignment, and I can

3. After reading a written material, I evaluate my reading comprehension.

#### **2.4.2 Cognitive Reading Methods:**

4. I skim for the gist of an English passage.

5. I summarize the main idea after finishing reading.

6. I guess the meaning of a new word from context and/or word formation.

7. I translate the complicated English sentences into Thai when reading English.

8. I take notes, using the key words or sentences when reading a text.

9. I reread the complicated or important sentences many times when reading an English article.

10. I analyze the structures of complicated or long sentences.

11. I try to infer information from the reading passage.

#### **2.4.3 Social and affective Reading Methods:**

12. I communicate with my peers about my English reading experiences.

13. I ask my peers / good readers / teachers for some help if I have difficulties in the reading process.

14. I encourage myself when I feel anxious about reading English.

However, generally, researchers suggest that each reading method can be taught through carefully devised instructional techniques (Anderson, 1991; Brown, Armbruster, & Baker, 1986; Carrell (1989); Garner, 1994; Paris & Winograd, 1990; Wixon, 1994). Further, reading methods can and should be learned to the point of automaticity, after which the

learners become skills, and that learners must know not only what methods to use but also when, where, and how to use them (Garner, 1994; Paris, Lipson, & Wixson, 1994).

## 2.5 Research related to reading methods in L2 learners

Willing (1988) conducted a research in adult migrant education. The questionnaire consisted of not only learning and reading methods, but also the individual biographical results. 517 learners, from over thirty ethnic groups participated in the study, but only five of the ethnic groups (Vietnamese, Chinese, Arabic speakers, South Americans, and Polish/Czech speakers) were large enough for statistical analysis.

Regarding the analysis of the results, it was impossible to make “statistically valid cross-comparisons relating a question to more than one biographical variable at a time” (p. 122). For this reason, the individual characteristics of the participants were considered separately. The results indicated that there were cultural differences with respect to the methods of the learners. When the same question was considered, it was revealed that the variation was not big enough to be statistically meaningful. The results with regard to sex indicated that males tend to use more methods than females. Though, some methods were female preferences.

Anderson (1991) carried out a study to investigate the individual differences in strategy use by adult second language learners while performing two reading tasks: taking a standardized reading comprehension test and reading academic texts. The subjects in this study were 28 Spanish-speaking students, 18-34 years of age, from the Southwestern United States who were enrolled in an university level intensive ESL program between 9 weeks to 9 months. Their English proficiency level as determined by a placement tests ranged from beginning to advanced level. Analysis of both quantitative and qualitative data revealed that weaker students were quite different from stronger students in their

reading abilities. However, there was no significant relationship between the amount of unique strategies and comprehension. Both high and low scoring readers seemed to be using the same kinds of reading methods while reading and answering the comprehension questions on both measures. However, high scoring students appeared to be applying reading methods more effectively and appropriately.

Block (1992) investigated the reading process of first and second language readers of English. The subjects were 25 college freshmen, of which 16 subjects were proficient and the other 9 were non-proficient readers of English. The results revealed that when facing a vocabulary problem, proficient ESL readers used background knowledge, decided on whether the word contributes to the overall meaning of the passage, reread the sentence, and used syntactic clues. These meaning-based strategies are classified as global strategies. On the other hand, non-proficient ESL readers focused on identifying lexical problems and did little to figure out the meaning of words. These meaning-based strategies are classified as local strategies.

Young and Oxford (1997) examined the differences in comprehension strategies used by males and females while reading in a L2. The subjects were 49 native English speaking men and women (26 females and 23 males) while reading two Spanish texts and one English text. The results demonstrated no overall significant differences by gender in the use of global versus local strategies. However, there were significant gender differences in the frequency of using specific strategies. Males monitored their reading pace and paraphrased more often than females with the Spanish passages. Females utilized one strategy more often than males while reading the texts: solve vocabulary problems.

