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The construction of a Business English curriculum, relevant to the workplace, and making use of word processing in place of handwriting

Ladawan Wattanaboot
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**The construction of a Business English
curriculum, relevant to the workplace, and
making use of word processing in place of
handwriting.**

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Ladawan Wattanaboot

**This thesis is presented as part of the requirements
for the award of Degree of
Doctor of Philosophy**

February 2004

**School of Education
Faculty of Community Services, Education and Social Science
Edith Cowan University**

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ABSTRACT

Since the Thailand economic crisis in 1997 there has been a sense of urgency expressed in many areas of the society that businesses must modernize their practices and focus more on international trade and communication. Two important components of the changes required are better use of Information and Communication Technologies (ICT) and better use of the English language for business communication. In the education arena this has translated into the need to provide graduates with better skills in the use of English and computers. These two skill areas come together naturally in the study of Business English. In Thailand Rajabhat Institutes have a major responsibility for the training of business professionals and for the improvement of local communities. Therefore research is required to determine how best Thai Rajabhats may improve the provision of Business English to better service the needs of employing organizations and the local community. This study set out to conduct research to address this area of concern.

The study considered an undergraduate Business English subject and set out to redesign the curriculum and pedagogy to better meet the needs of employers, the community and the students. A survey of employers determined that graduates needed improved English writing skills with authentic documents and improved skills in using ICT for document production and delivery. As a result the curriculum was redesigned to require students to compose a range of appropriate business documents using word processing as a tool to help them improve the quality of their documents and their writing skills. In the clerical and middle-management areas of most organizations in Thailand, the use of computer technologies for document production and transmission has developed to a critical level. Without these skills many workers find themselves unemployable. Research was then conducted to determine the effectiveness of the new curriculum and the value in using the word processing to support the pedagogy.

The research was conducted using 58 students who were majoring in accounting and marketing at Rajabhat Institute Rajanagarindra, Chachoengsao, Thailand. The students were split into two groups with one group completing all activities using computers and the other using handwriting. The particular focus was on the effect of using word-processing in place of handwriting on Business English writing skills and the quality of documents produced. The instruments used in the study consisted of three writing quality tests, a range of questionnaires, and unstructured interviews. A new course book

and activity book for the students to use was developed from the analysis needs of the workplace and the general course description of Rajabhat curriculum.

The writing quality tests were rated by three assessors using an analytic instrument. T-tests, Effect Sizes, ANOVAs, and a repeated measures analysis were used to analyse these data in order to investigate significant differences between the two groups and between administrations of the tests. In addition questionnaires and interviews were used to collect qualitative data to investigate students' perceptions and attitudes towards the course, learning English, using computers and using computers to learning English.

The study found that overall the documents produced by both groups of students at the end of the course were of higher quality than those produced prior to commencement. Those produced using the word processor were generally of a higher quality both at the beginning and end of the course although this did not translate into higher quality handwritten documents. This improved quality was more than visual aesthetic associated with typed text. The writing skills of students in both groups as measured by the quality of their test documents improved significantly over the period of the course. This together with the evidence from the interviews and surveys indicated that the new curriculum had been successful in better meeting the needs and expectations of the students and their prospective employers.

The greatest improvement in Business English writing skills probably related to the use of word-processors concerned layout, neatness, punctuation and paragraphing where it is likely that students developed a reliance on built-in tools such as grammar checker, styles and paragraph formats. When these tools were not available the gains were lost. This effect was not as apparent for the other areas of writing skill that were measured probably because of the short time of the intervention and the lack of development of skill and understanding in the use of the more sophisticated tools available in the word processor.

Almost all of the students had positive attitudes towards the computer use and the new curriculum. The students who had used computers before believed that this had helped them to produce better documents and maintain interest in the activities, and that they were more likely to use the word processor to support work in other units of study. It was clear that employers expected graduates to have better and more relevant English writing and computer literacy skills than had previously been the case. The new curriculum appeared to deliver this but required the Rajabhat to increase its investment

in the course to facilitate increased access to computers by students and increased skills for its instructors. The study also suggests the need for further research to extend the results to other Rajabhats and for more long-term studies starting with a follow-up of the students in the study after they have found employment.

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TABLE OF CONTENTS

	PAGE
USE OF THESIS	ii
DECLARATION	ii
ABSTRACT	iii
ACKNOWLEDGEMENTS.....	vi
TABLE OF CONTENTS.....	viii
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xiii
Chapter One INTRODUCTION.....	1
Background of the Study	1
Significance of the Study	3
Business English at Rajabhat Institutes.....	5
Preliminary problems for Rajabhats.....	6
Rationale for the Study	8
Purpose of the Study	10
Research Questions.....	10
Supplementary Questions	11
Definitions of Terms.....	11
Limitations of the Study.....	12
Summary	13
Chapter Two LITERATURE REVIEW.....	14
Business English and Computer Use in Thailand	14
Providing Computer Literacy	16
Providing English Proficiency	17
Business English Writing in the Workplace.....	19
Preparing Students for the Modern Thai Workplace	20
Creating a Framework for Business English Courses	22
The Needs of Writing for Business English.....	24
The writing process	27
The Difference Between Business English and General English.....	30
Understanding the business writing process.....	31
Some Approaches for Teaching Business English	32
Teaching English Writing as a Second Language (ESL)	33
Teaching Writing Skills in Business English	34
Using Computer in Teaching ESL Students.....	35
Using Word Processing to Teach Writing	36
What is a Word Processor?.....	37
The Writing Process with Word Processors	38
The benefits of using word processors	40
The role of word processing in a writing classroom.....	46
Using the Word Processor in an ESL context	47

Measuring Writing Quality	49
Attitudes and Computer Use	51
Attitudes towards using computers and writing	51
The impact of computer use on attitudes.....	53
Adult learners with computers	53
Summary	55
Chapter Three METHODOLOGY	56
Background to Methodology.....	56
Business English at the Rajabhat Institute Rajanagarindra Chachoengsao.....	56
Research Design	57
The Population and Samples.....	58
Sample of students	58
Sample of executives from potential workplaces	59
Word processing treatment.....	60
Handwritten treatment.....	60
The co-researcher	60
Data Sources and Instruments.....	61
Executive Questionnaire.....	63
Executives Interview	63
Background Questionnaire	64
Computer Attitude Scale (CAS)	64
Writing Quality Tests	65
Curriculum Questionnaire	69
Treatment Questionnaire	70
Student Interview	70
Overview of Procedure	71
Survey of Workplaces	72
Development of New Curriculum.....	72
Pilot Study	73
The Main Study.....	73
Provision of computer experience for control group	76
The Data Analysis	76
Summary	77
Chapter Four RESULTS.....	78
Data Collected from Executives.....	78
Executive Questionnaire Data	78
Executive Interviews.....	83
Conclusion from the Data from the Executives.....	86
Data Collected from a Sample of Students	86
Background Questionnaire.....	86
Computer Attitude Scale (CAS Questionnaire)	90
Writing Quality Tests	93
Pretest	94
Posttest 1	96
Posttest 2.....	97
Comparisons between Pretest and Posttests	99
Univariate Analysis of Variance on Posttests.....	101
Repeated measures analysis for the three writing tests.....	103
Correlations with data collected before intervention	106
Summary of writing quality data analysis.....	106

Curriculum Questionnaire.....	107
Treatment Questionnaire.....	109
Student Interviews.....	113
Responses from Treatment interview group.....	114
Responses from Control interview group.....	116
Main Points from the Interviews.....	118
Other Data Collected	118
Informal Interview of Control Group Teacher	118
Informal Observations of Class	119
Informal interview with English lecturers from other Rajabhats	119
Factors affecting Posttest scores.....	121
Summary of Results.....	122
Chapter Five DISCUSSION.....	123
Research Question One.....	123
Research Question Two	127
Research Question Three	130
Supplementary Research Questions	133
Supplementary 1	133
Supplementary 2	135
Supplementary 3	136
Supplementary 4	138
Summary of Discussion	139
Chapter Six CONCLUSION.....	141
Summary of Study.....	141
Synthesis of Findings.....	143
The impact of using a word processing on the quality of business documents.....	143
The Impact of word processing on writing skills.....	145
The relative advantage of using word processing in a Business English course...	146
The response to the new curriculum	149
General Conclusions.....	150
Limitations of Study	150
Implications of Study.....	152
Implications for Educational Policy.....	152
Implications for Teaching Practice	152
Recommendations for Further Research	153
Conclusion	154
REFERENCES	141
APPENDICES	166

LIST OF TABLES

		PAGE
Table 2.1	Difference between business English and general English	30
Table 3.1	Names, purpose and descriptions of data collection instruments used with the sample of executive.	61
Table 3.2	Names, purpose and description of principal data collection instruments used with the sample of students.	62
Table 3.3	The five general categories of the Analytic Writing Quality Scale modified from the AWQS of Canale et al. (1988).	67
Table 4.1	A summary of some data from the <i>Executive Questionnaire</i> concerning the backgrounds of the executives and their companies.	79
Table 4.2	Frequencies of responses by the executives to Items 4 to 12 on the <i>Executive Questionnaire</i> .	80
Table 4.3	Frequencies of responses from all students for Items 1 to 3 on the <i>Background Questionnaire</i> .	87
Table 4.4	Frequencies of responses from all students for Items 4.1 to 4.7 on the <i>Background Questionnaire</i> .	88
Table 4.5	Summary of frequency of responses collected from all students for Items 5 to 9 on the <i>Background Questionnaire</i> .	89
Table 4.6	A summary of some descriptive statistics of the data from the CAS Questionnaire for both treatment and control groups before starting the course and after finishing the course.	91
Table 4.7	Summary of correlation analysis between selected items of the <i>Background Questionnaire</i> and the <i>CAS Pretest</i> and <i>Posttest</i> of the treatment group.	93
Table 4.8	Summary of some descriptive statistics for the <i>Pretest</i> data for both treatment and control groups and a comparison of means using independent samples T-test.	95
Table 4.11	A summary of some descriptive comparative statistics from an analysis of the data from the first posttest for both the treatment and control groups.	97
Table 4.13	A summary of the statistical analysis of the data from the second posttest for both treatment and control groups.	98

