

A STUDY OF COMMON PROBLMES ENCOUNTERED BY
THAI COMPUTER PROFESSIONALS USING ENGLISH COMPUTER TEXTS

A MASTER'S PROJECT

BY

AKEMANEE CHAICHANASIRI

Presented in Partial Fulfillment of the Requirements for the
Master of Arts Degree in Business English for International Communication
at Srinakharinwirot University

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AN ABSTRACT

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The objectives of this study were to identify the common problems encountered by Thai computer professionals using English computer texts and to find out how Thai computer professionals cope with those problems. The primary data from one hundred and ten Thai IT-related staff working professionally at computing firms either Thai or international organization in Bangkok, and thirty Thai computer science lecturers teaching at tertiary level were collected in June 2006. The data were analyzed using the frequency and percentage.

The result of the study revealed that all Thai computer professionals encountered various problems on vocabulary, sentence/structure, technical terms, context, and insufficient of knowledge of subject matter at the moderate level. The findings also revealed that searching for more information from the Internet was frequently used by all Thai computer professionals while they were encountering reading problems. Referring to scientific or technical manuals and using a dictionary of literary terms were also the strategies that some Thai computer professionals often used.

Furthermore, the majority of Thai computer professionals believed that attending an English reading comprehension course could help them solve the reading problems. Thai computer professionals also preferred studying with English native instructors and the course should be for one to three months.

การศึกษาปัญหาของผู้ปฏิบัติงานด้านคอมพิวเตอร์ชาวไทย
เมื่อใช้เอกสารด้านคอมพิวเตอร์ที่เป็นภาษาอังกฤษ

บทคัดย่อ

ของ

เอกมณี ชัยชนะศิริ

เสนอต่อบัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒ เพื่อเป็นส่วนหนึ่งของการศึกษา
ตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต สาขาวิชาภาษาอังกฤษธุรกิจเพื่อการสื่อสารนานาชาติ

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สารนิพนธ์ฉบับนี้มีจุดประสงค์เพื่อศึกษาปัญหาของผู้ปฏิบัติงานด้านคอมพิวเตอร์ชาวไทย เมื่อใช้เอกสารด้านคอมพิวเตอร์ที่เป็นภาษาอังกฤษ และวิธีการที่ผู้ปฏิบัติงานด้านคอมพิวเตอร์ชาวไทยใช้แก้ปัญหาเหล่านั้น โดยใช้วิธีการสุ่มตัวอย่างจากผู้ปฏิบัติงานด้านคอมพิวเตอร์ชาวไทยที่ทำงานในหน่วยงานไทยทั้งภาครัฐและเอกชน รวมถึงองค์กรระหว่างประเทศ จำนวน 110 คน และอาจารย์ชาวไทยที่สอนในระดับอุดมศึกษาจำนวน 30 คน โดยกลุ่มตัวอย่างตอบแบบสอบถาม และผู้วิจัยนำข้อมูลที่ได้รับมาวิเคราะห์ผลโดยใช้ค่าความถี่ และค่าร้อยละ

ผลการศึกษาพบว่า เมื่อใช้เอกสารด้านคอมพิวเตอร์ที่เป็นภาษาอังกฤษ ผู้ปฏิบัติงานด้านคอมพิวเตอร์ชาวไทยทุกคนประสบปัญหาในเรื่องของคำศัพท์ภาษาอังกฤษ โครงสร้างประโยค คำศัพท์เฉพาะทาง เนื้อหา/บริบท รวมถึงมีความรู้พื้นฐานเกี่ยวกับเรื่องที่ไม่เพียงพอ ในระดับปานกลาง เมื่อประสบปัญหาต่างๆ เหล่านี้ผู้ปฏิบัติงานด้านคอมพิวเตอร์ชาวไทยทุกคน จะใช้วิธีค้นหาข้อมูลเพิ่มเติมเกี่ยวกับปัญหานั้นๆทางอินเทอร์เน็ต นอกจากนี้ผู้ปฏิบัติงานด้านคอมพิวเตอร์ชาวไทยบางคนนิยมใช้วิธีค้นหาข้อมูลเพิ่มเติมจากหนังสือคู่มือด้านเทคนิคและวิทยาศาสตร์ รวมถึงค้นหาความหมายของคำศัพท์จากพจนานุกรมคำศัพท์เฉพาะทาง

จากการสำรวจความเห็นเกี่ยวกับหลักสูตรอบรมเพื่อพัฒนาทักษะการอ่านภาษาอังกฤษ ผู้ปฏิบัติงานด้านคอมพิวเตอร์ชาวไทยส่วนใหญ่มีความเห็นว่าการเข้าร่วมอบรมจะสามารถลดปัญหาในการอ่านเอกสารด้านคอมพิวเตอร์ที่เป็นภาษาอังกฤษได้ โดยผู้สอนควรเป็นชาวต่างชาติเจ้าของภาษา และหลักสูตรอบรมควรมีระยะเวลาประมาณ 1-3 เดือน

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CHAPTER 1

INTRODUCTION

Background

English is obviously an important part of daily life in most parts of the world. It is a means to help people of different languages communicating with one another in terms of identity, culture, politics, religion, and knowledge. English also serves the needs of the international communication, the domains of science and high technology, the international commerce, and the long-distance transportation. It is estimated that two billion people, about one third of the world's population, speak English, and it is predicted that, by 2050, half of the world's population will be competent in English (Salverda. 2002: 6).

English plays a prominent role in both professional business transactions and industries. In the industrial world, English is regarded as a significant tool for learning in the 21st century because it handles the concepts and term of modern science and technology.

More than half of the world's science journals are in English (Salverda. 2002: 6).

Furthermore, Baugh and Cable (1993: 6) mention that, in most developing countries, communications in English are superior to those in the vernacular languages. Textbooks and other publications are readily available in English.

At present, computer science, a vital part of the information and technology field, becomes highly popular among the interested people who would like to enhance their knowledge in this field. Anyarat Nattheeraphong (2004: 2) stated that English is the medium of a great deal of the world's knowledge, especially in such areas as science and

technology. As English is an international language for global communication, the major computer textbooks are written and published in English. Apparently, the use of English for computer science demands that those involved possess specific English language skills to cope with communication in the international world of the electronic business and industry.

Tychinin and Kamnev (2005: 157) added that the number of the international scientific periodicals published in English is constantly on the rise, and many journals issued in non-English-speaking countries are also in English. Although publishing journals and periodicals in English is beneficial for world-wide readers, some readers in non-English speaking countries with some insufficient knowledge of English may probably find it difficult to comprehend and interpret English texts.

Although in Thailand a variety of computing textbooks are recently widely published in Thai to facilitate Thai readers, Thai computer professionals still inevitably need to read and study certain computer documents in English such as user's manuals, product specification, textbooks and references, and professional magazines so as to acquire the particular information of such documents. Also, they need to read journals and magazines to catch up with the latest innovation as well as to broaden particular knowledge of the changing world. Therefore, to be a successful computer professional, one should have a sufficient knowledge in context in order to implement, operate, and maintain the computer systems.

Statement of the problem

At present, computer and high-technology have been rapidly expanded to Thailand and have played an important part in various fields, particularly, in business section and academic field. In the business section, most organizations use electronic mails for internal and external communication. Electronic transactions such as online purchasing and online banking are also vital processes for profit organization. In the academic field, computer science has been widely recognised as one of the most studied fields at the tertiary level. Since most of the leading manufactures in developing and marketing computational hardware and software are in English speaking countries, the operator's manuals, product specification and maintenance handbooks that come with improved technology, procedures and machinery are normally provided in English.

As a result, Thai computer professionals need to have sufficient basic English background and knowledge of the technical terms to understand English computing manuals, textbooks and handbooks. Misunderstanding and misinterpretation when reading English texts can be both costly and risky as the modern industry cannot afford to lose working time or manpower due to improper operation and maintenance of high-tech equipments. Therefore, it is crucial to study the job-related problems encountered by Thai computer professionals using computer texts in English and to explore the appropriate solutions.