Levine and Reves (1998) examined reading strategies, especially the word-treatment strategies employed by university students reading academic texts in English as a Foreign Language. The subjects were 42 Israeli students of an EAP (English for Academic

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Purposes) advanced reading comprehension course at Bar-Ilan University, Israel. The findings suggested that students could not verbalize why they had to use dictionary in Global Reading. Additionally, there were noticeable differences among readers with different reading profiles in the justification of the use of word-treatment strategies. The treatment of unknown vocabulary was affected by the type of reading task: the skills of locating the unknown word and decoding it within the text were crucial in Close Reading, while these bottom-up skills were less needed for text comprehension in Global Reading.

Cheng (1998) studied reading methods used by Chinese students. The subjects were 10 students who studied various fields in the US at Kansas University. The result found that there were two main types of reading strategies: bottom-up and top-down. The successful readers used the combination between bottom-up and top-down while the less successful readers used bottom-up more than top-down. The researcher concluded that the differences between using these two types of reading strategies might be influenced by having differences in experiences, aptitude, levels of language proficiency, level of interest in studying English language, differences in fields of study, including having different purposes in reading of each reader.

Jirijitpaibul (2002) compared the reading methods of Thai Mathayom Suksa five (Grade 10) students with different English reading comprehension abilities: advanced and low reading. The subjects were 48 students from different schools in Bangkok, with 24 students in advanced and 24 students in low levels of English reading comprehension ability. The results were that (a) Mathayom Suksa five students used the cognitive reading strategy more frequently than any other strategies and the affective reading strategy was the least frequently used strategy, (b) in both advanced and low reading students, the cognitive strategy was the most frequently used strategy while the use of affective strategies was reported as the least one, and (c) the Mathayom Suksa five students with

advanced and low reading comprehension ability significantly differed in their use of cognitive, metacognitive and compensatory reading strategies at the .05 level.

Pattaraporn Thampradit (2006) investigated the achievements of reading methods of good and poor readers in the field of engineering. She found that reading methods had a comparatively strong relationship with one's achievements. The engineering students used all reading strategies: metacognitive, cognitive and compensatory reading strategies, but they used them in different frequencies. For good engineering readers, metacognitive strategies, and cognitive reading strategies were stronger predictors than compensatory reading strategies. For poor engineering readers, all the three reading strategies were used less often. Moreover, interestingly, not only the metacognitive, and cognitive reading strategies could predict reading achievements, but the compensatory reading strategies could also predict their reading achievements as well.

Zhang Xin (2006) also analyzed the achievements of reading methods of good and poor Chinese EFL readers. She also found that reading achievements can be predicted by reading methods. Good and poor readers had great difference in their use of reading methods. In completing specific reading tasks, good readers were inclined to make use of more methods than poor readers and used reading methods more effectively than poor students.

Similarly, Jiang and Gao Song (2009) studied various reading methods of Chinese EFL learners in their English reading texts. They found that successful Chinese EFL learners may apply many methods like inference and looking for topic sentences in their English reading.

In summary, the results of the research on reading methods used by ESL students are quite similar to those of the L1 readers. For example, the results of the research on ESL learners suggested that it was likely that ESL students who used more reading

methods comprehended better. Additionally, like L1 readers, ESL readers seemed to be using different reading strategies than the less successful ESL readers.

Moreover, the results of research on EFL learners support the findings of those on ESL learners. It was likely that successful EFL students seemed to use the combination between bottom-up and top-down while the less successful learners appeared to use bottom-up more than top-down. Further, EFL readers whose reading habits and problem solving abilities were more developed and whose inferencing skills were more alert were also more self-confident in reading. However, there were individual differences between L1 and EFL readers in the frequency of comments on their own behavior, inferences, and general knowledge and associations. Compared to L1 learners, the L2 readers seemed to be more likely to comment on their own behavior, less likely to make inferences, and less likely to make comments related to their general knowledge of the topic.

As a result, it seems clear that research has addressed questions related to the use of reading methods for investigating reading in L2 learners. However, it seems that no studies have been used the Anderson's categories in investigating the reading methods of Thai university Industrial Education students. The current study, therefore, designed to fill that gap.