Table 4.15	A comparison between the mean scores on the three writing quality tests for the treatment group.	99
Table 4.16	Comparison between the mean scores on the three writing quality tests for the control group.	101
Table 4.17	Univariate Analysis of Variance for the first Posttest with retyped rating of Pretest as covariate and treatment or control group as main effect.	102
Table 4.18	Univariate Analysis of Variance for the second Posttest with retyped rating of Pretest as covariate and treatment or control group as main effect.	103
Table 4.19	Frequency data for control (c) and treatment (t) groups on the Curriculum Questionnaire.	108
Table 4.20	Summary of some descriptive statistics data collected from the treatment group from for Item 2 and 3 on the <i>Treatment Questionnaire</i> .	111
Table 4.21	Frequencies collected from treatment group for item 4 using the <i>Treatment Questionnaire</i> .	112

LIST OF FIGURES

		PAGE
Figure 2.1	Course design process adopted to develop the new Business English subject	23
Figure 2.2	A model for the general writing process	28
Figure 3.1	Diagramatic representation of the procedure used in the study to collect data	71
Figure 4.1	Computer Attitude Scale (CAS) scores for all students prior to start of course.	92
Figure 4.2	Frequency distribution on the Pretest QM category, both groups combined (retyped).	94
Figure 4.3	Frequency distribution on the Posttest 1 QM category, both groups combined.	96
Figure 4.4	Frequency distribution on the Posttest 2 IW category, both groups combined.	98
Figure 4.5	Estimated Marginal Means for SLU for treatment and control groups.	104
Figure 4.6	Estimated Marginal Means for SWD for treatment and control groups.	104
Figure 4.7	Estimated Marginal Means for ER for treatment and control groups.	105
Figure 4.8	Estimated Marginal Means for IW for treatment and control groups.	105
Figure 4.9	Estimated Marginal Means for QM for treatment and control groups	106
Figure 4.10	Frequency graph for responses to Item 1 of the Treatment Questionnaire by students in the treatment group	110

Chapter One

INTRODUCTION

This study was concerned with improving the relevance and overall quality of Business English courses in Thailand Rajabhat Institutes. The main focus of the study was to consider whether using computers with word processing software in place of handwriting in a Business English subject lead to the development of English writing skills more suited to the needs of modern Thai office workplaces. The study began by considering the connection between the academic curriculum and the needs of Thai workplaces, and then developing objectives, tasks and formative and summative evaluation for a Business English subject. In implementing this new curriculum the value of integrating the use of word processing software in place of handwriting was considered and evaluated by conducting a comparative trial. This chapter provides the background, the significance, the rationale, the purposes, research questions, definitions of terms, the limitations of the study, and concludes with a description of the structure of the remainder of the thesis.

Background of the Study

Concerns have been consistently raised by educators, employer groups and politicians in Thailand that a comparatively large proportion of undergraduate students leave the education system without adequate English language proficiency or computer literacy. With the technological modernization of Thai workplaces, employment opportunity is reduced for those with inadequate English language and computer use skills. Prospective employers are concerned that the English language and business courses provided for students do not adequately prepare students for these workplaces and that the teaching strategies used are inadequate (Beaufort, 1999; Lee & Lo, 1994; Lopez-Valadez, 1989; Pope, 1993; Wongsothorn, 1998). Also employers believe that there needs to be more emphasis in such classes on practical activities directly related to workplace processes, rather than academic theory. In Thailand, Rajabhat Institutes have a key responsibility for the training of professionals to enter these workplaces and it is in Business English language classes at these institutions that these two proficiencies come to the fore. It is therefore necessary for those responsible for such classes to consider these calls for change.

The Rajabhat Institutes in Thailand are independent, regionally based higher education institutions that were formerly teacher-training colleges. The Office of Rajabhat Institutes Council (ORIC) is a department under the Ministry of Education with responsibility for the overall administration of system-wide concerns for all 41 Rajabhat Institutes, six in Bangkok and 35 in other provinces. Rajabhats provide educational programs at all degree levels with more than 200 curriculum majors focused on service to the local community. They have diversified to offer degree programs for over 110,000 students within the faculties of Education, Science and Technology, Humanities and Social Sciences, Sciences Management and Educational Technology and Innovation (Cross & Wuthisen, 2001). They are responsible for a comprehensive range of pre-service and in-service teacher training and for the operation of many other training programs designed to meet the needs of a range of professions and the general public. Their programmes are supported by national government budget allocations (Office of Rajabhat Institutes Council, 1998).

Since 1995, there have been major changes to Rajabhats in terms of their institutional structure of administration, autonomy and curricula. More recently the role of the Rajabhat Institutes has focused on local communities and regional level development. The 1995 Rajabhat Institute Act B.E 2538 states that, “Rajabhat Institutes shall be graduate educational institutes for local development with the objective of providing academic and high level vocational education; conducting research as an academic service to the general public; improve, transfer, and develop technology...” (Office of Rajabhat Institutes Council, 1998, p. 2). In addition, the National Education Guidelines suggest Rajabhats should focus on developing problem solving skills related to real work experience. It is therefore essential for the institutes to foster cooperation between themselves and stakeholders in the community.

The Ninth National Economic and Social Development Plan 2002-2006 (Office of the National Economic and Social Development Board, 2000) outlines the argument that advances in information technology provide new opportunities and challenges for sustainable development. This continued support for the position of the earlier Eighth Thai National Economic and Social Development Plan 1997-2001 (Office of Prime Minister, 1997) which argued that both the government and the private sectors must provide education that is appropriate to the needs of each particular group of students and their community. Further, the Ninth National Economic and Social Development

plan particularly emphasized human resource development as necessary for sustainable development. As a result, there has been a concerted effort to upgrade the training and general education of the Thai population by focusing on Rajabhat Institutes located around the country. This has made it necessary to direct the Rajabhat Institutes to the needs of a wider section of the population, not just teachers, as was their role in the past.

Rajabhat Institute Rajanagarindra Chachoengsao, Thailand, which was the setting for this study, serves an area called the Thai Eastern Seaboard which includes three provinces: Rayong, Chonburi and Chachoengsao (shown on Appendix A). In order to respond to the educational requirements of the local community, 11 different centres provide educational services both in pre-service programs on weekdays classes and in-service programs on weekends. The Thai Eastern Seaboard is regarded as an area with opportunities for investment and thus in this region private sector spending in industries, with government support, has been substantial. Private business has been very active in projects involving the development of numerous industrial estates, a refinery, textile, plastic and steel manufacturers, a power station and international harbor.

The underlying philosophy of the Rajabhat Institutes is, therefore, to support sustainable community development. For example, Rajabhat Institute Rajanagarindra must develop as an institute of higher education for community development by providing a broad curriculum focused on the needs of the local community. Therefore educational programmes need to respond to the requirements of local employment situations and offer flexible education programmes for members of the local community. These requirements provided impetus for the present study.

Significance of the Study

The present study was focused on Business English writing for business communication in Thai workplaces, an area in which few studies have been conducted. It considered the need for English language proficiency and computer literacy in these workplace contexts and how best to provide Business English education for those seeking employment in these workplaces. Important factors to consider were the curriculum, the materials used, the teaching methodology employed together with the needs and expectation of these workplaces.

A number of important issues in Thailand informed the present study. Firstly, the use of English language in the country where it is a foreign/second language creates problems for inclusion of employees in the international economy that increasingly requires employees to be more expressive. Secondly, an increasing amount of international business communication in Thailand occurs with the use of ICT requiring the combination of computer use skills and English language skills. Thirdly, a number of reports have shown that Thai institutions have failed to prepare students adequately for these workplaces. Fourthly, the rapid development in technology over the last few years has made it increasingly difficult for many institutions and language teaching professionals to keep up-to-date with the content and potential for integration of computer support for learners. Finally, there has been an increasing requirement for academics to include input from employers and other stakeholders in the design of curriculum and learning materials to increase the alignment between what is taught and the practical requirements of workplaces.

Rajabhat Institutes throughout Thailand are considered by the national government to be a valuable higher education resource with one of their key responsibilities to lead development in the local community. The Rajabhats pride themselves on efficiently serving Thailand with programmes in many areas of education and training. They aim to provide students with the highest standard of teaching, to provide qualifications that meet the expectations of the local community, and to ensure that students obtain the experience they need for their future careers. This includes providing pre-service training, retraining and life-long learning courses that must respond to local employment opportunities.

This refocusing on the needs of the modern workplace has led to a recognition that improvements are needed in Business English education in Rajabhat Institutes including the use of more competent instructors, a more relevant curriculum and the implementation of technological support for learning. According to Ethnographic Delphi Futures Research (EDFR) by Akaraborworn, Jirakulsomchok, Teeraputtigunchai, and Nakaro (2001) conducted on the behalf of the Rajabhat Institute Phuket, there were a number of ways in which the 1999 National Educational Act B.E. 2542 would affect the administration and academic management of Rajabhat.

All Rajabhat Institutes must sort out the needs of the community and do self-study to realize their capability. The information received must be applied to the policy making of the institutes.

All Rajabhat Institutes must allow the community to participate in the areas of policy making administration and academic management.

Each Rajabhat Institute must have the freedom to create the structure of the basic subjects for each curriculum by finding out the needs and character of each community.