Significance of the Study

Obviously, English plays a major role in the computer science and technology field. As a result, most of the communication technology and the software documents have been published in English. According to Swales (Tarantino. 1991: 47; citing Swales. 1987. *Utilizing the Literature in Teaching the Research Paper.* p. 42), more than half of the research papers are published in English, especially in computer science and technology field. Furthermore, Crystal (1997: 107) stated that, "English continues to be the chief lingua franca of the Internet and computer users." Hence, Thai computer professionals should have a good command of English to enhance their main objectives of their professions. However, some may encounter comprehension obstacles especially when they are using the computer and technology texts in English. Therefore, it is worthwhile to study the problems they may experience. The findings, then, can be used as a guideline to help improve the English proficiency of Thai computer professionals.

Objectives of the study

The objectives of this proposed study are as follows:

1. To identify the common problems encountered by Thai computer professionals using English computer texts.
2. To find out how Thai computer professionals cope with problems when using English computer texts.

Research questions

This study was designed to answer the following research questions:

1. What are the common problems encountered by Thai computer professionals when using English computer texts?
2. How do Thai computer professionals cope with those problems?

Scope of the study

The study focused on the common problems experienced by Thai computer professionals when using English computer texts, especially in reading comprehension. In addition, it focused on how Thai computer professionals overcome those problems and whether they need training to develop their reading skills. One hundred and ten Thai IT-related staff working at computing firms either Thai or international organization in Bangkok as well as thirty Thai computer science lecturers at tertiary level were the participants of the study.

Expected outcomes of the study

The outcomes of this study will lead to a clearer understanding about the common problems of Thai computer professionals when using English computer texts. The findings will reveal how Thai computer professionals encounter with problems and what strategies they use to cope with those difficulties. Additionally, the researcher will be able to propose appropriate training courses for Thai computer professional according to their current need.

Definitions of terms

Terminologies in this study were defined as follows:

Problems: Difficulties encountered by Thai computer professionals in the performance for their reading comprehension.

Thai computer professionals: Thai computer science lecturers teaching at the tertiary level and IT-related staff of Thai nationality working professionally in computer and information technology (IT) field.

Training: A training programme designed to assist Thai computer professionals to perform their work more effectively.

CHAPTER 2

REVIEW OF THE RELATED LITERATURE

The researcher has reviewed related literature in order to use concepts and theories as guidelines for the study as the following:

1. Factors that influence reading in a second language
2. Second language reading problems
3. Knowledge of the English language and the technical documents
4. Strategies for dealing with unknown words
5. Previous related research

Mitchell and Myles (1998: 1) defined second language as any languages other than the learner's native language or mother tongue. They encompass both languages of wider communication encountered within the local region or community (e.g. at the workplace, or in the media), and truly foreign languages, which have no immediately local uses or speakers.

According to Smith (1994: 7), second language stands as a cover term for any language other than the first language learned by a given learner or group of learners *a) irrespective of the type of learning environment* and *b) irrespective of the number of other non-native languages possessed by the learner*. This includes both 'foreign languages (for example, French as a foreign language of Austrians) and languages which are not one's

mother tongue but are nevertheless spoken regularly in one's own community (for example, French for English-speaking Canadians).

1. Factors that influence reading in a second language

Grabe (1988: 57-58) explained that the conditions that may influence the second language reading of the second language readers who are illiterate in their first language, have a little experience reading for academic purposes, unable to transfer abilities from their first language to second language, struggle with enormous differences in the writing systems of the two languages, and most try to read texts that are beyond their level of second language proficiency.

There are three major factors that influence reading in a second language as follows:

1.1 Vocabulary

Most of the second language learners believe that the most difficult aspect of learning and reading a second language involves the acquisition of a vocabulary sufficient to meet their receptive and productive communication needs (Gass; & Schachter. 1989: 201). Knowing vocabulary is important for getting meaning from a text. Without knowledge of key vocabulary in a text, a reader may have serious trouble understanding the message.

In 1984, a research entitled "Linguistic competence of practised and unpractised non-native readers of English" was explored by Malcolm Cooper. The result showed that unpractised readers were severely disadvantaged by their poor knowledge of vocabulary. In particular, they were deficient in their understanding of the semantic relationships between

words – relationships which writers exploit and create in order to make sentences cohere; they were unsure of the meanings of common sentence connectors; and their sub-technical vocabularies were very poor (Cooper. 1984: 133).

Additionally, connotation is also considered as a necessary aspect in order to get meaning from texts. Connotation refers to the associations, or positive or negative feelings it evokes, which may or may not be indicated in a dictionary definition (Ur. 1996: 61). This means that words can suggest different things depending on the context they occur in. Understanding the connotations of English words can answer their meaning. A reader who fails to understand the connotation of word will probably fail to get the message of the text.

1.2 Grammar

Grammar is the most distinctive aspect of language which is associated with the idea of correctness in speech and writing. Knowledge of grammar will protect the reader from making errors in word form or syntax.

Grammar is important to comprehend context when reading. Many readers believe that knowing a lot of vocabularies is adequate for efficient reading. This thought is not true. Occasionally readers find that although they know the meaning of every word in the sentence, they cannot understand the whole content at all. Thus, the reader should pay attention to the meaning concurrent with the grammatical structure as well as the meaning of each word in the sentence. The reader has to keep in mind that the meanings of a word depend on its part of speech in that particular sentence. Knowledge of grammar helps readers to get meaning from text. It is certainly the basis of guessing meaning: it helps readers to look for possible synonyms in an appropriate grammatical category.

1.3 Cultural Background knowledge

Background knowledge is very important in the readability of a text. The more the readers know about a particular topic, the more quickly and accurately they can read it. The lack of background knowledge and skills relating to the topic can cause a negative effect in reading comprehension. Fries (1946, 1963) was the first American linguist to incorporate cultural background information into a description of meaning. To master a foreign language, he asserted that readers must find some substitute for the kind of background knowledge he has in his own language (Steffensen; & Dev. 1986: 48; citing Fries. 1946, 1963. *Teaching and Learning English as a Foreign Language; & Linguistics and Reading*).

Reading texts in science area also requires a great deal attention to detail, an attempt to search of meanings in unfamiliar or unknown vocabulary. Background knowledge affects almost all aspects of information processing. Koda (2005: 260) suggested that prior knowledge is necessary when texts do not uniformly provide all necessary information for meaning construction both conceptual and relational. Another determinant function of background knowledge is conceptual scaffolding; guiding readers in interpreting unfamiliar content. Knowledge and comprehension are both determining what is extracted from the text and how it is assemble. Taglieber, Johnson, and Yarbrough added that one significant problem for second language students is that texts sometimes contain unfamiliar concepts especially culture-specific elements because the author assumes that the readers already know them. That may cause reading become a time-consuming and laborious task for the readers who does not have background knowledge in such culture (Taglieber; Johnson; & Yarbrough. 1988: 461).

Different social and economic groups within a culture may emphasize different uses for reading, overarching cultural values shape the general attitudes toward reading that a cultural group shares. Culture is like a filter, blocking or letting through a set of learned patterns and attitudes that form its core values (Aebersold; & Field. 1997: 8).

1.4 Competence in the first language

The level of reading proficiency that a reader has in the first language also appears to be a factor in the development of the second language reading skills. The skilled first language reader has the potential for using first language skills to enhance second language reading. Royer and Carlo concluded that there is a transfer of reading skills from the first language to a second language and teaching reading skills in native language may facilitate the transfer. In other words, the more a person has learned to be a flexible, adaptable, questioning, comprehension-monitoring reader in the first language, the more likely that the same person will be an adaptable, questioning, and comprehension-monitoring reader in a second language (Aebersold; & Field. 1997: 25; citing Royer; & Carlo. 1991. *Transfer of comprehension skills from native to second language*).

Alderson (1984: 2) mentioned that the reason why students could not read adequately in English was that they could not read adequately in the native language. If they learned to read properly in their first language, the problems of reading in second one would be reduced.

In conclusion, the ability to read and understand the second language of individual will be different depending on the combined knowledge of vocabulary, grammar, cultural background knowledge, and competence in the first language.

2. Second language reading problems

According to Devine (1988: 263), there are a number of research studies supporting the hypothesis that second language reading problems are caused by to inadequate knowledge of the target language. Alderson, Bastein, and Madrazo conducted a study of Mexican reading subjects in both their native Spanish and in English, found a significant correlation between proficiency in English and reading comprehension of a text in English. The finding leads them to conclude that language competence was the best predictor of reading success in a second language (Devine. 1988: 263; citing Alderson; Bastein; & Madrazo. 1977. *A Comparison of Reading Comprehension in English and Spanish*).