## CHAPTER 3

### METHODOLOGY AND RESULTS

The purpose of this study was to investigate the developing of reading methods 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 2015 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL). Furthermore, this study was also designed to investigate whether all the students either with different genders: male and female; or different English reading abilities: high, mid, and low; have a significant influence on the use of reading strategies 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 developing reading methods of Industrial Education students at King Mongkut’s Institute of Technology Ladkrabang? (2) What are the reading strategies used by the students with different reading abilities while reading an English text? (3) What are the reading strategies used by male and female subjects while reading the text?

### 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 2015 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL).

### 3.1.1.2 Sample

The sample is all 60 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 2015 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 developing of reading methods questionnaire adapted from the classification of reading strategies given by O'Malley and Chamot (1990). Since this framework was currently widespread used by various educators for understanding the English reading process and gained information about students' background and how to develop reading methods, in this study, therefore, it was used to interpret the students' developing reading methods when they study "Reading 2" during the first semester of 2015 academic year. The adapted questionnaire consists of 14 statements which include metacognitive strategies, cognitive strategies, and social/affective strategies.

According to these three categories concerned with the developing of reading methods: metacognitive, cognitive and social and affective reading strategies (O'Malley and Chamot, 1990). Of all these three categories, there were 14 statements all together, the first three statements were categorized as metacognitive reading strategies. Statements 4 – Statement 11 were categorized as cognitive reading strategies. The last three statements were categorized as social and affective reading strategies As a result, each statement described particular type of reading methods the students' used when they studied English reading texts.

Furthermore, all students were 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.

Last but not least, before answering the questionnaire, the students were emphasized to mark each statement that was best applied to identify their developing reading methods when reading English texts on the basis of a 5-point Likert scale. The scale was ranging from the greatest to the least, as indicated in Table 3.1:

Table 3.1: A 5-point Likert Scale

A 5-point Likert Scale	
Scale	Point
The Greatest	5
Great	4
Moderate	3
Little	2
The least	1

### 3.1.2.2 Criteria for Interpreting the mean scores

The mean scores derived from the 5-point Likert Scale in the questionnaires were interpreted on the following range based on Jamieson (Jamieson, 2004).

The details were as follow:

**Table 3.2: Criteria for Interpreting the mean scores**

Score	Mean	Levels
5	4.50-5.00	The greatest
4	3.50-4.49	Great
3	2.50-3.49	Average
2	1.50-2.49	Little
1	1.00-1.49	The least

### 3.1.2.3 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.

### 3.1.3 Data Analysis and Statistical Procedures

This research was a descriptive research using the questionnaires. All data were analyzed through computer program to find all the results. To answer all the research questions: research question number one to research question number three, statistical

procedures: arithmetic mean and standard deviation were employed. The arithmetic mean also provided average levels of all the students' English developing reading methods.

### 3.2 Results

The second section, the results, indicates the research the findings of the three main questions: (1) What are the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang? (2) What are the developing reading strategies used by students with different reading abilities while reading an English text? (3) What are the developing reading strategies used by male and female subjects while reading the text?

The data were analyzed by comparing the values of arithmetic mean, and standard deviation of students' developing reading methods. The findings of the study were presented according to the students' demographic background, and the results of the three research questions mentioned, as follows:

#### 3.2.1 Students' Demographic Background

Table 3.3: The Students' Demographic Background

Students' Demographic Background	N=60	Percent
Gender		
Male	16	26.7
Female	44	73.3
Total	60	100

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Reading Ability levels		
High	21	35
Mid	39	65
Low	-	0.00
Total	60	100

Table 3.3 showed the students' demographic background by genders and their reading ability levels. All 60 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 2015 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL) were 16 male students (26.7%) and 44 female students (73.3%). Interestingly, it showed that there were 21 students having high reading ability level (35%) and 39 students having mid reading ability levels (65%). No students having low reading ability level.

