

CHAPTER I

INTRODUCTION



Background of the Study

The advances in technology today enable us to communicate globally in real time. People can communicate instantly even though they live in different parts of the world. Nevertheless, people from different countries speak different languages. They need a mutually intelligible code to communicate their ideas. In other words, all they need is a common language. In this era of globalization, the English language is certainly an international language due to its crucial role as a common language for international communities.

Among the four language skills, reading has often been said to be very important. Grabe and Stoller (2002) mentioned that it was reported that the majority of the world population, approximately 80 per cent, is able to read. To be able to read is seen as a necessity for improving the quality of life since it provides opportunities for a better standard of living.

Furthermore, Harrison (2004) described how important reading is by quoting from a book written by the French novelist Gustave Flaubert (1857, cited in Harrison, 2004), who wrote:

“Do not read, as children do, to amuse yourself, or
like the ambitious, for the purpose of instruction.
No, read in order to live.”

Harrison (2004: 3) emphasizes the importance of reading by referring to it as “human development”. He argued that reading is not just for the joy and delight, or increment of our life skills and extension of our knowledge, but it goes much deeper. He suggests that reading shapes our thinking and helps us learn how to live. Reading affects the development of imagination, emotions, morality, and intelligence. Ultimately, the kind of person that we are capable of becoming is influenced by reading.

In countries where English is a foreign language, reading skills are both a useful and practical instrument for learning English. For English learners in such countries, finding someone to practice English with might not be as practical as finding English materials to read. Learners can easily find English reading material ranging from a few words on the packaging of the products they buy from the market to academic textbooks they use in schools. As such they can practice reading by themselves without any limitations of place and time.

For English as a Second/Foreign Language (ESL/EFL) students, reading is an essential skill and for many it is the most important skill in helping them make greater progress and attain greater development in academic areas (Anderson, 1999).

The English language is considered a foreign language in Thailand. In school, Thai students start learning to read English in their first English course. They read a few words and move on to longer sentences, and gradually the whole text in the later years of their school life. At the end of the English reading course, testing and evaluation is usually carried out. Language testing has long been used to measure the students' achievement in their language learning and the most common format of language testing is a "paper-and-pencil" one, such as multiple choice tests, cloze tests, etc.

With the rapid development in computers and technology, the use of computers in language education has significantly increased at an extraordinary rate. The recent advances in educational applications of computer hardware and software provide a rapid growth for the so-called Computer-Assisted Language Learning (CALL). Today, CALL is seen as being an inevitable part of classroom activities. Computers have been used in many different areas of education such as grammar checking and essay marking, and this development is likely to continue. In some areas, such as drills, corpora and concordancing, and adaptive testing, computers equal or even surpass human performance (Sokolik, 2001).

Computers have been used in language testing since the 1980s. At first they adapted traditional paper-and-pencil tests into a computerized medium improving the ease of marking and immediate delivery of a score to the test-takers. Later the Item Response Theory techniques were incorporated into the computerized testing called a Computer-Adaptive Test (CAT). Bugbee (1996) mentioned that it was clear that

testing by computer has arrived. Hall (2000) made a stronger statement by saying that Computer-Based Test (CBT) is the trend of the future and that the paper-pencil, blue book, and fill-in-the-blank models of testing are near the end of their useful lives.

In the US, the CBT has been employed in areas such as occupational selection and large-scale educational testing of university students (McDonald, 2002). The Brigham Young University is one of the leading universities that developed CBTs in the field of second language placement tests and Georgia State University developed a listening comprehension CAT. In addition, Southern Illinois University used an ESL placement CAT (Chalhoub-Deville, 2002). In 1998, the Educational Testing Service launched a computer based version of the TOEFL test in the US and in some countries around the world (Alderson, 2000b, Chalhoub-Deville, 2001).

In the United Kingdom, the British Standards Institution estimates that approximately 1,000 computer-delivered assessments are administered each day (British Standards Institution, 2001). The University of Cambridge Local Examinations Syndicate (UCLES) has developed CAT tests for different purposes and examples are CommuniCAT which is used for academic language programs while BULATS (Business Language Testing Service) is for the business sector. In addition, the Council of Europe has funded a computer-based diagnostic testing project known as DIALANG. Test takers can select the language of administration, of self-assessment, and feedback out of a range of 14 European languages (Alderson, 2000b, Chalhoub-Deville, 2001).