Devine (1987) studied the question of relationship between second language proficiency and oral reading performance longitudinally. It was hypothesized that as general language proficiency increased, reading behavior would become more efficient, especially in regard to the use of effective strategies involving semantic cues in the text. (Devine. 1988: 263; citing Devine. 1987. *General Language Competence and Adult Second Language Reading*).

Berman (1984) investigated the hypothesis that knowledge of syntactic features of a language is essential for “unraveling of parts of sentences and correct perception of their grammatical and rhetorical interrelations,” activities important for reading fluency in general. In his view, readers must be able to manipulate the structural aspects of a second language in order to understand the propositional content of a second language text – successful readers are able to get core meaning of sentences by unraveling the syntax. He also

insisted that knowledge of syntax enhances second language reading ability (Devine. 1988: 264; citing Berman. 1984. *Syntactic Components of the Foreign Language Reading Process*).

Cziko (1978, 1980) compared the reading strategies of limited and advanced the English proficiency French students with those of native English speakers as both groups read in English. Advanced English proficiency French readers behaved very much like native English speaker, demonstrating a sensitivity to syntactic, semantic, and discourse constraints operating in the text; low language proficiency readers usually employed poor reading strategies as attempting to reproduce exactly the orthographic features text words. She also suggested that the reader's strategies are related to competence level in the language (Devine. 1988: 265; citing Cziko. 1978, 1980. *Differences in First and Second Language Reading: The Use of Syntactic, Semantic and Discourse Constraints; & Language Competence and Reading Strategies: A Comparison of First and Second-language Oral Reading Errors*).

Devine (1988: 266) concluded that low reading achievement in a second language is significantly related to low general proficiency in that language and that readers with low second language proficiency are especially handicapped in their ability to utilize contextual constraints and cohesive devices when reading in the target language.

3. Knowledge of the English language and the technical documents

Smith (1994: 14) mentioned that linguistic knowledge is a systematized body of mental representations underlying the learner's language use, irrespective of whether those mental representations coincide with those of a mature native speaker of the language. Knowledge is a system that the language learner builds up on the basis of exposure to the language; where that exposure leads to the formation of some systematized beliefs about the language, some of which may deviate from the native-speaker norms.

Reading knowledge of a foreign language is often important to academic studies, professional success, and personal development. A reading ability is needed by learners of English as a foreign language, as well as of other foreign languages. Readers should have the essential knowledge of English components in order to interpret messages in the context.

The essential components of English are as follows:

3.1 Syntax

It is vital for every reader to understand grammatical organization of the words in a sentence or "Syntax" in order to understand the meaning of the message. Knowledge of vocabularies is inadequate for efficient reading. Readers should pay attention to meaning accordingly with the grammatical structure as well as the meaning of each word in a sentence. Knowledge of grammar is considered as the central area of the language system. If a passage contains grammatical constructions that readers do not know, they might have a hard time reading it. Aebersold and Field (1997: 13) cited that sentence length, complexity, and cohesion – the way the ideas and meanings in a text are related to each

other, are text features that can influence comprehension and can signal the type of text. Words like *thus*, *for example*, *because*, *consequently*, *however*, *furthermore*, and *although* show relationship between ideas. When these words are used in a text, the relationship between sentences is stated. When these words are not used, the relationship between sentences is implied.

Kirkman (1992: 17) stated that the stereotype of scientific and technical writing is heavily unreadable-passive, impersonal, and turgid expression. Its common feature is the joining together of strings of ideas of approximately equal weight, to form long compound sentences. Otherwise, the ideas are rearranged into different levels of subordination, in a complex sentence structure. The reason might be that scientific and technical people are trained to be cautious in their observations and claims, so they are inclined to attach to any statement a string of conditions, qualifications, or possible reservations. This frequently creates complex utterances, often with subjects well separated from main verbs. As a result, readers need appropriate strategies to deal with complex sentences. For instance, finding the core part of the sentence by identifying what word(s) state action that is taking place, what are the subject and objects of sentences.

3.2 Texts

Knowledge about the rhetorical organization of various types of second language texts will also influence comprehension. Different types of text are organized differently. Aebersold and Field (1997: 11) asserted that the knowledge that readers have about types of text allows them to adjust their reading expectations and skills to the text at hand.

Reader's comprehension of a text may change as they reread the text, but the text itself does not change.

Dubin, Eskey, and Grabe stated that not only background knowledge and experience have influenced reading ability, but text structures have also affected it (Dubin; Eskey; & Grabe. 1986: 20).

Mackay and Mountford (1979) stated that "In order to understand a text, it is essential to know what the words like "this, that, these, those, it, them" refer to. These reference words are most frequently used in order to refer back to a word, phrase, clause, sentence, or larger structure of text which appear earlier.

According Trimble (1985: 71), many crucial parts of the supporting information of a core generalization in English for science and technology (EST) discourse are not often explicitly stated. This is one of the areas in which nonnative readers have difficulty in gaining access to the total information content of the discourse. "Errors in understanding implicit information by the nonnative speaker attempting to read EST are often related to a lack of understanding of the relationship between individual clauses consisting of supporting information, and between those clauses and core generalizations. If the nonnative reader for EST does not understand the meaning of these rhetorical functions and their relational possibilities, he will not be able to gain access to the total meaning of the discourse."

Knowledge of reference, equivalence, and connectives together appears to make up the overt grammatical cohesion of text. Knowledge of connectives plus knowledge of expository techniques or rhetorical acts make up what we call the rhetorical coherence of discourse.

3.3 Punctuation

Punctuation is the use of certain marks to clarify meaning of written material by grouping words grammatically into sentences and clauses and phrases. The use of punctuation differs in each language. For Thai language, punctuation exists in Thai writing system, but not widely use. For example, in Thai, each sentence is separated by space; English separate word by space. Native Thai readers may not be familiar with interpreting the text from punctuation mark such as comma, parenthesis, etc.

Punctuation marks are inevitable when reading English written material. The readers should find at least one punctuation mark in every single sentence. Knowledge about usage of the marks in written English can lead foreign readers to the expected comprehension. The readers may look for an explanation after a comma, dash, or in parenthesis when they encounter unfamiliar words.

Punctuation marks may also serve as a contextual clue. The readers may find clues from the context by noticing other conventions of written language. For example, semicolons often signal a list of inclusion relationships; while dashes may signal restatement. Reference words like *this*, *that*, and *such* also provide useful information. The contextual clues can help the authors' message get across to the readers.

4. Strategies for dealing with unknown words

While reading in a second language, readers may find words that are unknown to them. One of the most useful strategies to deal with unknown words while reading is

determining whether or not the meaning of the unknown word is vitally important to their purpose for reading the text.

Aebersold and Field (1997: 142) suggested the strategies which could be helpful for readers to deal with unknown words: (1) using the context surrounding the word to guess its general meaning, (2) analyzing the parts of the word to guess its probable meaning, and (3) using dictionary to look up its exact meaning.

Guessing from context can help readers develop their interpretation skills. The ability to use the words and information around an unknown word in order to guess or infer will serve readers well in almost every reading situation.

Clarke & Nation outlined the following procedures to guess the meaning from the texts (Aebersold; & Field. 1997: 142-143; citing Clarke; & Nation. 1980. *Guessing the Meanings of Words from Context: Strategies and Techniques*):

1. Look at the unknown word and decide its part of speech.

- Is it a noun, a verb, an adjective, or an adverb?

2. Look at clause or sentence containing the unknown word.

- If the unknown word is noun, what adjectives described it?

What duty is this noun in the sentence? Is it a subject or an object?

- If the unknown word is verb, what a noun does it go with? Is it modified by an adverb?

- If the unknown word is an adjective, what noun does it modify?

- If the unknown word is an adverb, what verb does it modify?

3. Look at the relationship between the clause or sentence containing the unknown word and other sentences or paragraphs.