**3.2 Result of Research Question One: What are the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang?**

To answer the research question one, the data were shown in Table 3.4:

Table 3.4: Students Developing Reading Methods (N=60)

Items	SD.	Means of the subjects' scores	Level	Total means of each reading method	Level
Item 1	0.86	2.90	Moderate	3.15 (Metacognitive Reading Methods)	Moderate
Item 2	1.01	3.15	Moderate		
Item 3	1.15	3.40	Moderate		
Item 4	1.01	3.28	Moderate	3.20 (Cognitive Reading Methods)	Moderate
Item 5	0.76	3.35	Moderate		
Item 6	1.01	3.28	Moderate		
Item 7	0.79	3.45	Moderate		
Item 8	0.88	3.25	Moderate		
Item 9	0.77	3.52	Great		
Item 10	0.89	2.70	Moderate		
Item 11	1.15	2.80	Moderate	2.89 (Social/Affective Reading Methods)	Moderate
Item 12	0.60	2.67	Moderate		
Item 13	0.83	2.87	Moderate		
Item 14	1.02	3.15	Moderate		
Total means				3.13	Moderate

Table 3.4 indicated that the overall developing reading methods of all 60 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 2015 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL) were in moderate level (mean=3.13). However, if considering each item: item1 to item 14, item 9: "I reread the complicated or important sentences many times when reading an English article." was used in at great level (mean=3.45 and 3.52 respectively).

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**3.3 Result of Research Question Two:** What are the developing reading strategies used by students with different reading abilities while reading an English text?

To answer the research question two, the data were shown in Table 3.5 to Table 3.6:

**Table 3.5: Students Developing Reading Methods**

**Classified by High Reading Ability (N=21)**

Items	Means of the HRA	Level	Total means of HRA for each reading method	Level
Item 1	3.76	Great	4.22 (Metacognitive Reading Methods)	Great (Metacognitive Reading Methods)
Item 2	4.33	Great		
Item 3	4.57	Great		
Item 4	4.43	Great	3.89 (Cognitive Reading Methods)	Great (Cognitive Reading Methods)
Item 5	3.67	Great		
Item 6	4.33	Great		
Item 7	3.24	Great		
Item 8	4.14	Great		
Item 9	3.90	Great		
Item 10	3.52	Great		
Item 11	3.90	Great	3.07 (Social/Affective Reading Methods)	Moderate (Social/Affective Reading Methods)
Item 12	2.81	Moderate		
Item 13	2.10	little		
Item 14	4.29	Great	3.79	Great
Total means				

**Remarks:** HRA = High Reading Ability

Table 3.5 indicated the developing reading methods of all 60 second year undergraduate Industrial Education students in the field of Applied Arts, majoring in English

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and enrolling the course of “Reading 2” during the first semester of 2015 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL), classified by reading ability: high and mid. The results identified that the overall developing reading methods of high reading ability students (N=21), were in great levels (mean=3.79). Interestingly, if considering each item: item1 to item 14, most items were used in great level as well.

**Table 3.6: Students Developing Reading Methods**  
Classified by Mid Reading Ability (N=39)

Items	Means of the MRA	Level	Total means of MRA for each reading method	Level
Item 1	2.44	Little	2.54 (Metacognitive Reading Methods)	Moderate
Item 2	2.51	Moderate		
Item 3	2.67	Moderate		
Item 4	2.67	Moderate	2.84 (Cognitive Reading Methods)	Moderate
Item 5	3.18	Moderate		
Item 6	2.72	Moderate		
Item 7	3.56	Great		
Item 8	2.77	Moderate		
Item 9	3.31	Moderate		
Item 10	2.26	Little		
Item 11	2.21	Little	2.80 (Social/Affective Reading Methods)	Moderate
Item 12	2.59	Moderate		
Item 13	3.28	Moderate		
Item 14	2.54	Moderate	2.78	Moderate
<b>Total means</b>				

**Remarks:** MRA = Mid Reading Ability

Table 3.6 indicated the developing reading methods of all 60 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 2015 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL), classified by reading ability: high and mid. The results identified that the overall developing reading methods of mid reading ability students (N=39), were in moderate level (mean=2.78). Interestingly, if considering each item: item1 to item 14, item 7: “I translate the complicated English sentences into Thai when reading English.” was used in great level.

**3.4 Result of Research Question Three:** What are the developing reading strategies used by male and female subjects while reading the text?