All Rajabhat Institutes must support their students' efforts to learn and acquire skills in information technology. (pp. 2-3)

Situated in the Thai Eastern Seaboard area, Rajabhat Institute Rajanagarindra, Chachoengsao is expected to produce students who have skills to work in a modern industrial community. Apart from the usual responsibilities of a higher education institute, the Rajabhat is also responsible for providing modern practical experience using up-to-date equipped workshop environments. Therefore in Business English education this would mean providing experience in typical business communications, particularly using written documents produced using computer systems. The inclusion of the use of computers in Business English would fulfill two of the six stated functions of the Rajabhat: the use and updating of advanced technology to enhance instruction; and the improvement of academic efficiency and the provision of academic services to the community (Ministry of Education, 1995).

The curricula need to be based on an analysis of actual workplace situations. Business English is one area of the curriculum, which addresses these needs of both community and the workplace. Those who enrol in Business English subjects are new undergraduates, novice employees, experienced employees, junior managers, employees who are moving into middle management and local administration jobs. Therefore addressing their varied needs to develop Business English communications skills is not a trivial task. This study provided an important opportunity to consider how this may be done. As such its results should assist other Business English educators in Thailand who are faced with a similar dilemma. In particular it may assist them in considering the use of computers in Business English education and strategies for increasing the relevance of instruction to local workplaces.

Business English at Rajabhat Institutes

Business English is taught in Rajabhat Institutes as a compulsory subject for students who are majoring in marketing management, accounting, human resources

management, and tourism, in the Faculty of Management Sciences. It is also an elective subject for students who are majoring in English for both the Bachelor of Arts and Bachelor of Education, in the Faculty of Humanities and Social Sciences. It is taught to a wide range of professional people as well as people still in full-time education preparing for a business career. Graduating students find employment in commercial, research, and technical jobs at middle management levels. Therefore, Business English must incorporate the variety of workplaces in the Thai companies to match students to workplaces.

Business English subjects are concerned with learning the processes of writing business documents in English including a variety of letters, minutes, e-mail and faxes, memos and short reports, application forms and resumes. Careful selection of books, supplementary materials and teaching methodology is needed for the subjects to match the needs of the relevant workplaces. Chayanuvat (1996) stated that teachers are providers who manage the lessons and activities bringing to class appropriate materials. It is the teacher's duty to cope with diversity such as interest, needs and language abilities. However, not only do students need English for business communication activities, but also they need to use computer technology for many of these activities to match modern practice within these workplaces. Thus, the inclusion of the use of computer technologies particularly for word processing in Business English subjects in Thailand is necessary to provide relevant practical experience for students entering this workforce.

Preliminary problems for Rajabhats

Rajabhat Institutes need to face a number of critical problems in the delivery of Business English programmes. Firstly, a major problem for graduates in Business Management from the Rajabhat Institutes is that they have difficulty finding employment and earn lower wages than other university students because they do not have adequate English proficiency and computer skills.

Secondly, the educational programme must support the Thai government's strong commitment over the past decade to increase educational opportunities for local communities. The recent economic crisis and social problems have deprived those in local communities of higher education opportunities, forcing them to seek work

elsewhere. As a result Rajabhats have to produce graduates that demonstrate a higher level of competence in English and the use of computers.

These problems are exacerbated in Business English with a third critical problem that the students typically do not have the pre-requisite knowledge. Most students in Rajabhat Institutes come from general education and some of them come from informal education, so very few students have reasonable experience in using computers or typing competence. This is a liability in Business English education, which is based on the production of different types of documents and the use of appropriate language for business communications. Typically in class this is done using handwriting but in the workplace word processors are used requiring reasonable typing skills. Rajabhats provide little access to and support for computer technology, even just for word processing.

This leads to a fourth critical problem in that few teachers have the competence to provide relevant learning programs in Business English, particularly to include the use of computers. English instructors from the Rajabhat Institutes are generally inexperienced in the business area as most do not come from a business background but teach in Business English because they taught general English language.

A fifth critical problem is that students typically have had inadequate earlier teaching of English because many Thai English teachers use traditional teaching strategies. For example, they use inappropriate evaluation techniques that tend to focus only on certain aspects of business English such as grammatical errors and vocabulary spelling. Also there is a dearth of relevant and up-to-date teaching materials for the Thai context leading to the use of irrelevant and poorly designed materials. This traditional approach has considerable inertia as emphasized by Kaewdang (1999) in his descriptions of this situation.

... our education system has long emphasized 'chalk and talk' pedagogy, rote learning and placing an importance on school education with teachers as the centre of teaching-learning activities. Even worse, the knowledge provided was not relevant to the needs of learners and community. (p.1)

Finally, while computer technology is becoming increasingly important in Thailand workplaces, the government sector provides less support than the private sector for high level technology in education institutions because of its limited budget. This phenomenon has even been observed in countries such as Australia as evidenced in the

following statement, “Part of the dilemma is that schools are now technological poor, compared to the technological rich communities they serve” (ACCE Affiliated Groups, 2000). This dilemma is even more noticeable and critical in Thailand.

When considering this array of critical problems it is clear that the present Business English subjects at the Rajabhats are inadequate for preparing students for modern Thai workplaces, with a likely outcome that many graduates will be unemployable. Therefore it is crucial that the Rajabhats address these problems of out-dated teaching materials and techniques, the lack of use of appropriate technology and the poor English language and learning backgrounds of students. This study aimed to specifically address these problems.

Rationale for the Study

The use of computers in the workplace is now quite common for many Thais. But the degree to which computers are used in educational institutions varies considerably. Computers are not pervasive in the study of Business English as a Second Language (ESL) and there is debate over how much computer technology is appropriate or beneficial in a writing class. Although college students, business people and professional writers use this technology regularly to facilitate their writing tasks, many educational institutes still have not embraced the technology. Clearly this situation will not adequately prepare Thai students for real world demands. This study considered how the use of word processing in a Business English subject may respond to this challenge.

Initially the use of a computer in a business English class would be for word processing to replace handwriting. Since the preparation of business documents requires the use of accurate, clear, concise and courteous language, the use of word processors would clearly be beneficial. At the same time such use should improve basic English writing skills and text composition providing students have the rudimentary skills in using computers. This dual-rationale calls for an entirely new way of looking at the development of Business English studies in Thailand. There is a relationship between why and how technology should be integrated into the educational arena, what students should be taught and how to train educators to use technology (Wilson, 1995). However, before education incorporates the new electronic media, educators need to discern what is different about the new technology and what those differences mean in

terms of cognition, learning, teaching and education in general (Kaput, 1992). This process should lead educators to understand the role of technology in education and to achieve community and national goals.

This study assumed an understanding of, and support for, this dual-rationale for incorporating computing technology use into Business English for Thai students. This provides a basis for interpreting the curriculum and making decisions about the roles and activities students might undertake to enhance their learning. There also needed to be an understanding of the relationship between academic curriculum and practical experience that connects with community and national goals. Further, students need to understand what will help them contribute to and participate in the community and workplace. Stakeholders also need to provide educators with a context in which to interpret the workplace. They should ensure that educators are given the opportunity to develop students' skills to participate in work in their community. This makes academic studies more relevant to the communities and more valued by the stakeholders.

Davis (1999) stated that computer competency has become a requirement for both higher education and private industry. In Thailand, the plan is to provide all students with an adequate level of computer literacy and this should be evident in Rajabhat Institute curriculum. Core computer competency skills have become a requirement for many Thai schools, colleges and universities. Thai educators are becoming more interested in a dramatic escalation in the use of computer technology in education, and how it can enable students to engage successfully in academic activity and the workplace. Therefore, this technology also needs to be integrated into the language classroom, in particular, for Business English subjects.

The main focus for this study was to develop Business English activities using word processing and to investigate their affects on the development of student writing skills in terms of meeting the expectations of potential workplaces. Further, the researcher also investigated whether using computers would affect students' attitudes towards study in Business English. The study provided a tool for Business English instructors to reconsider their current teaching practices. Typically lessons have concentrated on activities associated with correspondence, memos, resumes, e-mail and faxes, and job applications and so on, although some lessons also included social contact and how to

read graphs. However the curriculum has still been heavily biased towards instruction on grammar, sentence structure and vocabulary most relevant to these documents.

To produce graduates who will be successful in the marketplace, Business English needed to develop a new curriculum focusing on the skills, knowledge, strategies and understandings required for the workplace. New lesson activities needed to be developed which were more authentic and new teaching strategies had to be implemented, particularly those using the computers for word processing. These students would then develop their computer literacy and be more confident, creative and productive users of the new technology and more likely to find work in the modern Thai workplace. It was also essential the new curriculum produce with constructive feedback on their tasks, in particular concerning grammatical errors, the styles and structure of business documents, language use, and the layout of each type of document.

Purpose of the Study

The purposes of this study were to:

- identify improvements to a Business English subject which would allow students to develop writing skills relevant to the modern Thai workplace;
- compare the achievement of Thai students using word processing in Business English to those using handwriting; and
- investigate the attitudes of Thai students towards the Business English subject and the use of computers to support the subject.

Research Questions

The present study focused on the following specific questions:

1. Will using word processing in place of handwriting in a Thai undergraduate Business English subject improve the writing skills of students of a Rajabhat Institute?
2. Will using word processing in place of handwriting in a Business English course at a Rajabhat better meet the expectations of Thai workplaces?

3. What are the advantages and disadvantages of using word processing in a Thai Business English subject?

Supplementary Questions

1. What is the impact on Thai students' business writing processes of the use of word processing in place of handwriting?
2. Does the quality of the business English documents produced improve when Thai students use a word processor?
3. What attitudes do students have towards the business English subject, word processing and using computers?
4. Do the business English documents produced, and English language skills developed, meet the expectations of the modern Thai workplace?

Definitions of Terms

The following terms are used throughout this research report.

Word Processor: the software allowing computing hardware to store, manipulate and output pieces of texts.

Workplace: an environment provided by an organization for employees to conduct their work

Executive administrators: those who make executive decisions in a workplace.

Business English lessons: the lessons that the researcher produced to be relevant both to the curriculum and to the needs of the workplace.