4. Use the knowledge the readers have gained from steps 1-3 to guess the meaning of the word.

Nation explained that the ability to look at multi-syllabic word and see its meaningful parts is very useful to readers when they are trying to understand words they do not know. Every word has a base, also known as a root or stem, which is the smallest unit of meaning. Prefixes are word parts that precede the base and add meaning to it. Most native English speakers have a general idea of the meaning of individual prefixes. In contrast, many do not know the meanings of suffixes, although they can readily identify their grammatical functions (Aebersold; & Field. 1997: 142-143; citing Nation. 1990. *Teaching and Learning Vocabulary*. pp. 162-163).

Being able to use the dictionary properly is an important vocabulary skill to be used judiciously while reading. There are many types of dictionaries which readers can choose to suit their language proficiency. For example, bilingual dictionaries have too little vocabulary in the second language to understand even simple second language definitions. Learner's dictionaries differ from regular first language dictionaries because they (1) include a limited number of words, (2) define a word by using simple, high-frequency-words, (3) provide clear explanations of concepts and their relationship to other words, (4) give an example of the word used in a sentence, and (5) list and explain any idioms using that word. Moreover, native-speaker dictionary can enlarge and refine reader's understanding of the vocabulary that they look up. Monolingual dictionaries facilitate the user's ability to

paraphrase a word, and associate that word with other words that have similar or partially overlapping meanings (Aebersold; & Field. 1997: 145).

5. Previous related research

There are several research conducted to explore some crucial points relevant to English usage of Thais in different aspects. For instance, Usa Karnchanasathit (1980) did a research in 1980 entitled, "A Survey of the Needs for the Use of Business English of Private Sectors". The survey objectives are to find out the actual skill proficiency of the personnel and the actual proficiency needed by the business community. It also investigated whether the English skills of their personnel were good enough for work performance. The results revealed that most companies used English in business transactions. Therefore, their personnel were required to have proficiency in listening, speaking, reading, writing and translating. Apparently, the most required skill was reading.

In 1996, a research entitled "English Language Needs for Communication by Thai Engineers" was explored by Manee Jiranapakul. The results showed that all four skills are very useful for the engineers in doing their job well and in their career advancement. Most of the engineers perceived that their reading skills were better than listening, speaking, and writing, respectively.

Another researcher, Muntana Meemark, conducted a study in 2002 entitled "Needs and Problems of English among the Tourist Police". The findings indicated that all sections of the tourist police strongly needed all four English skills (listening, speaking, reading, and writing). However, listening was considered the most important. Engaging in telephone

conversations, listening to complaints or misunderstanding foreign accents were regarded as the crucial problems.

Convincingly, studies on the needs for English in various careers were investigated, but no research has been undertaken on the common problems of Thai computer professionals when using English context texts. This research revealed a different aspect worthy of investigation.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the methodology of the research. It contains three sections: population and sampling, instruments, and procedures.

1. Population and sampling

The informants of this study were randomly selected. They were one hundred and ten Thai IT-related staff working at computing firms either Thai or international organization in Bangkok and thirty Thai computer science lecturers teaching at tertiary level.

2. Instruments

The study used a questionnaire specially designed as an instrument for this study. It focused on the common problems encountered by Thai computer professionals using English computer texts. The English language training courses the informants consider helpful in solving their common problems were also explored.

2.1 Preliminary Interviews

In order to design a strong questionnaire to effectively answer the research questions, the researcher interviewed two Thai lecturers teaching computer science course in a university and one Thai senior computer programmer working at a private sector. The

researcher gained a proper idea relating some common problems that Thai computer professionals have been involving in using English computer texts.

2.2 Questionnaire Development

The results of the interviews were used to develop an effective questionnaire for data gathering. To standardize the questionnaire, the researcher distributed the first version of the questionnaire to five Thai university lecturers teaching computer science as a pilot study. The feedbacks from this first draft of the questionnaire were used to improve a better version of the final questionnaire. Consequently, some irrelevant items were excluded, and any ambiguous wording was clarified.

The first draft of the questionnaire was designed on the basis of information gathered from the interviews in accordance with the objectives. In addition, it was revised according to the pilot survey. Then, the final draft was used in the study.

The final draft of the questionnaire consisted of three parts, each designed with a specific purpose.

Part I: General information of the respondents

This part aimed to secure information about the computing experience and education background of the respondents.

Part II: Common problems encountered by Thai computer professionals using English computer texts

This part identified common problems Thai computer professionals encountered and the strategies they used to deal with those difficulties.

Part III: The respondents' opinion towards English language training courses

This part was designed to provide information on the respondents' opinions about English training courses to develop their English reading comprehension.

3. Procedures

3.1 Data collection

The questionnaires were distributed to the informants either via email or in-person in early June 2006. All questionnaires were completed and returned to the researcher for data analysis in early August 2006.

3.2 Data Analysis

The collected data were analyzed to evaluate the informants' common problems in using English computer texts. Percentage and frequency were used for calculating and analyzing the data. Furthermore, tables were used to illustrate the scores of the informants' answers. The findings were used to answer the research questions.

CHAPTER 4

FINDINGS

This chapter presents and discusses the research findings. The data collected from 140 returned questionnaires are presented as percentages shown in the tabular forms along with the explanations.

According to the questionnaire and the research questions, the findings are divided into three parts as follows:

Part 1 : General information of the respondents

Frequency and percentages were used to analyse the data.

Part 2 : Common problems encountered by Thai computer professionals

using English computer texts

Frequency and percentages were employed to identify the problems of Thai computer professionals when they use English computer texts.

Part 3 : The respondents' opinion towards English language training courses

Frequency and percentages were used to analyse the data concerning the opinions of Thai computer professionals towards English language training courses.

Part 1 : General information of the respondents

The data derived from part 1 were analysed and presented in the following tables.

TABLE 1 General information of the respondents

One hundred and forty copies of questionnaire were distributed to 110 respondents professionally working in the computer and information technology field and 30 computer science lecturers teaching at the tertiary level.

Table 1.1 Gender

Gender	No.	Percentage
Male	99	70.7%
Female	41	29.3%
Total	140	100%

As shown in table 1.1, 70.7% of the respondents was male and 29.3% of them was female.

Table 1.2 Age

Age	No.	Percentage
21-25 years	31	22.1%
26-30 years	70	50%
31-35 years	24	17.1%
36-40 years	7	5%
Over 41 years	8	5.8%
Total	140	100%

The respondents were in different age groups. Half of them (50%) was 26-30 years old while 22.1% was 21-25, and 17.1% was 31-35 years old.

Table 1.3 Education level

Education level	No.	Percentage
Lower than Bachelor's degree	0	0%
Bachelor's degree	84	60%
Master degree	51	36.4%
Doctorate degree	3	2.2%
Total	140	100%

Regarding the educational background, 60% of the respondents obtained a Bachelor's degree while 36.4% of the respondents earned a Master degree. 2.2% of them held a Doctorate degree.

TABLE 2 Career background of the respondents**Table 2.1 Type of organisation**

Type of organisation	No.	Percentage
Public Sector	23	16.4%
Self-Employed	3	2.2%
Private Thai organisation	80	57.1%
Private International organisation	31	22.1%
Others	3	2.2%
Total	140	100%

Table 2.1 shows that 57.1% of the respondents was working in the private Thai organizations. 22.1% and 16.4% of the respondents was employed by the private international organisations and the public sectors, respectively.

Table 2.2 Position

Position	No.	Percentage
Computer system engineer	8	5.7%
IT manager	14	10%
Computer lecturer	30	21.4%
Computer programmer	38	27.1%
Webmaster	14	10%
Computer software analyst	13	9.3%
Computer system analyst	6	4.3%
IT technical support worker	11	7.9%
Others	6	4.3%
Total	140	100%

In addition, the respondents' positions were varied. 27.1% (38) of the respondents was computer programmers while 21.4% (30) of them was computer lecturers. The percentage of IT managers and webmasters were both equivalent to 10% (4). Besides, 9.3% (13), 7.9% (11), 5.7% (8), 4.3% (6) of the respondents were computer software analysts, IT technical support workers, computer systems engineers, and computer systems analysts, respectively.

Table 2.3 Career experience

Career experience	No.	Percentage
Less than 1 year	17	12.1%
1-3 years	51	36.4%
4-6 years	44	31.5%
7-9 years	11	7.9%
More than 10 years	17	12.1%
Total	140	100%

Working experiences of the respondents varied from less than one year to longer than ten years. 36.4% (51) of the respondents had one to three years working experiences while 31.5% (44) of the respondents had four to six years working experiences. 12.1% (17) of the respondents had less than one year working experiences. Another 12.1% (17) had more than ten years working experiences.