Since the CBT was introduced, there have been many studies which have confirmed the equivalence or the comparability of the modes of testing. The most-often-cited one is the study conducted by Mead and Drasgow (1993). They investigated the effects of the two modes in timed power and speeded tests of cognitive abilities for young adults and adults. They found no difference in equivalence between the two modes. Young et al. (1996) developed a computer-adaptive test of ESL reading comprehension and studied its pros and cons and then compared it with some paper-and pencil tests. They concluded that their computerized test had definite advantages over conventional tests of second-language comprehension. More recently, Choi, Kim, and Boo (2003) studied the comparability of the two modes of language tests in Korea. Their language tests comprised listening

comprehension, grammar, vocabulary, and reading comprehension subtests. Their findings supported the comparability between the two test modes. Pavavijarn (2005) also found that there was no significant difference between the two modes of language testing when reading achievement tests were given to Thai students.

Statement of the Problem

Although many studies have confirmed the equivalence of the CBT and paper-and-pencil (P&P) tests, those studies of score equivalence between the two modes of testing have largely ignored the individual differences of the test-takers (McDonald, 2002). If the mode of language testing has to be changed to a computerized one, test-takers with different characteristics might think and react to this new mode differently. The test-takers' characteristics that are related to the computerized testing might affect the elicitation of the language used by them during the testing. The affected test scores, thus, cannot be claimed to represent the true abilities of the students. In order to minimize those extraneous variables of the test scores, the test-takers' characteristics need to be observed and identified if they are significantly related to the test scores.

Three individual differences or characteristics are reported to have potential effects on test scores (McDonald, 2002). These are computer anxiety, computer attitudes and computer familiarity. These three variables have been studied by many researchers (Shermis and Lombard, 1998; Taylor et al. 1999; Desai, 2001; Kenyon and Malabonga, 2001; Goldberg and Pedulla, 2002). However, very few studies investigated the relationships among those three characteristics of the test-takers or the relationships among those variables and the reading comprehension computer-based testing. The relationships, if found, can be used as significant predictors of students' success or failure in taking computer-based reading comprehension tests.

Therefore, in order to minimize the potential problems of the test-takers it is important to investigate the relationships among those three factors and to see whether those factors can predict the CBT reading comprehension ability of the test-takers. This study, therefore, aims to investigate the relationships among the three test-takers' characteristics and their relationships with the CBT reading comprehension ability.

Purpose of the Study

This study aims at examining the relationships among selected student variables which may predict their success in the CBT reading proficiency. Using the fourth year students of a university as the sample, this study attempts to explore:

1. the relationships among computer familiarity, computer anxiety, and computer attitudes of test-takers of high, average, low, and combined language ability groups,
2. the relationship between each of the variables and the reading comprehension CBT scores of test-takers of high, average, low, and combined language ability groups,
3. the extent to which the three variables individually or in combination predict the reading comprehension CBT scores of test-takers of high, average, low, and combined language ability groups.

Research Questions

This study attempts to answer the following questions.

1. What are the relationships among computer familiarity, computer anxiety, and computer attitudes of test-takers of high, average, low, and combined language ability groups?
2. What is the relationship between each of the variables and the reading comprehension CBT scores of test-takers of high, average, low, and combined language ability groups?
3. To what extent can the three variables individually or in combination predict the reading comprehension CBT scores of test-takers of high, average, low, and combined language ability groups?

Hypotheses

With respect to the research questions, this study is intended to test three main hypotheses. Each of the three hypotheses is tested on four groups of students which consist of three different levels of language ability groups and one combined language ability group. Accordingly, there are a total of twelve sub-hypotheses.

Hypothesis 1. There are significant relationships among computer familiarity, computer anxiety, and computer attitudes of the test-takers of high, average, low, and combined language ability groups at the .05 level.

Hypothesis 1.1: There are significant relationships among the three variables of the test-takers of high language ability group at the .05 level ($H_{1.1}: r \neq 0$).

Hypothesis 1.2: There are significant relationships among the three variables of the test-takers of average language ability group at the .05 level ($H_{1.2}: r \neq 0$).