To answer the research question three, the data were shown in Table 3.7-Table 3.8:

**Table 3.7: Students Developing Reading Methods**  
Classified by Gender (N=60): Male (N=16)

Items	Means of the Male's Scores	Level	Total means of Male in each reading method	Level
Item 1	3.38	Moderate	3.84 (Metacognitive Reading Methods)	Great
Item 2	3.75	Great		
Item 3	4.38	Great		
Item 4	3.75	Great	3.50 (Cognitive Reading Methods)	Great
Item 5	3.81	Great		
Item 6	3.88	Great		
Item 7	3.51	Great		
Item 8	3.63	Great		
Item 9	4.00	Great		
Item 10	2.94	Moderate		
Item 11	3.38	Moderate		

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Item 12	2.50	Moderate	3.23 (Social/Affective Reading Methods)	Moderate
Item 13	2.44	little		
Item 14	3.75	Great		
<b>Total means</b>	<b>3.51</b>		<b>Great</b>	

Table 3.7 illustrated the developing reading methods of all 60 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 2015 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL), classified by gender: male and female. The results showed that the overall developing reading methods of male students (N=16), were in great level (mean=3.51). Interestingly, if considering each item: item1 to item 14, it was found that more than half of the items were used in great level as well.

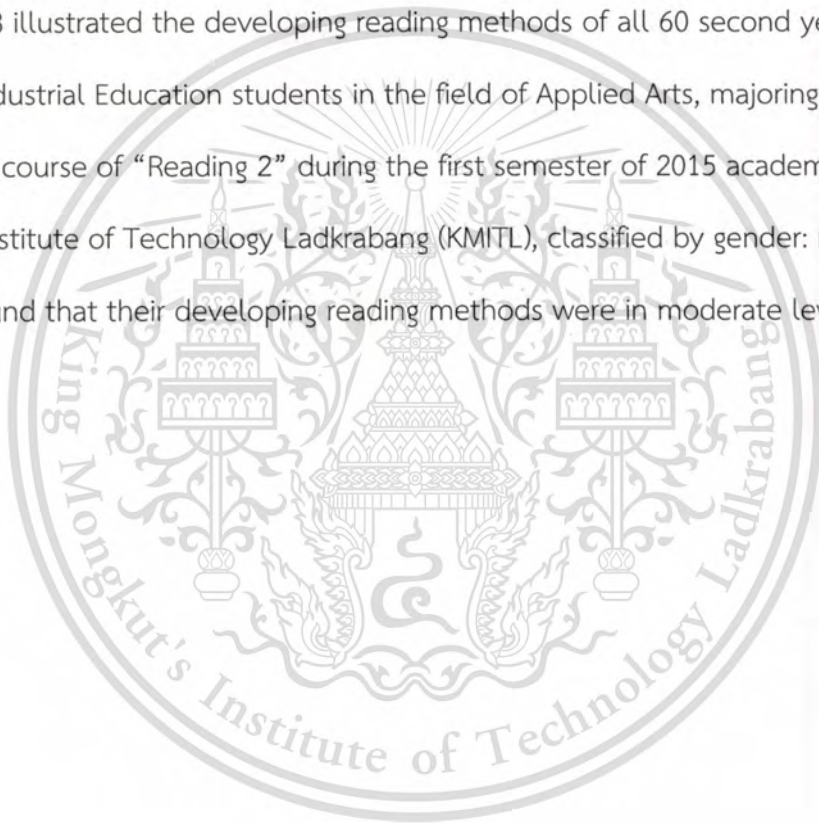
**Table 3.8: Students Developing Reading Methods**

**Classified by Gender (N=60): Female (N=44)**

Items	Means of the Female's Scores	Level	Total means of Female in each reading method	Level
Item 1	2.73	Moderate	2.90 (Metacognitive Reading Methods)	Moderate
Item 2	2.93	Moderate		
Item 3	3.05	Moderate		
Item 4	3.11	Moderate	3.02 (Cognitive Reading Methods)	Moderate
Item 5	3.18	Moderate		
Item 6	3.07	Moderate		
Item 7	3.43	Moderate		
Item 8	3.11	Moderate		
Item 9	3.34	Moderate		

Item 10	2.61	Moderate		
Item 11	2.59	Moderate		
Item 12	2.73	Moderate	2.99 (Social/Affective Reading Methods)	Moderate
Item 13	3.02	Moderate		
Item 14	2.93	Moderate		
<b>Total means</b>		<b>2.99</b>	<b>Moderate</b>	

Table 3.8 illustrated the developing reading methods of all 60 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 2015 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL), classified by gender: male and female. It was found that their developing reading methods were in moderate level (mean=2.99).