TABLE 3 Frequency of English skills used in IT-related work rated by the respondents

Skills	Frequency of English skills used in IT-related work													
	Always		Often		Sometimes		Seldom		Almost never		Never		Total	
	N	%	No	%	No.	%	No.	%	No.	%	No.	%	No.	%
Listening	7	5.0	27	19.3	35	25.0	38	27.2	23	16.4	10	7.1	140	100
Speaking	6	4.3	16	11.4	28	20.0	46	32.8	33	23.6	11	7.9	140	100
Reading	30	21.4	43	30.7	41	29.3	20	14.3	4	2.9	2	1.4	140	100
Writing	12	8.6	20	14.3	44	31.4	42	30.0	17	12.1	5	3.6	140	100

Table 3 represents the frequency and percentages of the respondents who were asked to rate the frequency of English skills they used in their daily work.

In terms of listening skill, 27.2% (38) of the respondents seldom used this skill followed by “almost never” for 16.4% (23), and by “never” for 7.1% (10), respectively. Only 5% (7) of the respondents always used this skill when they worked everyday.

In terms of speaking skill, 32.8% (46) of respondents seldom used this skill in their daily work while 23.6% (33) of them almost never used this skill also 7.9% (11) of them mentioned that they did not use this skill at all. Only 4.3% (6) of them always used speaking skill at their workplace.

In terms of reading skill, 30.7% (43) of the respondents often used this skill at work while 21.4% (30) of them always used reading skill. Only 1.4% (2) of the respondents indicated that they never used reading skill in their work.

In terms of writing skill, 30% (42) of the respondents seldom used this skill followed by “almost never” for 12.1% (17), and by “never” for 3.6% (5).

To sum up, reading skill was most frequently used by the majority of the respondents. The findings were ascertained by their careers as computer programmers, computer lecturers, IT managers, and webmasters (see table 2.2); according to their positions, it is obvious that they are involving in reading skill more than other skills.

The respondents were also asked to indicate the type of English computer texts they most frequently used in their work. The data were classified as shown in table 4.

TABLE 4 Types of English computer texts most frequently used by the respondents

Types of English computer texts	No. of the respondents using each type of English computer text	
	No. of the respondents (140)**	Percentage (100%)**
Technical manuals/handbooks	115	82.1%
Instructions/directions	90	64.3%
Texts or scientific papers	66	47.1%
Technical articles/reports	39	27.9%
Others	10	7.1%

* According to the questionnaire, all 140 respondents could choose more than one types of English computer text.

** No. of the respondents (140) and percentage (100%) were calculated based on each type of English computer text

Regarding the types of English computer text frequently used by the respondents, most of the respondents (82.1%, 115) used the technical manuals/handbooks in their daily work. More than half of the respondents (64.3%, 90) used instructions/directions while 47.1% (66) of them used texts or scientific papers. Besides, technical articles/reports were used by 27.9% (39) of respondents.

To sum up, this may be assumed that computer programmers, computer lecturers, IT managers, and webmasters who are the majority of the respondents (see table 2.2) used technical manuals/handbooks the most. This is due to the fact that this type of texts provides the information which the majority of the respondents can directly refer to and apply to their work.

**Part 2 : Common problems encountered by Thai computer professionals
using English computer texts**

The respondents were required to identify the common problems they encountered and the strategies they used to deal with those difficulties.

The data derived from part 2 were analysed and presented in tables 5-7.

TABLE 5 Frequency of problems the respondents encountered when using English computer texts

List of problems	Frequency of the problems											
	Always		Often		Sometimes		Seldom		Never		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Vocabulary	10	7.1	41	29.3	70	50.0	19	13.6	0	0	140	100
Sentence/ Structure	11	7.9	37	26.4	47	33.6	45	32.1	0	0	140	100
Technical	12	8.6	48	34.3	59	42.1	21	15	0	0	140	100
Context	9	6.5	30	21.4	70	50.0	31	22.1	0	0	140	100
Insufficient knowledge of subject matter	5	3.6	29	20.7	74	52.9	32	22.8	0	0	140	100

Table 5 shows the frequency of each problem encountered by the respondents when using English computer texts.

In terms of vocabulary problem, half of the respondents (50%, 70) indicated that they sometimes experienced vocabulary problem while 29.3% (41) of them often encountered this problem. 7.1% (10) of them always encountered vocabulary problem.

In terms of sentence/structure problem, 33.6% (47) of the respondents expressed that they sometimes encountered this problem. 26.4% (37) of them often encountered this

problem while 7.9% (11) of them state that they always encounter the sentence/structure problem.

In terms of technical terms problem, 42.1% (59) of the respondents indicated that they sometimes faced this problem while 34.3% (48) of them often encountered this difficulties. 8.6% (12) of the respondents said that they always came across technical terms problem.

In terms of context problem, half of the respondents (50%, 70) stated that they sometimes encountered this problem. 21.4% (30) of them indicated that they often experienced the context problem while 6.5% (9) of them always had this problem.

In terms of the insufficient knowledge of subject matter, 52.9% (74) of the respondents indicated that they sometimes encountered the problem while 20.7% (29) of them identified that they often encountered this problem. 3.6% (5) of them always faced this problem.

To sum up, the results indicated that 42.9% (60) of the respondents encountered the problem of technical terms, followed by vocabulary problem for 36.4% (51), and by sentence/structure problem for 34.3% (48). With regard to the problem with technical terms, the findings evidently support the fact that, nowadays, the innovation in information and technology, especially in the computing field, has improved significantly; therefore, Thai computer professionals inevitably come across the problems with new technical terms that come with newly improved technology, which they might not be familiar with. Then this can cause difficulties concerning their comprehension and interpretation while reading English computer texts.

In addition, vocabulary as well as sentence/structure was also found as the problems experienced by Thai computer professionals. In terms of vocabulary problem, this may be due to the fact that most of the second language learners believe that the most difficult aspect of learning and reading a second language involves the acquisition of a vocabulary sufficient to meet their needs. With regard to sentence/structure problem, Aebersold and Field (1997) pointed out that knowledge of grammar is considered as the important area of the language system. If a passage contains grammatical constructions that readers do not know, they might encounter problems when reading the texts. In addition, the readers also need appropriate strategies to deal with complex sentences.

TABLE 6 Frequency of the strategies used to cope with the difficulties while reading

Strategies used to deal with the problems	Frequency of the strategies used											
	Always		Often		Sometimes		Seldom		Never		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Ask for assistance from a professional in the related field	12	8.6	38	27.1	48	34.3	31	22.1	11	7.9	140	100
Refer to scientific or technical manual	5	3.6	53	37.9	49	35.0	23	16.4	10	7.1	140	100
Use a dictionary of literary terms	18	12.9	41	29.3	35	25.0	21	15.0	25	17.8	140	100
Skip the complicated part	15	10.7	33	23.6	55	39.3	30	21.4	7	5.0	140	100
Use translation programme online	13	9.3	28	20.0	30	21.4	37	26.4	32	22.9	140	100
Use electronic dictionary	8	5.7	21	15.0	24	17.1	32	22.9	55	39.3	140	100
Attend English Language training course to improve English skill	0	0	3	2.1	28	20.0	37	26.5	72	51.4	140	100
Search for more information of the certain issue from the Internet	50	35.7	53	37.9	34	24.3	3	2.1	0	0	140	100
Refer to computer reference book	8	5.7	31	22.1	55	39.3	33	23.6	13	9.3	140	100

Table 6 presents the frequency of the strategies applied when the respondents encountered problems in using English computer texts.

In terms of asking for assistance from a professional in the related field, 34.3% (48) of the respondents sometimes asked for assistance from a professional in the related field while the frequency to use this strategy as “often” and “always” were indicated by 27.1% (38) and 8.6% (12) of the respondents, respectively.

In terms of referring to scientific or technical manual, 37.9% (53) of the respondents indicated that they often referred to scientific or technical manual while the frequency to use this strategy as “sometimes” and “always” were indicated by 35% (49) and 3.6% (5) of the respondents, respectively.