Stakeholders: employer groups, unions, professional associations and educational councils, school administration teams, educators, trainee teachers, parents and students.

Handwriting: the writing that the student produces by hand

Eastern Seaboard: the three provinces that located on the seaboard eastern part of Thailand. They are Chonburi, Rayong and Chachoengsao.

Rajabhat Institute Rajanagarindra: a government educational institute under the Ministry of Education located on the eastern part of Thailand, provides higher education for students such as associate degrees, bachelor degrees in any areas, postgraduate diplomas and masters degree in Education.

Institutions: school, colleges, institutes and universities

Limitations of the Study

There are a number of limitations to the present study that must be considered. First, this study has focused on Thai students of Business English in a Rajabhat Institute. Secondly the study has only considered the introductory use of word processing software.

The study was set in a particular Thai context and therefore the findings are only likely to be relevant to similar Thai contexts. Students are using English as a Second Language within a Thai cultural context and therefore it is unlikely that the findings will apply to contexts outside Thailand. The Business English focus leads to very specialized use of English within the second language context and, therefore, findings are not likely to apply to other second language contexts. Rajabhat Institutes have a particular role in Thai society and attract particular types of students and therefore findings are only likely to apply to similar Rajabhat Institutes.

The use of word processors to support writing skill development is pervasive in many societies but Thailand does not have a long history of using word processing software to support writing in English as a Second Language. Even through the use of computers to facilitate Thai education has been reported since 1964, the first computer use was related to storing data, computer programming and the study of hardware (UNESCO, 1984). Intrapairot (1991) reported that in Thailand there were not enough computers for students to practise individually so they always shared in groups of more than two students. She added that the lack of skillful instructors was also a problem. She went on to comment that the use of word processing software was necessary because most companies and government offices used this to produce documents. Thus, this research is unique in the Thai context and while it has been informed by earlier non-Thai research, its findings are likely to be unique to this Thai context. While some consideration of general attitudes towards computers was embedded within the research

it is only relevant to the introductory use of word processing for the production of business documents in English and not creative writing or other computer-supported activities.

Summary

Since the Rajabhat Institute Act of 1995, Rajabhats, as institutes of higher education, have been held accountable for preparing students for local workplaces environments. In order to respond to the National Education and Rajabhat Institute Council policy, the curriculum offered by Rajabhats must apply modern theories of learning and training in an authentic workplace environment context to contribute to the development of the local community. The present study involved a review of the curriculum for a Business English subject and an investigation of the outcomes of using computers to support writing activities within the subject. The main objective of the new curriculum developed was to improve the quality of business English writing for application in modern Thai workplaces. In so doing it was intended to improve the alignment between what is taught in higher educational institutes and what is expected at work. The next chapter reviews the key literature that underpins such endeavour, this is followed by a chapter outlining the methodology of the study, the results are then presented in chapter four, followed by a chapter discussing these results in the light of the research questions, and finally conclusions and implications are drawn in the last chapter.

Chapter Two

LITERATURE REVIEW

This chapter presents a summary of the literature reviewed for the current study and provides a basis for the conceptual framework that underpins the methodology and analysis of the data. The study was concerned with improving Business English education in a Thai Rajabhat through the use of computers, principally using a word processor to support written communication of relevance to the modern Thai workplace. As such it was necessary to review research in a number of fields to inform the study. Ten main fields were identified: Business English and Computer Use in Thailand, Business English Writing in the Workplace, Creating a Framework for Business English Course, The Needs of Writing for Business English, The Writing Process, Teaching English Writing as a Second Language, Using Word processing to Teach Writing, Measuring Writing Quality, Attitudes and Computer Use, and Adult Learners with Computers.

Business English and Computer Use in Thailand

International trade has formed a critical and increasingly important component of Thailand's economy over recent years (Eastmond & Soulier, 1999). During the period from 1980 to 1999 Thailand's industrial exports increased from 25% of the gross domestic product (GDP) to more than 60%. To stay competitive in the international market, Thai leaders have felt the need to upgrade business to incorporate modern international practices. Central to this has been the importance of the use of the English language and computers in communication for international trade. Educational institutions play an important role in improving the skills of graduates to contribute more effectively to Thai industries involved in the international marketplace. This is echoed by Kaewdang (2000) in the 1999 Thai National Education Act when he states that education is the foundation of sustainable development for the country. Kaewdang believes that education provides the foundation skills to prepare students for the workplace.

Before the economic crisis of late 1997, Thailand had begun to make use of computer technology in higher education. English language education had also been incorporated more widely in education (Kirtikara, 2001). The Ministry of Education (MOE) had

expanded educational services to provide for all people throughout the country. The use of the English language and the use of computer technology had been increasingly encouraged and promoted throughout education systems.

During the economic boom of the late 1980s until the economic collapse of 1997, Thailand had a 'brain drain' of quality workers from public universities into the commercial private sectors. But it was felt that at that time graduate profiles were inappropriate for the requirements of the marketplace and the commercial sector. In Thailand, the commercial sector has traditionally viewed universities and higher educational institutions as solely responsible for producing skilled graduates for their professional workforce.

Therefore, it was believed that self-study materials particularly using electronic media such as computers should play an increasingly significant role in the educational system at all levels in Thailand in order to satisfy the demands of future employers (The National Identity Office: Office of the Prime Minister: Royal Thai government, 1995).

However, it was not until after the economic crisis, that the political leaders in the government of Thailand refocused on being economically competitive in the Southeast Asian region (Gibson, 1998 cited in Miller, 2001). To overcome the effects of the crisis, major reforms in education were seen as necessary, particularly in the use of Information and Communication Technologies (ICT) and the development of English language education in the institutions. Until then the Thai education system had largely ignored English language education and computer literacy with both being relatively poorly taught.

Charmonman (2001) reports that the number of computers in Thailand was approximately 1.6 million in the year 1997 and increased to 2.35 million by the year 2000, and no doubt this number has continued to increase dramatically. The three industries in Thailand for which use of computers is most popular are banking, airlines, and education. Thailand's role as one of the busiest international marketplaces in Southeast Asia has brought to the fore the need to use computers and the need to become an information-based society (Charoengam & Jablin, 1999 cited in Gibson, 1998). Computer skills are becoming important in most jobs in such societies which provides a strong rationale for educational institutions to address student computer literacy and the integration of computer applications into the curriculum. Stacz and

Brewer (1998) report that students in their study of a Work Experience Program (WEP) in the USA used computer data processing as their main duty at the work site. In order to prepare students for the workplace, they suggest that teachers need to use computers effectively to support instruction.

Providing Computer Literacy

The present situation in Thailand is that the number of computers has been increasing. People use them both for business and personal use. Even though a lot of people only use them as a typewriter, the trend has moderately changed. Thai people now apply computers to develop many applications (Koanantakool, Tanprasert, & Viravan, 1997). In higher education both private and public institutions offer masters degree to students at Chulalongkorn University, the National Institute of Development Administration (NIDA) and Asian Institute of Technology (AIT). They have learnt more how to use the computer process than how to apply computer literacy in other applications (UNESCO, 1985). The progressive technology of Thai education is pervasive. Computer literacy could have been acquired as part of their undergraduate requirement prior to graduation (UNESCO, 2003). Now there have been a lot of coming projects of the Education Department of Thailand. The current Ministry of Education announced plans to support educational technology by purchasing 100,000 PCs for 14,000 primary and secondary schools (Koanantakool et al., 1997). Computer literacy course has become a selective course for upper secondary school students (UNESCO, 1985).

In the USA, computer competency skills have become a requirement for both higher education and private industry and are very important for the employability of a recent college graduates (Young, 1997 cited in Davis, 1999). To meet this demand for computer literacy, many colleges and universities have implemented computer competency exams and require students to attend computer classes. Personnel training in computer technology has been organized by the Education Management Information System Centre to provide training courses on computer skills such as word processor (Young, 1997 cited in Davis, 1999).

The situation in Asian countries is similar. For example, Gerard and Tan (2001) indicate that in Malaysia the computing skills training is considered essential to ensure that students were well prepared for the workplace. Such a training course needs to

encourage the students to understand the role of technology as well as how computers relate to current professional practice. Gerard and Tan add that the basis of the curriculum for computer skills training should, “*teach students the core skills that will best prepare them for the future*” (p. 2). They recommend that the word processing is one application that should be used as a vehicle for picking up computing skills.

Nowadays, the computer plays an important role in the lives of many people and can be seen as one of the greatest technological developments. It is impossible for people with professional qualifications to be employed if their technological knowledge and language proficiency are poor. Many who do find employment are often unable to work to their full potential because these skill areas are not adequately developed for their work environment. They may even miss out on promotion in a company which leads to frustration and disappointment (Bell, 1991).

While most would agree that computer technology needs to be used in education to enhance teaching and learning, many, such as Gibson (1998), have observed that the use of such technology has often become a supplementary activity for students. Gibson believes that in order to enable students to function successfully in the twenty-first century, there is an urgent need to integrate the use of technology to become a critical component in teaching and learning. Therefore teachers are now being encouraged by their institutions to integrate computer technology into higher education (Anand & Zaimi, 2000) This, as Harasim (2003) concurs, provides important opportunities for institutional renewal and the implementation of new educational practices that will help the institutions themselves to survive in an increasingly competitive marketplace.

Providing English Proficiency

English proficiency is increasingly essential for Thai businesses being widely used in commercial communication and required in many areas of business in Thailand (Vacharaskunee, 2000). Vorapipattana (2002) claims that six or seven out of every ten young Thai workers in Bangkok take special English classes at a language school. These students believe that English proficiency will give them better career opportunities and progress in their work. Vorapipattana implies that English is not adequately taught in schools and universities as illustrated by the following statement:

Thai students excelled in mathematics and science but at international competitions, the main obstacle was their English proficiency (p.1).