## CHAPTER 4

### DISCUSSION AND COMMENTS

The purposes of this study were: (1) to investigate the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang. (2) To determine if developing reading strategies differ among Thai university first year engineering students of differing English reading abilities. (3) To investigate if developing reading strategies differ among Thai university first year engineering students of differing gender: male and female. The samples were all 60 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 2015 academic year at King Mongkut's Institute of Technology Ladkrabang (KMUTL). The research instruments for this study consisted of a two-part questionnaire. The first part of the survey gathered students' individual demographic background while the second part consisted of the developing of reading methods questionnaire adapted from the classification of reading strategies given by O'Malley and Chamot (1990). The questionnaire consists of 14 statements which include either metacognitive strategies, cognitive strategies and social or affective strategies.

Since this research was a descriptive research using the questionnaires. All data were analyzed through computer program to find all the results. To answer all the research questions: research question number one to research question number three, statistical procedures: arithmetic mean and standard deviation were employed. Then, the data were analyzed by comparing the values of arithmetic mean, and standard deviation of students' developing reading methods. The arithmetic mean also provided average levels of all the students' English developing reading methods.

Of all 60 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 2015 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL) were 16 male students (26.7%) and 44 female students (73.3%). Interestingly, it showed that there were 21 students having high reading ability level (35%) and 39 students having mid reading ability levels (65%). No students having low reading ability level.

This study also indicated that, in general, all 60 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 2015 academic year at King Mongkut’s Institute of Technology Ladkrabang (KMITL) could develop their reading methods in moderate level (mean=3.13).

However, considering students according to their reading abilities: high and low, it was generally found that high reading ability students (N=21) could develop their reading methods in great levels (mean=3.79) while mid reading ability students (N=39) could develop their reading methods only in moderate level (mean=2.78). Interestingly, considering how students could develop their reading methods in more details, by comparing each three categories: metacognitive, cognitive, and social/affective reading methods, both HRA and MRA students could use social/affective developing reading methods to develop their reading methods in moderate levels (means = 3.07, 2.80 respectively). In contrast, they could use both metacognitive and cognitive reading methods to develop their reading in different levels. That is, HRA students used those two reading methods in great level whereas MRA students used them in only moderate level. Therefore, it could be conclude that HRA students could use either metacognitive reading methods or cognitive reading methods to develop their reading much better than MRA students (for

metacognitive reading methods: means = 4.22, 2.54; for cognitive reading methods: means = 3.89, 2.84 respectively), as shown in Table 4.1.

**Table 4.1: Comparison HRA and MRA Students in Developing Reading Methods**

Items	Total means and levels of HRA students in each method	Total means and levels of MRA students in each method
Item 1- Item 3	4.22 = Great  (MRM)	2.54 = Moderate  (MRM)
Item 4 – Item 11	3.89 = Great  (CRM)	2.84 = Moderate  (CRM)
Item 12 -Item 14	3.07 = Moderate  (S/ARM)	2.80 = Moderate  (S/ARM)
Total means	3.79 = Great	2.78 = Moderate

Remarks: HRA = Hid Reading Ability, MRA = Mid Reading Ability, MRM = Metacognitive Reading Methods,  
CRM =Cognitive Reading Methods, S/CRM = Social/Affective Reading Method

Similarly, considering students according to their gender: male and female, it was generally found that male students (N=16) could develop their reading methods in great levels (mean=3.51) while female students (N=44) could develop their reading methods only in moderate level (mean=2.99). Interestingly, considering how students could develop their reading methods in more details, by comparing each three categories: metacognitive, cognitive, and social/affective reading methods, both male and female students could use social/affective developing reading methods to develop their reading methods in moderate

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levels (means = 3.23, 2.99 respectively), but they used both metacognitive and cognitive reading methods to develop their reading in different levels. That is, male students could use those two reading methods in great level whereas female students could use them in only moderate level. Therefore, it could be conclude that male students could use either metacognitive reading methods or cognitive reading methods to develop their reading much better than female students (for metacognitive reading methods: means = 3.84, 2.90; for cognitive reading methods: means = 3.50, 3.02 respectively), as shown in Table 4.2.