In terms of using a dictionary of literary terms, 29.3% (41) of the respondents often used a terminology dictionary while the frequency to use this strategy as “sometimes” and “always” were indicated by 25% (35) and 12.9% (18) of the respondents, respectively.

In terms of skipping the complicated part, 39.3% (55) of the respondents sometimes avoided to translate the contents or unknown words while the frequency to use this strategy as “often” and “always” were indicated by 23.6% (33) and 10.7% (15) of the respondents, respectively.

In terms of using translation programme online, 26.4% (37) of the respondents seldom used translation programme online while the frequency to use this strategy as “never” and “always” were indicated by 22.9% (32) and 9.3% (13) of the respondents, respectively.

In terms of using electronic dictionary, 39.3% (55) of the respondents had never used electronic dictionary while the frequency to use this strategy as “seldom” and “always” were indicated by 22.9% (32) and 5.7% (8) of the respondents, respectively.

In terms of attending English Language training course to improve English skill, 51.4% of the respondents mentioned that they did not attend English language training course to improve their English skill whether they encountered reading problem. However, the frequency to use this strategy as “seldom” and “sometimes” were indicated by 26.5% (37) and 20% (28) of the respondents, respectively.

In terms of searching for more information of the certain issue from the Internet, 37.9% (53) of the respondents often solve the reading problem by searching for more information via the Internet while 35.7% (50) of them always used this strategy. Only 2.1% (3) of them seldom used this strategy.

In terms of referring to computer reference book, 39.3% (55) of the respondents sometimes referred to computer reference book when they came across the problem. The frequency to use this strategy as “seldom” and “always” were indicated by 23.6% (33) and 5.7% (8) of the respondents, respectively.

The results indicated that most of the respondents (73.6%, 103) frequently search for more information from the Internet while encountering the reading problem followed by using a terminology dictionary for 42.2% (59), and by referring to scientific or technical manual for 41.5% (58).

It can be concluded that the strategy Thai computer professionals rely on most is searching for more information from the Internet. This is because the Internet provides a lot of up-to-date information which Thai computer professionals can easily access and search for more details to solve their difficulties.

It is also found out that Thai computer professionals use a dictionary of literary terms when encountering reading problems. Obviously, a dictionary is normally used when second/foreign language learner encountering unknown words. It is the fastest strategy used in language learning.

Also, since technical manuals were the texts Thai computer professionals always use daily at work (see table 4), it is possible that they often refer to scientific or technical

manual when encountered the problem as they are familiar with the contents which they can easily find in-depth details.

When the respondents were asked to express their opinions about how helpful each strategy was to solve their problems when using English computer texts, the findings were as shown in table 7.

TABLE 7 Respondents' opinion on the usefulness of each strategy used to cope with the problems

Strategies used to deal with the problems	Ranking of respondents' opinion											
	Very Useful		Useful		Somewhat useful		A little useful		Not at all		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Ask for assistance from a professional in the related field	30	21.4	35	25.0	48	34.3	27	19.3	0	0	140	100
Refer to scientific or technical manual	12	8.6	65	46.4	48	34.3	13	9.3	2	1.4	140	100
Use a dictionary of literary terms	17	12.1	50	35.7	49	35.0	21	15.0	3	2.2	140	100
Skip the complicated part	5	3.6	15	10.7	60	42.9	41	29.3	19	13.5	140	100
Use translation programme online	6	4.3	38	27.1	45	32.1	39	27.9	12	8.6	140	100
Use electronic dictionary	9	6.5	35	25.0	41	29.3	38	27.1	17	12.1	140	100
Attend English Language training course to improve English skill	13	9.3	27	19.3	49	35.0	38	27.1	13	9.3	140	100
Search for more information of the certain issue from the Internet	44	31.4	67	47.9	24	17.1	4	2.9	1	0.7	140	100
Refer to computer reference book	17	12.1	59	42.1	46	32.9	16	11.4	2	1.5	140	100

Table 7 illustrates respondents' opinion on how useful each strategy was when used to cope with the problems was.

In terms of asking for assistance from a professional in the related field, 25% (35) of the respondents viewed that this strategy was useful for them. 21.4% (30) of them considered this strategy as "very useful".

In terms of referring to scientific or technical manual, 46.4% (65) of the respondents rated this strategy as useful for them while 34.3% of them considered this strategy as "somewhat useful".

In terms of using a dictionary of literary terms, 35.7% (50) of the respondents identified this strategy as useful for them while 35% (49) of them considered this strategy as "somewhat useful".

In terms of skipping the complicated part, 42.9% (60) of the respondents considered this strategy was somewhat useful for them while 29.3% (41) of them rated this strategy as "a little useful".

In terms of using translation programme online, 32.1% (45) of the respondents indicated that this strategy was somewhat useful for them while 27.9% (39) of them rated this strategy as "a little useful".

In terms of using electronic dictionary, 29.3% (41) of the respondents viewed this strategy as somewhat useful for them while 27.1% (38), of them considered this strategy as "a little useful".

In terms of attending English language training course to improve English skill, 35% (49) of the respondents viewed that this strategy was somewhat useful for them. However, this strategy was "a little useful" for the respondents at 27.1% (38).

In terms of searching for more information of the certain issue from the internet, 47.9% (67) of the respondents rated this strategy as useful for them while 31.4% (44) of them considered this strategy as “very useful”.

In terms of referring to computer reference book, 42.1% (59) of the respondents considered this strategy as useful for them while 32.9% (46) of them rated this strategy as “somewhat useful”.

To sum up, the results indicated that 79.3% (111) of the respondents considered searching for more information from the Internet was the useful strategy for them followed by referring to scientific or technical manual for 55% (77), and by using a dictionary of literary terms for 47.8% (67).

Nowadays, the Internet can easily access and it provides a large amount of current online information for the readers to select according to their needs; therefore the findings obviously showed that Thai computer professionals considered searching for more information from the Internet the most useful strategy.

Part 3 : The respondents' opinion towards English language training

courses

The respondents' opinions about English training courses to develop their English reading comprehension were calculated as shown in table 8-14.

TABLE 8 Respondents' opinion towards English language training course

	Yes	No
Could an English reading comprehension course solve the reading problems?	127 (90.7%)	13 (9.3%)

As presented in table 8, the results indicated that the majority of the respondents (90.7%, 127) indicated that the English reading comprehension training course could help to solve their problems when using English computer texts. Only 9.3% (13) of them did not think so.

TABLE 9 Number of English language training courses provided by the respondents' employer

	Yes	No
Does your employer currently provide any English language training in past year?	44 (31.4%)	96 (68.6%)

The results from table 9 revealed that 68.6% (96) of the respondents stated that their employers did not provide any English language training course in past year. However, 31.4% (44) of the respondents mentioned that their employers provide the English language training courses for their staff on past year.

Tables 10-11 presented the description of the English language training course provided by the respondent's organization in past year (June 2005-2006). Forty-four respondents whose organisation provided the English language training course in past year were required to answer the question in tables 10-11.

TABLE 10 Types of English language training course provided by the respondents' employer

Types of English language training	No. of respondents attend an English course (N=44)	Percentage
In-house training by an organization training department	11	25.0
In-house training by an external trainer	24	54.5
Training course at a language school	6	13.6
Others	3	6.8

TABLE 11 Respondents' participation in English language training course

	Yes	No
Did the respondents attend the course within the last year?	8 (18.18%)	36 (81.82%)

From table 10, 54.5% (24) of this group mentioned that the training was in-house training by an external trainer while 25% (11) of them stated that the training was organised by the company's training department. 13.6% (60) of this group attended the English language course at a language school.

According to table 11, although the organisation provided the English language training course for their staff, only 28.8% (8 persons from 44 persons) of them attended that course.

The respondents were required to select the type of English language training course according to their preference. The findings were presented in the table below.

TABLE 12 The preference of English language training courses selected by the respondents

Types of training courses	First preference		Second preference		Third preference		Total	
	No.	%	No.	%	No.	%	No.	%
English Reading Comprehension	64	45.7	49	35.0	27	19.3	140	100
English for Computer and Technology	42	30.0	67	47.9	31	22.1	140	100
General English	37	26.4	38	27.1	65	46.5	140	100
Translation	32	22.8	55	39.3	53	37.9	140	100
English for business	29	20.7	60	42.9	51	36.4	140	100

Table 12 showed that “English Reading Comprehension” course was the first preference. The second and third preferences were “English for Computer and Technology” and “General English” courses, respectively.