Moreover Worawan (2003) claims that “if the country does not overhaul the teaching of English, the country would lose its competitive edge internationally” (p.2). The response at many colleges and universities has been to implement English proficiency exams and mandate English as a required fundamental subject. However, this concern also needs to be addressed in secondary school where Kaewdang (1999) has found poor levels of English writing competency among upper secondary students. He concludes that implementation strategies for English language instruction needed to improve. Wiriyaichitra and Keyuravong (2002) claim that the English language curriculum in universities does not currently meet the English requirements of the workplace. In response to this point, in 2001, the Ministry of University Affairs (MUA) instigated changes to the English curriculum in all universities in Thailand.

The situation in Thailand is similar to that reported in the USA over a decade ago. At the time Valadez (1989) reported that employers found students poorly prepared for the workplace in terms of computer literacy and the functional language skills for performing work-related tasks such as writing. Similarly, Pope (1993) stated that many schools in the USA did not prepare students for the workforce for the twenty first century. This is now even more critical for a country like Thailand that is making a transition towards a twenty first century economy.

Wongsothorn (1998) therefore believes that more needs to be done so that the qualifications of Thai graduates better meet the demands of industry and the dramatic changes in the world. Graduates need to be equipped with suitable skills and knowledge for the jobs to which they aspire. This is what the curriculum in Business English, described in this thesis, offers at Rajabhat Institutes (see Appendix L for the general course description). These Business English units are taught to a wide range of professional people and pre-service business students. The writing component focuses on the kinds of written communication currently used in a variety of workplaces and careers. Graduates can subsequently find employment in commercial, research, and technical areas and can work at the management level. The Business English curriculum relates to all these areas. The current emphasis on English proficiency and computer literacy provides a compelling argument for integrating the use of ICT into the Business English curriculum.

Business English Writing in the Workplace

As has already been stated, Business English is essential for business communication, particularly written communication. Business English writing differs from other varieties of English writing in that the purpose of writing is to support business transactions by recommending, offering, advising, inquiring, complaining, acknowledging and so on. In order to achieve these demands the business writer needs to express ideas clearly to avoid misunderstanding between authors and audiences (Ellis & Johnson, 1994). This is different from, for example, creative English writing that may deliberately use forms that are subtle, unclear or obtuse in order to entertain or challenge the reader.

Most would agree that writing is one of the essential skills in business but that it can be a difficult task. Sometimes writing takes a long time and the quality of the final product does not match the aim and the effort. An effective document must be completely clear, concise, accurate, well-organized, and easy to follow, it should not leave the reader uncertain about any of the facts concerning the task. Business writing can lead to the creation of a sophisticated document designed to communicate to a range of recipients in a positive way with appropriate style and appropriate language (Smith & Bernhardt, 1997). To be effective a business document must be unified, must target the purpose of the document and must save time for the writer and recipient. To this end Gupta & Ervin (1997) suggested that graphs and charts are good devices to quickly explain ideas to busy readers. Also, good grammar and appropriate language should be emphasized to produce good quality written document.

Smith and Bernhardt (1997) indicate that business writing serves to establish and maintain an employee's role within a company. The ability to communicate effectively both in person and on paper can help employees to progress in their professional lives. For example, good writing skills may lead them to a challenging new position, or a more senior position with a higher salary. For an employing organization good writing can mean the difference between winning or losing a major trade contract, negotiating a deal or creating a happy customer.

Good writing is an important tool for doing business, it may reflect on the image of the company and its workers (Smith & Bernhardt, 1997). On the contrary, poor writing may create the image of an unsuccessful business, it may slow down the communication

process and cost an organization in many ways. Smith and Bernhardt (1997) report on a survey of Fortune 500 executives who identified training in writing skills and communication skills as being a top priority for the workplace in the USA. For them, business writing includes working with appropriate forms of language, professional document structures, and particular concepts. It also means knowing what makes writing clear, and effective. Therefore students need to be trained how to use accurate and appropriate language to succeed in numerous business interactions. This means training writers to be able to encourage their readers respond to the writing as intended (Smith & Bernhardt, 1997). Thus,

Poor English is bad business. It slows down the communication process, causes confusion and encourage mistakes but good writing is more than just a tool for doing business: it is itself a business product. (Smith & Bernhardt, 1997)

Smith and Bernhardt (1997) emphasize the crucial value of writing for businesses with the implication that communicative English writing technique will critically influence the success or otherwise of a business in the workplace

Preparing Students for the Modern Thai Workplace

In Business English education the quality and construction of the learning program is critical. As Green (2003) discusses, learning programs must address the real needs of the stakeholders who include the non-native English speaking students and the various types of business organizations who may employ them. Green suggests that native and non-native English teachers should cooperate in the design of such learning programs.

Many surveys have highlighted the need for Business English educators to discuss with the potential employers of their graduates the needs and expectations of their workplaces. Some researchers, such as Beaufort (1999) have found that executives in business and government complain that most college graduates cannot handle important workplace writing tasks and therefore cost organisations time and money. This is supported by Kerry (2003), who noted the importance of writing for American organizations and the cost to them of weaknesses in the skills of college graduates. Business managers complained about the writing skills of new employees with a survey showing that they believed that more than half their employees were unable to produce the professional documents required. This situation exists despite the vast amount of time and money that has been spent to develop a writing curriculum for all grade level in the USA. Estrin and Elliot (1990) reported on this problem in the USA a decade ago

with one study of 182 corporate leaders claiming that the business documents they received were inadequate for their purposes. Another of their studies showed that 50 leaders in engineering and business companies complained that the correspondence they read lacked logic and coherence. Kerry (2003) stresses that writing education should be everyone's business and that it should include the use of technology to support writing.

The aim of teaching Business English is to produce graduates capable of meeting the needs of employing organisations. The Careers Research and Advisory Centre (CRAC, 1982) indicates that the written or spoken English of people in the United Kingdom who would like to enter workplaces is lower than required. In Thailand, where English is not the first language, this is even more so. Moreover Business teachers who have the opportunity to work with students who might work for an international company find it difficult to provide effective advice for their students. Therefore many students have to learn on the job, after they have graduated (Brooks, 2003).

Lee and Lo (1994) point out that in the last decade in Hong Kong the business sector has joined public discussion concerning their employees' low ability in using the English language at work. Business executives report in these discussions that the low standard of English writing in the country wastes a lot of resources. Lee and Lo's report shows that some managers/executives of the companies estimated they spent as much as 70% of their time correcting employees' written English and attending to other linguistic matters (South China Morning Post – 2 April 93). With the English language problem growing considerable resources have been channeled into various schemes to boost English language training or retraining for professional and other work-related purposes.

Gupta and Ervin (1997) claim that, to prepare students for the workplace, the most useful areas for learning concerned the types of writing skills needed in the workplace, particularly for the production of memos and different types of business letters as these accounted for approximately 84% and 80% respectively of the writing produced by new employees. They also suggest that good writing skills could be the determining factor as to whether an employee would be retained or promoted. In fact, several of the managers they interviewed indicated that they would not hire graduates who were deficient in communication skills. Gupta and Ervin believe that these skills can be taught and

therefore educators have a responsibility to empower students by seeing the importance and application of these skills in the competitive global marketplace.

Recruiters of new employees have indicated that computer competency skills are very important for recent college graduates in the USA (Davis, 1997). Computer use has permeated almost every aspect of business: for example, factory production, inventory control, record keeping, warehousing and distribution, and in particular to support business writing. The main technology to support business writing is word processing and therefore it is reasonable to suggest that students should learn business writing using this technology. As King (1996) puts it, “If you want your teaching to be relevant to the lives of your students, teach them word processing as a writing tool” (p. 2). She adds that most people in international business who do writing at their workplace use word processing to produce their documents because it is easier and more productive than handwriting or typing.

In order to prepare students for the modern Thai workplace, educational institutions have been working at upgrading and modernizing their curricula, in particular to integrate the use of computer technology. In Thailand, some commercial schools have provided a large amount of money for supplying personal computers with word processing software or word processor machines for the office automation system (Intrapairot, 1991). In this situation instructors have to arrange the appropriate curriculum to prepare students when they enter in the real workplace. This has been a particular focus in Business English where teaching computer literacy and English proficiency may be done simultaneously. However, the Thai national ICT plan claims that there is a sufficient number of computers in educational institutions to do this (UNESCO, 2003 a).

Creating a Framework for Business English Courses

Quite clearly in the development of curriculum and materials for Business English courses, academics and employers need to discuss the needs of students and workplaces. Such discussions are best facilitated with the inclusion of a meaningful course design framework that includes factors relating to the curriculum and the workplace. Nunan and Burton (1989) suggest that a Business English course design framework should start with the context of the workplace to enable the course to be directly relate to the work situation, to enable workplace personnel to be involved in

working with employees, and to enable workplace personnel to facilitate the learning process.

The focus of the present study has been to redevelop a Business English subject in a Rajabhat in Thailand to ensure that the English writing skills taught better reflect the needs of the modern Thai workplace. Nunan and Burton (1989) provide a suitable framework (depicted in the diagram in Figure 2.1) to support this redevelopment. This framework involves: a needs analysis, setting of objectives, the selection of tasks and formative and summative evaluation. This approach was applied to the redevelopment of the Business English writing curriculum in the present study.