**Table 4.2: Comparison Male and Female Students in Developing Reading Methods**

Items	Total means and levels of Male students in each method	Total means and levels of Female students in each method
Item 1- Item 3	3.84 = Great (MRM)	2.90 = Moderate (MRM)
Item 4 - Item 11	3.50 = Great (CRM)	3.02 = Moderate (CRM)
Item 12 -Item 14	3.23= Moderate (S/ARM)	2.99 = Moderate (S/ARM)
Total means	3.51 = Great	2.99 = Moderate

Remarks: MRM = Metacognitive Reading Methods, CRM =Cognitive Reading Methods,  
S/CRM = Social/Affective Reading Method

Last but not least, the results of this study indicated that the students' use of social and affective methods was not in good levels. All 60 students used the reading

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methods to develop their reading methods moderately. Although many students have always realized the importance of reducing anxiety and regaining their confidence by discussing, asking communicating on any reading problem/difficulty with their friends/instructors, or encouraging themselves, they still could not do well in communicating with/asking help from other students or their teachers.



## CHAPTER 5

### CONCLUSION AND RECOMMENDATIONS

Chapter five presents conclusion, and recommendations. The recommendations are for pedagogical as well as further studies. The details are as follows.

The purposes of this study were: (1) to investigate the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang. (2) To determine if developing reading strategies differ among Thai university first year engineering students of differing English reading abilities. (3) To investigate if developing reading strategies differ among Thai university first year engineering students of differing gender: male and female. The samples were all 60 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 2015 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL). The research instruments for this study consisted of a two-part questionnaire. The first part of the survey gathered students' individual demographic background while the second part consisted of the developing of reading methods questionnaire adapted from the classification of reading strategies given by O'Malley and Chamot (1990). The questionnaire consists of 14 statements which include either metacognitive strategies, cognitive strategies and social or affective strategies.

#### 5.1 Conclusion

The research questions of the study were: (1) What are the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang? (2) What are the developing reading strategies used by students with different

reading abilities while reading an English text? (3) What are the developing reading strategies used by male and female subjects while reading the text?

### 5.1.1 Research Results

According to the students' demographic background, there were 60 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 2015 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL). There were 16 male students (26.7%) and 44 female students (73.3%). Furthermore, there were 21 students having high reading ability level (35%) and 39 students having mid reading ability levels (65%). No students having low reading ability level.

**Research Question One:** What are the developing reading methods of Industrial Education students at King Mongkut's Institute of Technology Ladkrabang?

The result showed that all 60 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 2015 academic year at King Mongkut's Institute of Technology Ladkrabang (KMITL) could develop their reading methods in moderate level (mean=3.13).

**Research Question Two:** What are the developing reading strategies used by students with different reading abilities while reading an English text?

The results indicated that high reading ability students had different levels of using reading methods to develop their reading from those of mid reading ability students. In other words, considering students according to their reading abilities: high and mid, high

reading ability students (N=21) could develop their reading methods in great levels (mean=3.79) while mid reading ability students (N=39) could develop their reading methods only in moderate level (mean=2.78). Similarly, it also could be concluded that high reading ability students could use either metacognitive reading methods or cognitive reading methods to develop their reading much better than mid reading ability students (for metacognitive reading methods: means = 4.22, 2.54; for cognitive reading methods: means = 3.89, 2.84 respectively).

**Research Question Three:** What are the developing reading strategies used by male and female subjects while reading the text?