In terms of a course instructor, the respondents were also asked to specify their preference and the result was shown in table 13.

TABLE 13 Respondents' preference of the instructor

Instructor	No. (140)	Percentage (100%)
Native English speaker	63	45%
Non-native English speaker	16	11.4%
Both native English speaker and non-native English speaker	58	41.4%
Either native English speaker or non-native English speaker	3	2.2%

With regard to table 13, the results revealed that 45% (63) of the respondents preferred a native English instructor, and 41.4% (58) of them preferred both native English and non-native English instructor to run the course. The respondents who would like to study with a native English instructor commented that they could gain more knowledge from the English lesson as well as improving the pronunciation with the native English speaker.

However, the respondents who prefer either native English or non-native English instructor expressed that they felt more comfortable discussing grammar problems with a non-native English instructor than with a native English instructor.

Regarding to the course duration, the respondents were asked to suggest on the preferable length of a training course. The findings were summarised in table 14.

TABLE 14 Respondents' opinion on English language training course duration

Duration (Total)	No. (140)	Percentage (100.0)
Days		
1-15 days	20	14.3%
16-30 days	2	1.4%
Months		
1-3 months	79	56.4%
4-6 months	21	15.0%
7-11 months	0	0%
Years		
1 year	16	11.4%
2 years	1	0.7%
More than 2 years	1	0.7%

As presented in table 14, 56.4% (79) of the respondents preferred 1 to 3 month training course while 15% (21) of the respondents would like to attend 4 to 6 month training course. 14.3% (20), 11.4% (16) of the respondents preferred 1 to 15 day, and one year training course, respectively.

CHAPTER 5

CONCLUSIONS AND DISCUSSION

This chapter contains four main sections: summary of the study, discussion of the major findings, suggestion for English language training course, and recommendations for further studies.

Summary of the study

This study was conducted with 140 Thai computer professionals using English computer texts in their careers. The aim of the research is to explore the problems Thai computer professionals encountered and how they coped with those problems. In addition, preferable language trainings were suggested by the respondents.

The data from the questionnaire distributed to 110 Thai IT-related staff working professionally at computing firms either Thai or international organization in Bangkok, and 30 Thai computer science lecturers teaching at tertiary level were tabulated and analyzed to answer two research questions:

1. What are the common problems encountered by Thai computer professionals when using English computer texts?
2. How do Thai computer professionals cope with those problems?

The findings of the research questions are presented and discussed in the following sections.

Discussion of the major findings

The following are the major findings addressing the research questions posed in the study.

Research question 1: What are the common problems encountered by Thai computer professionals when using English computer texts?

The study revealed that the problems all Thai computer professionals encountered while using English computer texts were in all these areas: vocabulary problem, sentence/structure problem, technical terms problem, context problem, and insufficient knowledge of subject matter. Technical terms, vocabulary, and sentence/structure were found as the most frequent problems Thai computer professionals encountered.

In terms of the frequency of each problem Thai computer professionals encountered, the results were varied. The findings indicated that the majority of Thai computer professionals stated that they sometimes experienced each problem while only a few always experienced the same problems. The problems that most of Thai computer professionals indicated that they sometimes encountered were problem of insufficient knowledge of subject matter (52.9%), vocabulary problem (50%), context problem (50%), technical terms problem (42.1%) and sentence/structure problem (33.6%).

According to the results, the frequency of each problem encountered by most of the Thai computer professionals was indicated as "infrequent". This can be summarized as most of Thai computer professionals encountered each problem at the moderate level. This can also be explained by the most frequent skill Thai computer professionals used at work -

reading skill. The findings showed that the frequency of Thai computer professionals' reading skill was significantly much more than any other skills (see table 3). It can be assumed that Thai computer professionals regularly used reading skill at work, and they could be familiar with texts they were using in terms of vocabulary, sentence structure, technical terms context; therefore, most of them considered the frequency of encountering each problem at moderate level.

Although, in general, most Thai computer professionals considered the problems of vocabulary, sentence/structure, technical terms, context, and insufficient knowledge of subject matter, being at the moderate level, when comparing the frequency of each problem, the results showed that the most frequent problems they experienced were technical terms, vocabulary, and sentence/structure, respectively.

In terms of technical terms problem, nowadays, the innovation in information and technology, especially in the computing field, has improved significantly, Thai computer professionals inevitably come across problems with new technical terms that come with improved technology, which they might not be familiar with. This plausibly causes them the difficulties of comprehension and interpretation in the reading texts.

In terms of vocabulary problem, this is also frequently involved in Thai computer professionals reading. This may be due to the fact that most of the second language learners believe that the most difficult aspect of learning and reading a second language involves the acquisition of a vocabulary sufficient to meet their needs. According to Gass and Schachter (1989), knowing vocabulary is important for getting meaning from a text. Without knowledge of key vocabulary in a text, a reader may have serious trouble understanding the message.

With regard to sentence/structure problem, the findings showed that this is also frequently involved in Thai computer professionals' problem while reading English texts. It can be assumed that the sentence/structure problem Thai computer professionals refer to mostly found in technical texts they daily used. Aebersold and Field (1997) pointed out that knowledge of grammar is considered as the central area of the language system. If a passage contains grammatical constructions that readers do not know, they might have some difficulties when reading the texts. In addition, the readers also need appropriate strategies to deal with complex sentences.

Research question 2: How do Thai computer professionals cope with those problems?

According to the second question, the findings revealed that when using English computer texts, Thai computer professionals used various strategies to handle the problem they encountered. In terms of strategies used to cope with those difficulties, the results indicated that searching for more information from the Internet was frequently used by all Thai computer professionals while encountering the reading problems. 35.7% (50) of Thai computer professionals mentioned that they always used this strategy to deal with the problems, and 37.9% (53) of them often used the same strategy. In addition, when Thai computer professionals were asked how helpful each strategy was to them, the findings showed that the majority of Thai computer professionals (79.3%) agreed that searching for more information from the Internet when they came across problems was a helpful strategy. The findings are evidently due to the fact that, nowadays, the Internet provides a lot of up-to-date information which the readers can easily find in-depth details or unknown

subjects/topics that can help develop and expand their knowledge related to their work.

Convincingly, since the Internet can be easily and instantly accessed to a vast and diverse amount of online information, most Thai computer professionals considered searching for more information from the Internet an effective strategy to cope with problems concerning using computer texts

Besides, 37.9% (53) of Thai computer professionals often referred to scientific or technical manuals to cope with the problems when using English computer texts while 3.6% (5) of them always used this strategy. This is due to the fact that technical manuals are always used by Thai computer professionals daily at work (see table 4). They, therefore, are familiar with contents they can refer to at work as well as the certain patterns used in scientific/technical manuals. The findings were also ascertained by Chanawan Yaila-or's study (2000) focusing on the problems of Thai translators working in the field of Science and technology. It was found that the majority of Thai translators often referred to a technical manual to cope with the translation problems. This can be concluded that referring to scientific or technical manuals can help Thai computer professionals solve the problems while reading computer texts.

Also, 29.3% (41) of Thai computer professionals often used a dictionary of literary terms to help solve their problem while reading computer texts while 12.9% (18) always referred to the a dictionary of literary terms as well. Obviously, a dictionary is normally used when second/foreign language learners are encountering unknown words since it is one of the easiest and fastest strategies used in language learning. According to Aebersold and Field (1997), they suggested that one of the strategies that could be helpful for readers to deal with unknown words is using dictionary to look up its exact meaning.

Notably, the results indicated that 51.4% (72) of Thai computer professionals did not consider attending English language training course as a solution to help solve the problems they encountered while using computer texts while only 2.1% (3) of them thought this could be one of the strategies to help improve their English skill. The explanation of the findings according to this strategy can be differently interpreted. In terms of English language training course provided by Thai computer professionals' employers, 68.6% (96) of them revealed that their employer did not conduct any language training during the past year, and this may be resulted in having no experience concerning language training and having no idea whether it could help improve their English skill. In terms of English language training courses offering by private institutions, most of language courses will take at least 2-3 months, and Thai computer professionals may find it time-consuming as well as too expensive to afford.