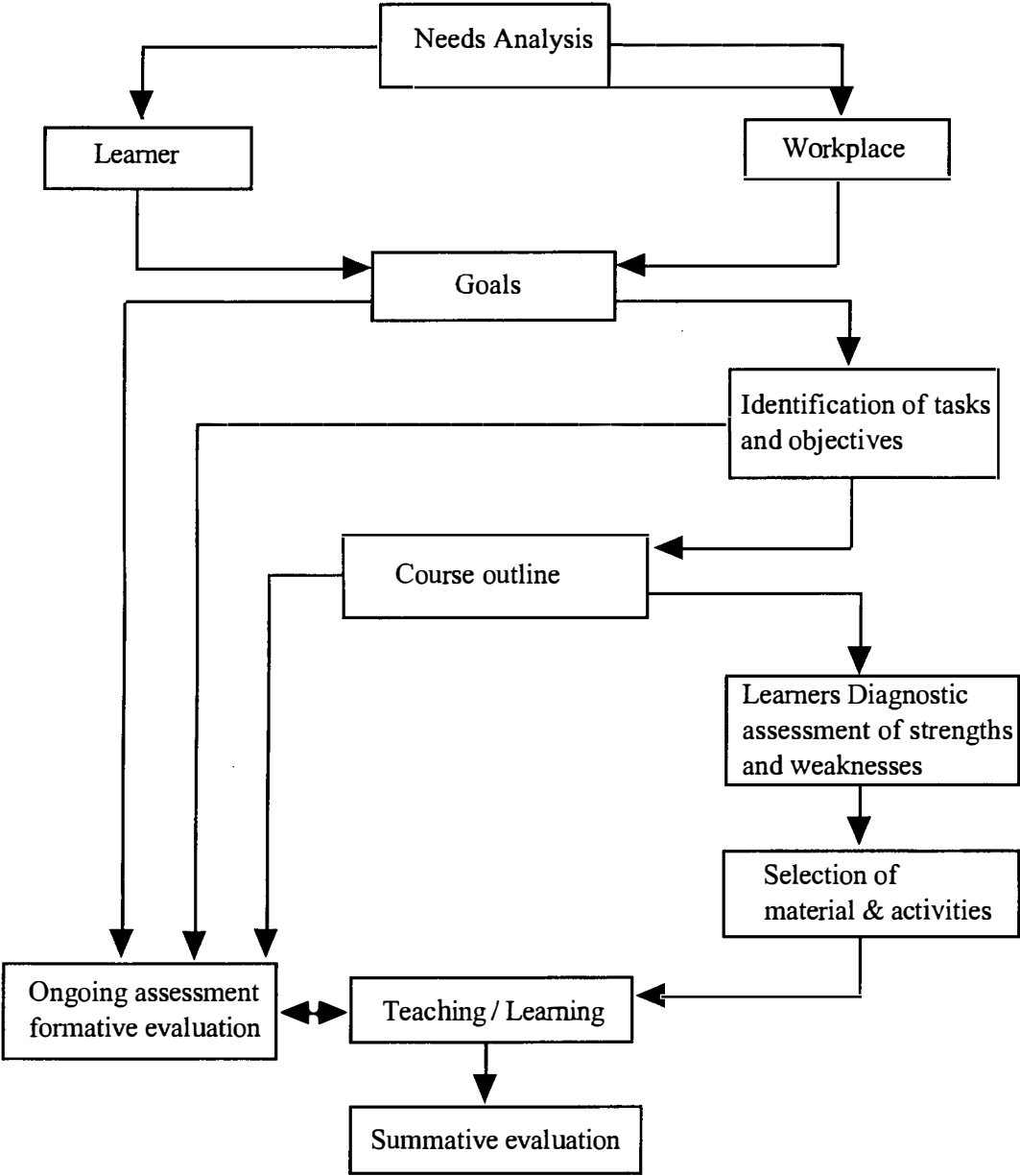


Figure 2.1: Course design process adopted to develop the new Business English subject

Needs analysis: to identify the English language and learning needs of typical Business English graduates in the workplace.

Goals: to set goals to relate the identified language and learning skills and discuss these with students and the workplace personnel.

Course outline: to draw up a preliminary course outline and discuss the learning experiences, content and assessment for the course with students and workplace personnel. Next is the selection of appropriate assessment procedures, which would enable a detailed diagnosis of the learners' strengths and weakness in the knowledge, skills and strategies relevant to the identified goals. These procedures then feedback into further development of the course outline.

Teaching/learning: to design tasks and activities which will help students attain the goals, to promote an awareness of the learning process, to develop a related learning environment, and to allow students to make choices with appropriate tasks. At this stage, formative evaluation (i.e. assignment, quiz) is organised.

Summative evaluation: to enable teachers and students to assess the production and evaluate the progress of the course.

The framework begins with the needs of students and workplaces and therefore the next section considers this in relation to writing business English.

The Needs of Writing for Business English

The importance of written communication in English for Thailand workplaces has been discussed earlier. A number of studies have indicated that leaders in business and government believe that Business graduates cannot currently produce important workplace written documents in English to an adequate standard (Beaufort, 1999; Estrin & Elliot, 1990; Kerry, 2003; Lee & Lo, 1994). Even with the situation in Thailand, Evans (2002) has found that most executives in the Thai companies admit that their employees lack strong language skills. This is despite the fact that they have studied English writing in their tertiary courses (Gillick, 1998). Gillick goes on to argue that, while the demand for Business English may have dramatically increased, it is doubtful whether tertiary courses have responded to this demands or even attempted to address the needs of workplaces. He argues that the institution and the workplace should not be

separated and that therefore writing should be taught for many different purposes including for the functional aspects of business. Similarly, writing should be taught to address the needs of many different learners, for example learners who are unemployed, learners who have to retrain, or those seeking promotion.

There have been a number of reports into the English language requirements of workplaces in Thailand. For example, Westerfield (1999) found during her Academic Specialist Visit to Thailand the need for topics related to international business communication and teaching English for business. She shared the following observation from her visit,

First, there is heightened need and corresponding demand for training in business English and international business communication in Thailand due to the continuing effects of the economic crisis.

Westerfield (1999) quoted the Chair of the English for Business Department at a leading Thai university as follows:

English and business communication skills are increasingly in demand. Due to the economic conditions and the IMF bailout measures, foreign investors have taken over many businesses in Thailand so the demand for English in the workplace has become more urgent. The Thais now have to work more closely with foreigners. They need to be trained in effective communication in the workplace - making presentations attending meetings and handling negotiations. My division as well as departments in other universities have started to revamp the curriculum putting more stress on communication in the workplace, but most teachers still find themselves at a loss, not knowing how to proceed with this.

A second observation, which is related to the increased need for training in English for business, is the great interesting topic how to combine training in the Internet skills with business communication skills (p. 2-3).

It is clear that there is a need for increased training in English language skills for business in higher education in Thailand. Westerfield (1999) adds that many other universities have requested her workshop for Business English training that ranges from a needs analysis, to curriculum and training program design and practical applications in the classroom.

Suthornwatnasiri (2000) also argues that higher education institutions need to update their curricula and develop materials more suitable to the modern Thai workplace. She conducted a study related to the development of curriculum and instruction in Business English for Communication at Rajamongala Institute of Technology, Thailand. The participants for her study were Business English organizations, English users in

companies and students who were majoring in business administration. All the responses from the participants reflected the need for Business English in the workplace. The findings also indicated that some of the current curriculum content was unsuitable for the companies surveyed. For example, telex and teleprinters were no longer used in most businesses. At the same time, other important areas of content were not found to be part of the curriculum (e.g. production of application letters). The study also concluded that graduates need to recognise the importance of Business English writing skills in order to perform effectively in their future careers.

In other countries, such as the USA, this need has been recognised many years earlier than in Thailand and therefore Thai educators can learn from this earlier work. For example, Anderson (1985) suggests strategies for teachers of career-related writing and the design of courses based on an understanding of the purposes of writing at work. He recommends that teachers needed to encourage an awareness in students of the need for good writing skills, particularly the need to be clear, concise, courteous, well-organised and grammatically flawless. As a result many types of writing need to be incorporated into the curriculum to ensure proficiency and efficiency on the job.

In an American survey reported by Anderson (1985) it was found that 38% of workers spent on average more than 20% of their time writing, and 42% said writing was of great importance in their workplace. Ede and Lunsford's (1990) survey found that business writing had increased and that workers spent 44 % of their time on writing activities, and 86% said that writing was very important to the job. Beaufort (1999) refers to the report of the Secretary's Commission on Achieving Necessary Skills (SCANS), produced by the U.S. Department of Labor 1992, which suggests that in the Information Age all workers needed a wide range of writing skills, for three main reasons: (1) the technological complexities of most jobs,; (2) the availability of such aids to communication as e-mail and word processing; and (3) the need for participatory management across all job levels, rather than the traditional hierarchical structure in which workers merely followed orders from superiors.

While many of the needs of writing in business are the same for workers in Thailand, there are additional needs associated with English being a second language and aspects of the uniqueness of the Thai culture. Hiranburana (1998) explains that misunderstandings and miscommunications may occur if differences in cultural

backgrounds are not understood in English writing for international business correspondence. For example, it was found that when completing business application forms and entrance forms, South Asian and Middle Eastern students tended to use appeals for pity and flattery, which are considered inappropriate in English. Likewise, Kirkpatrick (1993) found that most of the letters of request completed in Mandarin tended to consist of a long introduction with the specific reasons for making the request mostly placed towards the end of the letter. By contrast such letters produced for this type of communication in English tend to place the request early in the letter. The implication is that in designing materials and courses for Thai Business English students, teachers need to focus on the appropriate language style and text structure for particular business communications in English.

In order to respond to the needs of writing for Business English, it is essential to develop the curriculum and learning materials within the context of the workplace. It is critical to determine what the learners have to learn in order to prepare them for the tasks that are required in the modern workplace. A useful strategy is to ask organisations for any documents that are typically used in their workplaces and to integrate these with the curriculum. For example, authentic advertisements can be used to stimulate letter writing and the preparation of curriculum vitae (CV/ resume) in English. Vacharaskunee (2000) notes that the Ministry of Education in Thailand has encouraged teachers to use authentic English materials such as different types of letters and graphs. She also suggests that these materials make use of modern computer technology, but that curriculum materials needed to be selected or constructed by teachers to suit their own teaching situation.