Hypothesis 1.3: There are significant relationships among the three variables of the test-takers of low language ability group at the .05 level ($H_{1.3}: r \neq 0$).

Hypothesis 1.4: There are significant relationships among the three variables of the test-takers of combined language ability group at the .05 level ($H_{1.4}: r \neq 0$).

Hypothesis 2. There is a significant relationship between each independent variable and the reading comprehension CBT scores of the test-takers of high, average, low, and combined language ability groups at the .05 level.

Hypothesis 2.1: There is a significant relationship between each independent variable and the reading comprehension CBT scores of the test-takers of high language ability group at the .05 level ($H_{2.1}: r \neq 0$).

Hypothesis 2.2: There is a significant relationship between each independent variable and the reading comprehension CBT scores of the test-takers of average language ability group at the .05 level ($H_{2.2}: r \neq 0$).

Hypothesis 2.3: There is a significant relationship between each independent variable and the reading comprehension CBT scores of the test-takers of low language ability group at the .05 level ($H_{2.3}: r \neq 0$).

Hypothesis 2.4: There is a significant relationship between each independent variable and the reading comprehension CBT scores of the test-takers of combined language ability group at the .05 level ($H_{2.4}: r \neq 0$).

Hypothesis 3. The three selected variables can individually or in combination significantly predict the reading comprehension CBT scores of the test-takers of high, average, low, and combined language ability groups at the .05 level.

Hypothesis 3.1: The three selected variables can individually or in combination significantly predict the reading comprehension CBT scores of the test-takers of high language ability group at the .05 level ($H_{3.1}$: at least one $B \neq 0$).

Hypothesis 3.2: The three selected variables can individually or in combination significantly predict the reading comprehension CBT scores of the test-takers of average language ability group at the .05 level ($H_{3.2}$: at least one $B \neq 0$).

Hypothesis 3.3: The three selected variables can individually or in combination significantly predict the reading comprehension CBT scores of the test-takers of low language ability group at the .05 level ($H_{3.3}$: at least one $B \neq 0$).

Hypothesis 3.4: The three selected variables can individually or in combination significantly predict the reading comprehension CBT scores of the test-takers of combined language ability group at the .05 level ($H_{3.4}$: at least one $B \neq 0$).

Scope of the Study

This study is delimited as follows.

1. The variables examined in this study are:

1.1 predictor variables:

1.1.1) computer familiarity

1.1.2) computer anxiety

1.1.3) computer attitudes

1.2 dependent variable: reading comprehension CBT scores.

2. The samples used in this study are limited to fourth-year Thai EFL students studying at the Faculty of Communication Arts of Dhurakij Pundit University, Bangkok, Thailand.

3. This study includes only one format of the reading test and it is the CBT in the multiple-choice format.

4. Six reading subskills are assessed in the reading comprehension test of this study. Other reading subskills such as identify text structure/organization, interpret the meaning of visual/graphic information, etc. are not included in the test of this study.

Assumptions of the Study

1. This study assumes that there are no effects of students' static variable differences, such as sex or race, on the test scores.
2. This study assumes that the students gave valid data when they answered the questionnaire and put their best efforts into carrying out the computer-based reading comprehension test.
3. This study also assumes that the language ability of the samples of the population in this study from the time they finished their last foundation English course to the time when the data was collected was more or less the same.

Definitions of Terms

Test-takers' variables: the dynamic characteristics of the test-takers are computer familiarity, computer anxiety, and computer attitudes. However, the static variables of the test-takers such as sex or race are excluded.

Computer-based testing: the test conducted simultaneously on individual desktop computers in a computer laboratory. The test is a linear computerized test. The web-based testing is not included.

Reading comprehension ability: scores from the CBT which assesses the ability to understand the meanings of words in context, to get the main idea and supporting details, to get the author's purpose and tone, and to make inferences and conclusions.

Computer familiarity: the frequency of computer use by a test-taker, the test-taker's computer related skills, and the perceived computer ability of the test-taker.

The operational definition of computer familiarity employed in this study can be divided into four areas. Firstly, the frequency of use at different places is considered in terms of the number of times that they access at different access points. The three access points, which are included in this study, are home, university, and Internet café. Secondly, the frequency of use for different purposes includes educational purposes, recreational purposes, and Internet surfing. Thirdly, the computer related skills are the number of time computer-based tests are taken and the number of years of computer use. Finally, the perceived ability is a self-evaluation of how good they are when working on computer software and hardware.