The results indicated that male and female students had different levels of using reading methods to develop their reading. That is, male students (N=16) could develop their reading methods in great levels (mean=3.51) while female students (N=44) could develop their reading methods only in moderate level (mean=2.99). Interestingly, both male and female students could use social/affective developing reading methods to develop their reading methods in only moderate levels (means = 3.23, 2.99 respectively). In contrast, they used both metacognitive and cognitive reading methods to develop their reading in different levels. That is, male students could use those two reading methods in great level whereas female students could use them in only moderate level. Therefore, it could be conclude that male students could use either metacognitive reading methods or cognitive reading methods to develop their reading much better than female students (for metacognitive reading methods: means = 3.84, 2.90; for cognitive reading methods: means = 3.50, 3.02 respectively).

Last but not least, it could be concluded that the levels of developing reading by using social and affective reading methods were not good enough. All 60 students used the social and affective reading methods to develop their reading methods moderately. Although many students have always realized the importance of reducing anxiety and regaining their confidence by discussing, asking communicating on any reading problem/difficulty with their friends/instructors, or encouraging themselves, they still could not do well in communicating with/asking help from other students or their teachers.

## 5.2 Recommendations

### 5.2.1 Recommendations for Pedagogical Instruction

The results of this study could indicate that in teaching learning activities, most students need to apply more reading strategies to develop their reading. At the same time, teachers should help them by integrating the reading strategies and train them frequently during classroom activities. They should also inform their students the significance of using integrating reading strategies to develop and comprehend their reading and try their best to support their students with those strategies. Consequently, teachers should aware that:

- 1) Before letting students do some reading practice, teachers could make the students know when they should use those reading strategies and which strategies should be used in a certain context. Through various practice, the students could gradually know more about the reading strategies and learn to use them better.

- 2) Teachers should choose the reading materials according to students' needs content areas, and interests. The reading materials should be neither too easy nor too hard. (2) The teachers should also encourage the students to read widely after class, from which they may gradually foster the habit of using reading strategies.
- 3) Teachers should divide the whole class into several groups, having both good and poor readers in each group and encourage the good ones to help the poor ones. Indirectly, sharing experiences and ideas, the poor readers could learn from the good readers. As a result, both the good and the poor readers could become more confident in English reading.
- 4) The use or lack of use of different reading methods might affect the academic success of the student. If the course of study in school is to be meaningful, then it is essential that teachers should lead students to be aware of how they learn and about the factors affecting their own learning, thinking, and problem solving in reading. Teachers, therefore, should observe students when they read their texts/ written materials to determine students' strengths and weaknesses, which in turn, will help provide effective and appropriate reading processes that help the students develop their life-long reading.

### 5.2.2 Recommendations for Further Studies

The suggestions for further studies are as follows.

- 1) Further research should be focused on both teaching methods and reading methods as it can significantly enhance academic achievements.

2) Further study should be considered both on students' reading styles and their reading strategies as they both have the effect in students' developing in reading.

3) Further research should compare students' reading methods across disciplines.

4) Further investigation should be done by using both qualitative and quantitative methods.

5) Further studies dealing with (a) developing reading methods of Thai students with different ages and grade levels and (b) the relationship between those students' methods and their success in reading in order to further verify the findings of the present study.



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## Fourteen Items adapted from O'Malley and Chamot's Reading Methods

(O'Malley and Chamot, 1990)

### 1. Metacognitive Reading Methods:

1. I look for opportunities to read English materials, and try to learn cultures of English-speaking countries.
2. I pay attention to time when having English reading assignment, and I can finish the reading in time.
3. After reading a written material, I evaluate my reading comprehension.

### 2. Cognitive Reading Methods:

4. I skim for the gist of an English passage.
5. I summarize the main idea after finishing reading.
6. I guess the meaning of a new word from context and/or word formation.
7. I translate the complicated English sentences into Thai when reading English.
8. I take notes, using the key words or sentences when reading a text.
9. I reread the complicated or important sentences many times when reading an English article.
10. I analyze the structures of complicated or long sentences.
11. I try to infer information from the reading passage.

### 3. Social/affective Reading Methods:

12. I communicate with my peers about my English reading experiences.

13. I ask my peers / good readers / teachers for some help if I have difficulties in the reading process.

14. I encourage myself when I feel anxious about reading English.