The writing process

The writing process concerns the steps a writer takes to produce a text to satisfy a task. Smith and Bernhardt (1997) provide a general three stage writing process: planning, drafting and rewriting (refer to Figure 2.2). This model of a writing process is widely accepted and was therefore applied to use with word processing for Business English in the present study. The writing process should encourage writers to consider, be aware and control their writing and thus make the task easier. There are variations of the writing process dependent on the context for the task. Each of the three stages of the general model are discussed in the following paragraphs.

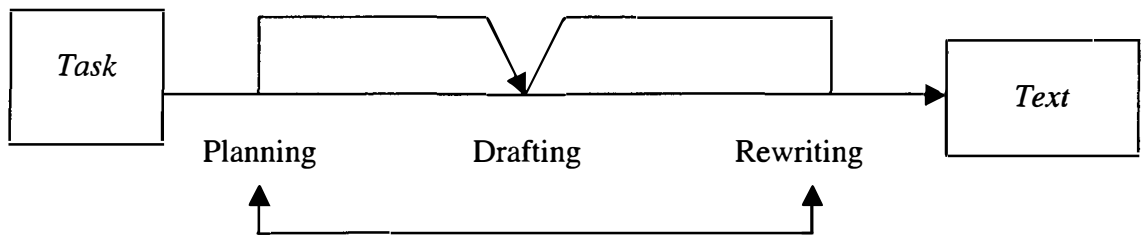


Figure 2.2: A model for the general writing process (Smith & Bernhardt, 1997).

The planning stage involves thinking about the situation about which the writer will write, the type of document, and the context for the writing (e.g. typical organization). Each document has a different look related to the required impact on the reader. In this stage the writer has to collect and collate the data needed to write which may take a lot of time.

The drafting stage involves producing the first draft of the document. The writer should get this done as quickly as possible so the material should be entered on the page or screen without worrying about making a lot of changes. Attention should be given early to the overall structure of the document although fine details are not required at this stage.

The rewriting stage is separated into two activities: revising and editing. Revising is concerned with ensuring that there is appropriate language for the audience, clarity of purpose and good organization. Editing is to create clear sentences and effective word choices and to correct errors in language use.

Smith and Bernhardt (1997) also offered six principles for developing a clear, strong style of writing in business documents: (1) writing is appropriate to the situation; (2) writing is grammatically correct; (3) writing uses punctuation to show what is-and what is not- important; (4) writing uses clear and concise vocabulary; (5) writing is appropriately active and personal, rather than passive and impersonal; and (6) writing emphasizes what is important and what is not.

In contrast, Estlin and Elliot (1990) see writing as a dynamic process where organization and revision are important. They argue that standard usage is not important for communication. They discussed the writing process as being based on three stages: invention, arrangement and style or revision. The invention stage involves exploring ideas where the writer asks what information is needed before writing in order to create

an accurate document. The second stage is arrangement and concerns the organization of the document. The writer has to ask whether the reader will understand or not. The final stage is style or revising. In this stage the writer has to edit the document produced. The grammar, punctuation and spelling will be checked at this stage. Estrin and Elliot have developed the five C's to improve the quality of written documents: conciseness; completeness; concreteness; correctness and coherence.

Conciseness: the writer uses short words instead of long words without any loss of meaning. For example, instead of writing 'a large number of' simply write 'many'. The more complicated the information, the more mistakes are likely to be made.

Completeness: the writer has to answer all questions that the readers may reasonably request. In other words, it should not be assumed that the readers know the situation and understand all of the information. In this case intended readers may understand but unintended readers may become confused. The confusion is avoided by making the writing complete.

Concreteness: one of elements to improve the quality of written documents is expressing ideas clearly, and avoiding expressions that are vague or overworked.

Correctness: standard English is correctly used in a written document so that it is easily understood.

Coherence: the document will have a sense of unity by using three fundamental strategies. The first strategy is using transitional words. For example, the word 'beginning' should be used instead of 'first or initially'. The word 'continuation' should be used instead of 'then, until or meanwhile'. The word 'ending' should be used instead of 'at last or finally'. The second strategy is the repetition of key terms in order to guide the reader and to avoid confusion. The writer can use parallel phrase, parallel spacing and italics to give a sense of unity to the written document. The third strategy is the use of graphics that help readers understand the overall text easily.

Whichever writing process students are expected to use it must be demonstrated in a curriculum in a variety of ways (Rodrigues & Rodrigues, 1986). The present study not only needed to consider the process of writing in the development of the curriculum but also the difference between Business English and general English.

The Difference Between Business English and General English

Business English is seen as distinct from the use of English for general conversation and creative writing. Business English belongs to the study of English for Specific Purpose (ESP). The written form of language is more frequently fragmented depending of the sense of purpose for writing which in this case is given by the context of business (Ellis & Johnson, 1994). Business writing must be easily and quickly read and must be understood exactly as intended. Language is used as a means to an end and its successful use is judged by a successful outcome for the business. The use of language in business must minimize the risk both of mistakes and misunderstandings, which can lead to serious problems for an organization. The kinds of words used in Business English need to be clear and readily understandable, which explains the common use of acronyms. Ellis & Johnson (1994) outlined some general statements about the key differences between Business English and general English (refer to Table 2.1).

Table 2.1

Differences between Business English and general English (Ellis & Johnson, 1994).

Pre-course preparation	Business English	General English
Needs analysis	To assess the needs of the company, the job and to define the language level required by the job.	To assess the language needs of the learners.
Assessment of level	Using formal test or interviews.	Placement test or interviews to allocate learners to course.
Syllabus	Set course will have fixed objectives and syllabus. Special course require special syllabus.	The syllabus is wide-ranging and may encompass the board vocabulary and variety if styles.
Course objectives	Defined precisely in relation to the needs analysis finding.	Examination courses will have fixed pre-determined objectives.
Time	In company language training, there are usually time constraints because of the need for training to be cost-effective.	Outside the state education system, general language study will usually be open ended.
Learner expectations	Business people normally have high expectations of efficiency, quality and professionalism.	Learners want to make progress but are less likely to set themselves specific targets within a rigid timescale.
Material	It may be necessary to develop materials for a specific course.	Materials development by the teacher is not usually required or expected.
Methodology	The same as general English and also borrow ideas from management training.	Activities are designed more fun to maintain interest and motivation.
Evaluation of progress	Usually no exams but express ideas precisely.	Written paper for which marks are awarded for grammar, vocabulary and appropriacy.

The differences between Business English and general English are important for the construction of the curriculum and the measurement of the quality of written documents in this study. For example, the analysis of need in Business English focuses on the needs of the company or the job to identify the language level required by the job. General English on the other hand is only to assess the language needs of the learners. Another example is the critical importance of the tone in business writing. This demonstrates the writers' attitude towards the reader and the subject of the message. The overall tone of a written message affects the reader just as one's tone of voice affects the listener in everyday exchanges (Kellough & Laflen, 1995). A business writer should consider the tone of the message, whether they are writing a memo, letter or other types of business document. The writer needs to consider the following questions when preparing to write the documents: Why am I writing this document? Who am I writing to? What do I want them to understand? And finally what kind of tone should I use? Business English courses should provide some guidelines for considering the tone used in business writing such as to be confident, courteous and sincere, to use appropriate emphasis and subordination, to use non-discriminatory language, to stress the benefits for the reader, and to write at an appropriate level of difficulty.

The differences between Business English and general English provide a rationale to consider a specific writing process for Business English.

Understanding the business writing process

Harty (1989) suggests that business writing is a process and that writers should use suitable plans for tasks like memos, reports or letter particularly for those who do not have much time to write. Elbow (1997) describes the writing process as the follows. Firstly, the available time should be divided into two parts: half of the time for initial draft writing and the other half for revising. Secondly, the writer should think about the audience and sense of purpose for writing which will assist in determining the content. Thirdly, the writer needs to write down everything related to the topic. Fourthly, the writer should not worry about the order of writing initially or whether something may be wrong. And finally, if the time is half over, the revising process commences even if the writer has not completed the initial draft.

Gains in document quality afforded by the effective implementation of an appropriate business writing process will improve the productivity of organizations. For example,

an executive should write a memo that can be read in two or three seconds. This means he/she has to write effectively so that a reader understands the message in a short time (Sageeve, 1986).

Sageeve (1986) surveyed business in the USA and found that reports, proposals and memos were the main documents that managers write and read. Further, typically managers claimed to spend 20 % to 40 % of their working time with writing or reading. The main qualities that managers looked for in business documents were: clarity, ease of reading, conciseness, logical order and relevance. The main general problems that managers identified in writing quality were that: the information was hard to scan; organization was poor; conclusions were unclear; sentences were poorly constructed; too much jargon was used; the focus was unclear and documents were too long. In Sageeve's survey the main problems that the writers faced were: deciding what level of document to include; making sure the conclusion was clear; determining what the manager wanted to know; choosing appropriate words; and writing the first draft and getting started smoothly. As argued earlier, it is likely that these findings are also relevant to the use of Business English in Thailand today.

Some Approaches for Teaching Business English

St. John (1996) points out that teaching Business English is different from teaching other varieties of English. For instance, the Business English curriculum requires the use of authentic materials. Further, as Johnson (1993) points out, language in Business English can not be simply delineated. There are distinct vocabularies, terminology and lexical features for different types of business activity. Therefore, Business English courses should include discourse analysis, stylistics, genre analysis, need analysis and language audits, along with register analysis.