Computer anxiety: the fear that a test-taker experienced when interacting with a computer or anticipating an interaction and the fear of a test-taker that relates to the test-taker's competency both to use and to learn something new about the computer.

The term computer anxiety in this study includes 1) the emotional fear of individuals who use computer; 2) the emotional fear when they think about using computers; 3) their self-perceived ability to use a computer; and 4) their confidence to learn something new about the computer.

Computer attitudes: individuals' cognitive, affective, and behavioral components that relate to the computer.

The cognitive component represents the perceptions about the usefulness or the necessity of the computer in three different settings: at work, in daily life, and in the educational settings. The affective component represents three different levels of feelings toward computers which are that the test-taker likes, does not like, or is aggressive or hostile toward computers. The behavioral component represents the behavior consistent with the attitudes which can be described as "enjoy using the computer" or "avoid using the computer".

High language ability group: a group of thirty students who are at the top of the sample list. The sample list consists of 120 students who are randomly selected from the population using the simple random technique. The students with higher Foundation English courses' average grade points are listed at the top of the list and students with lower average grade points of Foundation English courses are at the bottom of the list.

Average language ability group: a group of thirty students who are in the middle of the sample list. Fifteen students between the high language ability group and the average language ability group are excluded from the study.

Low language ability group: a group of thirty students who are at the bottom of the sample list. Fifteen students between the average language ability student group and the low language ability student group are excluded from the study.

Combined language ability group: a combined group of sample students from high, average, and low language ability groups.

Significance of the Study

The results from this study are beneficial in various ways.

1. It may contribute to theoretical knowledge in the area of language assessment regarding the test-takers' characteristics and the reading comprehension CBT and provide more information about the fairness in language testing.

2. It may urge test developers and language instructors to be aware of those variables that are related to the CBT of Thai students. Accordingly, language instructors who are aware of these facts may be able to help students to prevent or minimize the negative effects of such variables on the computerized tests.

3. It may alert Thai university language instructors, proctors, and others to prepare themselves for the arrival of the CBT such as finding ways to gain more knowledge about computers or computerized tests.

4. It may provide information for educational practitioners about which variables should be taken into account prior to other variables.

5. It may also encourage an increase in the utilization of the computer laboratories of universities for testing purposes (since at present they are mainly used for instructional purposes).

Overview

Chapter One sets out the theoretical background that forms the foundations of this study. It includes statement of the problems, the purpose of the study, the research questions, and hypotheses. It also contains a description of the scope of the study. This chapter then addresses the assumptions of the study, the definitions of terms, and the potential significance of the study.

Chapter Two reviews studies on four theoretical aspects which are: 1) reading comprehension, 2) language testing, 3) test-takers' computer related variables, and 4) the research approach and statistics. Reading comprehension reviews theories concerning both the reader and the text. Language testing covers studies about the test task and test-takers' characteristics, the reading tests, and the computerized tests. The review of studies on test-takers' variables includes research on the three independent variables of this study. Finally, the research approach and statistics

explores theories on correlational studies involving correlational analysis and multiple regression analysis.

Chapter Three deals with the procedures of this study in determining the relationships among selected variables. Data on the samples are provided. Also the construction of the research instruments is described together with an explanation of the data collection process. Finally, the data analysis procedure which includes the validation of the instruments and testing of the hypotheses is introduced.

Chapter Four presents the results of the data analysis. Firstly, the descriptive statistics are presented with respect to the language ability groups and then the results from the correlational study. The results from the correlational analysis are reviewed according to the language ability groups followed by the results from the multiple regression analysis with respect to the language ability groups. The final part of this chapter presents the results from the analysis of the answers to the open-ended question in the questionnaire (rating scale).

The last chapter gives a brief summary of this study together with its findings and a conclusion. Some guidelines for the future use of the CBT for language assessment among language instructors, test developers, proctors, and people concerned are given in the implication section. Finally, recommendations for future research are provided for researchers in this field who are interested in exploring a new path that is related to this area or in replication of this study in other contexts.