Suggestion for English language training course

In terms of proposing an English language training course, the majority of Thai computer professionals believed that attending an English reading comprehension course could help them solve the reading problems (see table 8). Furthermore, among different kind of courses: English Reading Comprehension, English for Computer and Technology, General English, Translation, and English for Business, Thai computer professionals preferred taking "English Reading Comprehension" course most (see table 12). Also, if they are to take a training course, most of them prefer to attend a one to three-month course (see table 14).

In addition, 45% of Thai computer professionals preferred studying with an English native instructor (see table 13). Some of them pointed out that not only could an English native instructor help them with the English lessons, but he/she could also provide them with the foundation of appropriate conversations and the correct pronunciation. The findings of this study was consistent with the findings of the following studies: 1) According to Patchara Sutthawatsunthon's study (2004) on a communicative English skills needed among engineers of the Thai Airways, it was found that 90% of the Thai Airway's engineers preferred studying with an English native instructor; 2) Likewise, Chanawan Yaila-or (2000) conducted a research on the problems of Thai translators working in the field of Science and technology, and the study indicated that 50.6% of Thai translators preferred a native speaker of English; 3) Also, Wilailak Rithichai (1999) researched on English language needs of MBA/MBE students (special programme) at NIDA, and the findings showed that 56% of MBA students and 54% of MBE students at NIDA preferred to study with an English native instructor. Accordingly, it can be assumed that Thai learners of English as well as Thai computer professionals would rather study English with an English native speaker.

Moreover, based on the findings of this study, it is recommended that if an English language training course is designed for Thai computer professionals, it should emphasize the problems they often encounter when using English computer texts; that is vocabulary, sentences/structures, technical terms, and contexts.

Recommendations for further studies

Based on the findings, the following areas for further research are suggested:

1. At present, there are many types of English computer texts such as technical manual/handbooks, instruction, scientific papers that Thai computer professional used at work. This study focuses on the problems which Thai computer professionals encountered when using several kinds of English computer texts. A study of problems Thai computer professionals encounter when reading a certain type of English computer texts such as manual/handbooks, instruction, scientific papers should be conducted in the future. The findings will be beneficial for the improvement of their career.

2. People who work in several fields such as lawyers or medical practitioners inevitably use English documents in their daily work. They may encounter some problems when using English texts and they may not know how to effectively deal with those problems; therefore, a study of the problems encountered by other professionals, e.g. lawyers, medical practitioners, when using their work-related texts or documents in English should be investigated so that their problems will be identified and solutions for their problems will be suggested.

3. According to many studies concerning the preference of an English course instructor, the results showed that most of the respondents preferred studying with English native speakers rather than with non-native English instructors. Therefore, the comparative study of English proficiency of the learners studying with English native instructors and those studying with non-native English instructors should be conducted. The results can be

used as a guideline to improve language education in Thailand in terms of course instructors.

4. Nowadays, an increasing number of Thais are employed by a lot of international companies or organizations. These employees should have sufficient knowledge of English to effectively communicate with their foreign colleagues as well as their foreign customers. Accordingly, to reach the expectation of the foreign managing employers of each work place, the employees should be highly concerned on their English proficiency focusing on effective communication at work. A study of the problems the foreign managing employers might experience in communicating with their employees should be explored, and the results can be used as a guideline to develop the English competence of the employees in different areas.

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APPENDIX

Questionnaire

This questionnaire is prepared by Ms. Akemanee Chaichanasiri who is now working on a Research's Project entitled "**A Study of Common Problems Encountered by Thai Computer Professionals Using English Computer Texts**". The purpose of this questionnaire is to collect information which will answer the research questions posted in the research study.

The questionnaire is divided into 3 parts as follows:-

Part I : Personal information of the respondents

Part II : A survey of common problems encountered by Thai computer professionals using English computer texts.

Part III : Respondents' opinion towards the English language training courses that help develop English reading comprehension

Your responses to the questions will greatly provide vital information for conducting this study. I, therefore, would be grateful if you would take a few minutes to complete it. Your participation will be treated with absolute confidentiality and information you provide will be used for the study purpose only.

Your kind cooperation is highly appreciated.

Part I Personal information of the respondents

Instructions: Please check (X) the appropriate statements and fill in the blank items available

1. Sex

 Male

 Female

2. Age

 21-25 Years

 26-30 Years

 31-35 Years

 36-40 Years

 Over 41 Years

3. Highest education

 Lower than Bachelor's degree

 Bachelor's degree

 Master degree

 Doctorate degree

 Others (please specify).....

4. What type of organization are you working in?

 Public Sector

 Self-Employed

 Private Thai organization

 Private International organization

 Others (please specify).....

5. What is your position/job title?

 Computer system engineer

 IT manager

 Computer lecturer

 Computer programmer

 Webmaster

 Computer software analyst

 Computer system analyst

 IT technical worker

 Others (please specify).....

6. How long have you been working as the above (Question no. 5) position?

- Less than 1 years 1-3 Years
- 4-6 Years 7-9 Years
- More than 10 years

7. To what extent do you use English skills in your work?

	Always	Often	Sometimes	Seldom	Almost never	Never
Listening
Speaking
Reading
Writing

8. What type of English computer texts do you often use? (Check more than one box if appropriate)

- Technical Manuals/handbooks Instructions/directions
- Texts or scientific papers Technical articles/reports
- Others (please specify).....

Part II : Common problems when using English computer texts

Instructions: Please check (X) the appropriate statements and fill in the blank items available

1. Please indicate the problems and the frequency of each problem you encountered when using English computer texts.

	Always	Often	Sometimes	Seldom	Never
1.1 Vocabulary					
1.2 Sentence / Structure					
1.3 Technical term					
1.4 Context					
1.5 Insufficient knowledge of the subject matter					
1.6 Others (please specify).....					

2. Please indicate how you solve the problems and the frequency of the solution you use while reading the English computer texts.

	Always	Often	Sometimes	Seldom	Never	n/a
2.1 Ask for assistance from a professional in the related field						
2.2 Refer to scientific or technical manual						
2.3 Use a dictionary of literary terms						
2.4 Skip the complicated part						
2.5 Use translation programme online						
2.6 Use electronic dictionary						
2.7 Attend English Language training course to improve reading skill						
2.8 Search for more information of the certain issue from the Internet						
2.9 Refer to computer reference book						
2.10 Others (please specify).....						

3. Please indicate what you think can help solve the problems ones encounter while reading English computer texts.

	Very useful	Useful	Somewhat useful	A little useful	Not at all
3.1 Ask for assistance from a professional in the related field					
3.2 Refer to scientific or technical manual					
3.3 Use a dictionary of literary terms					
3.4 Skip the complicated part					
3.5 Use translation programme online					
3.6 Use electronic dictionary					
3.7 Attend English Language training course to improve reading skill					
3.8 Search for more information of the certain issue from the Internet					
3.9 Refer to computer reference book					
3.10 Others (please specify).....					

Part III : Opinion towards the English language training courses that help develop English reading comprehension

Instructions: Please check (X) the appropriate statements and fill in the blank items available

1. Do you think that English reading comprehension courses will help you solve problems when using English computer texts?

Yes No, because

2. Does your employer provide any English language training in past year?

Yes (please specify the courses taken)

No (please go to Question no. 5)

3. If your employer provided an English language training recently, which of the following describes the training offered?

- in-house training by your organization training department
- in-house training by an external trainers
- training course at a language school
- Others (please specify).....

4. Do you attend the training course mentioned in Question number 2-3

- Yes (please specify the latest course taken)
- No

5. Which of the following training courses do you think will best benefit you in order to reduce problems when using English computer texts? Please rank the following from 1 to 3.

(1 refers to the first choice and so on)

- English Reading Comprehension
- English for Computer and Technology
- General English
- Translation
- English for business
- Others (please specify)

6. The training course instructor should be

- Native English speaker, because
- Non-native English speaker, because
- Both native English speaker and non-native English speaker, because...
- Either native English speaker or non-native English speaker, because ...

7. How long should a training course last?

Every Days

Every Months

Every Years

Others (please specify)

VITAE

VITAE

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