Wilberg and Lewis (1990) provide some recommendations that would be useful for Thai Business English courses. Firstly, the content should, as far as possible, be provided by the student, with the teacher providing the language assistance. Secondly, the book from which students work should be designed from the perspective of a business person, not only that of a language teacher. Wilberg and Lewis added that these principles imply an emphasis on the processes of,

- *identifying relevant material,*
- *identifying job-related tasks and their components,*

- *organising the material,*
- *focusing on the language and behavioural requirement of the tasks, and*
- *accessing and exploiting the knowledge and skills which result (p. 3)*

Teaching English Writing as a Second Language (ESL)

There are many approaches to the development of writing in English as a Second Language (ESL) classes. Historically, the teaching of composition to ESL students has been viewed in terms of the importance of grammar, error correction and accuracy to help them manipulate grammar and vocabulary (Ferris & Hedgcock, 1998; Johns, 1990; Raimes, 1991; Silva, 1990). Kroll (1991) provides some approaches which stem from the most influential approaches to writing, such as, controlled composition, current-traditional rhetoric, the process approach, and English for academic writing. Raimes (1991) also suggests a number of teaching styles such as the controlled to free approach, the free writing approach, the paragraph-pattern approach, the grammar-syntax-organisation approach, the communicative approach, and the process approach for ESL classes.

Ferris (2002) notes that in the 1970s and 1980s, native English speaking composition practitioners and theorists began to focus more on writers and the process used to produce texts rather than on the product itself and correcting any errors therein. This led to a major paradigm shift that had great implications for both first language (L1) and second language (L2) writing classes in the USA. Teachers and students were encouraged to focus on discovering ideas, drafting and revising, working collaboratively and leaving grammar until the end of the process (editing phase). Ferris points out that both teachers and students at that time tended to be more stimulated by the focus on ideas than on the tedium of accuracy. Composition instruction subsequently decreased its focus on errors and grammar teaching. Clearly this process approach (planning, drafting, and rewriting) is well suited to the use of word processing for writing with access to powerful editing, correcting and formatting tools.

Pholsward (1998) describes the treatment of errors in the writing produced by Thai students. She indicates that in the Thai context for ESL writing instruction, the teacher is responsible for the correction of students' grammatical errors. Typically, this means that learners have to cope by themselves with other linguistic deficiencies, as well as the logical development of ideas in the target language. This means that the quality of the document in terms of error treatment still remains a critical issue in the Thai context.

She also notes that Thai students seem to pay more attention to academic grades than to the correction of their work and they were not willing to rewrite their work (by hand) as part of the learning process. All these issues relate to the cultural impact of the Thai teaching context that puts teachers in a leading role of teaching and learning. Therefore, students expect their teachers to take an authoritative role in guiding their work.

Ferris (2002) suggests that learning programs need to focus firstly on quality tasks that facilitate students' developing writing process skills. Once these process skills have been developed to create a product, then students can focus on the specific linguistic issues or error patterns of ESL learners (Ferris, 2002). At this point, feedback or error correction can help students to improve their accuracy (Cohen & Cavalcanti, 1990; Ferris, 1995, 2002; Ferris, Chaney, Komura, Roberts, & Mc Kee, 2000; Ferris & Roberts, 2001; Leki, 1991).

Johnson (1993) states that Business English is an area of English for Specific Purposes (ESP) which is more frequently based on written forms of language such as correspondence, and annual reports in business journals. ESP teaching needs to be pitched at a level appropriate to the background knowledge and theoretical awareness of the students. As such there are two main areas for curriculum development. The first includes need analyses, and theoretical input to curriculum design. The second concentrates on material and curriculum evaluation.

Teaching Writing Skills in Business English

Of the four language skills, writing has been accepted by most ESL teachers as the most difficult set of skills to be acquired by learners. Language teachers need to find effective ways to facilitate students' learning and to help them improve the quality of their writing (Pholsward, 1998). English for business involves writing for the real world and using authentic language so it is important that course materials include up-to-date authentic documents and tasks (Baron, 1998).

Computers can also help English learners to develop writing quality skills. Lewis (1997) recommends that writing using computers should be a guided activity so that students are not frustrated. Also grammar skills should be demonstrated and reinforced using computers. The teacher should be able to direct students to highlight a part of speech such as nouns, verbs, adjective, adverb, pronunciation or conjunction in their

writing. This can be done using underlining, italicizing, bolding or changing the font size or colour.

Scarcella (1992) recommended that traditionally the approach to writing has focused on the components of language so that students had to learn accurate grammar and vocabulary spelling. The traditional approach depended on: imitation of format and sample sentences; modification of an outline or summary; writing content in response to questions; combining sentences by creating complex sentences and using syntactic rules. Gupta & Ervin (1997) concur with this approach but also recommend for workplace writing the specific grammar for the type of writing performed on the job is needed in order to help employees create quality workplace documents

Doherty, Knapp and Swift (1995) suggest five style guidelines when producing a business document: avoiding redundancy; not using words relating to conversation, passive voice to focus the writer to the message, using expressions of formality; and not using contractions. They believe that these guidelines help the writer develop the appropriate style for business writing.

Using Computer in Teaching ESL Students

According to Ferris et al (2000), the process approach to learning English writing heralded the need for using word processing to support the writing process. There are many ways in which computers have been used in the teaching of ESL students. Generally the area is referred to as Computer Assisted Language Learning (CALL). CALL program development can be categorized into three phases: behaviouristic CALL, communicative CALL, and integrative CALL. The purpose of CALL is to serve a variety of uses for language teaching. Computers can be used as tutors which offer language drills or skill practice, they can offer tools to support the writing process, and they can also be a source of limitless authentic material. But the effectiveness of CALL does not reside in the medium itself, but in how it is put to use. Most software supports writing tutorials such as for sentence combination, sentence construction and learning to type. However, the most common use overall of the computer for language learning is word processing. High quality software such as Microsoft word can be extremely useful for learning to write in academic or business setting (Warschauer, 1996).

Many CALL materials have been designed to allow students to study independently and at their own pace whether in the computer laboratory or at home (McCarthy, 1994).

McGarrell (1998) suggests that the use of computers and CALL material in ESL/EFL classes can help students with varying learning styles. Further it can provide them with opportunities to practice language accuracy, fluency, form and function. McGarrell recommends the use of a basic word processor and e-mail in CALL.

Prapphal (1998) reports that most of the Economics students who enrolled in a Foundation English subject in 1997 at Chulalongkorn University, Thailand, 31% used the computer to type their reports, 28% to play games and 21% to get information from the World Wide Web. However, only three percent used the CALL software package provided to practice English indicating the low use of computers for actual computer assisted learning in the English classes. She noted that the top three preferred computer-based tasks were: getting information from WWW; sending e-mail; and playing games. She does suggest, however, that although the use of computers to practice English was low, this does not mean that the students prefer not to use computers for this purpose. Her study showed that 57% of the students wanted to use the computer to practice their writing and speaking skills.

Using Word Processing to Teach Writing

Technology drives the future; the question is --- who steers?" (Heath, 1999, p.viii).

Beaufort (1999) reminds researchers, educators and scholars that they bring their own particular ideological perspective to the field of technology. When considering the use of word processing to teach writing, it is important to focus on the ideals of teaching writing rather than be distracted by the attractions of the technology. Rodrigues and Rodrigues (1986) warn that it was important for teachers to determine how to present computer tools to students in a way that does not take too much time from English instruction. There is a lot of pressure on teachers, administrators, and educators to provide instruction in computer use for their students. Rodrigues and Rodrigues suggest that business departments or computer centers should introduce word processing to students who needed to know the basics.

The application of computer word processing programs can make writing easier and more enjoyable for students. For example, students in English classes can produce written drafts without taking too much time to type. However, in some ways, writing itself has changed with the advent of computers as writing tools. However, Daiute

(1985) argues that computers do not benefit all students in the same ways. Teachers need to understand that when students use word processors their teaching must focus on the writing process and the computer-writing processes at the same time. There is a general lack of agreement about how to proceed with the use of this technology in the classroom (Olinger, 2003). As Newhouse (1999) observes, there is a large proportion of teachers', students' and educational administrators' tasks that could be facilitated better with computer support. Many such tasks can be accomplished with word processing software.

In the workplace, word processing is an important and necessary tool for communication and community building with collaboration occurring on the production of e-mails, faxes, academic journals and other forms of scholarly work. This is now being mirrored within the education sector. For example, Daud (1998) reports on Johnson's 1987 survey, which found that in English classes computers were used in American schools mainly for writing using word processors (79% of classes) compared with instruction in grammar (67%), reading (64%), spelling (55%), speaking (16%), listening (15%), vocabulary building (9%) and computer literacy (6%).

What is a Word Processor?

The word processor is a valuable software application that provides a writing tool for creating, editing, storing and printing documents. Any computer with a printer and the appropriate software can be used for word processing. Word processing software combines a screen editor with a set of printer-control commands that permit the user to: type in text, which is displayed on the screen; set up a format (margin setting and if a choice is available, print faces); edit that text, either immediately or perhaps months later, by moving the cursor to the relevant part of the screen and then making deletions or insertions; and saving a text on disc. Nearly all word processors provide facilities like automatic word wrap (making sure that words are not broken at the end of a line) and automatic reformatting of a paragraph after changes have been made (Higgins & Johns, 1984). Most also provide tools such as spelling checker, grammar checker and a thesaurus.

Word processors support writing in a number of important ways, usually better than using handwriting. The writer can use the functions of the tool to insert new ideas, change unsuitable ideas and to move sections backward and forward in the document.

The additional tools allow the writer to identify grammar errors, correct spelling errors and provide word choices (Anuar & Ai, 2003).

In the business world, word processors are used to automate office work, and to workers from the drudgery of, for example, typing hundreds of similar letters. In the workplace, users can easily and quickly complete tasks such as writing letters, and writing memos. The word processor can add a standard paragraph to a letter at the touch of a key. It is very simply to delete and add text without spoiling the look of the document. Sections of the text can be moved very easily for one place to another place, to shape the text before printing out (Moore, 1986).

The Writing Process with Word Processors

Traditionally the writing process started with a rough draft, then re-writing and editing, getting to the point at which a final version was ready to be typed up (Higgins & Johns, 1984). The procedure was discontinuous and wasteful, and the temptation to cut corners was always present. With the word processor the first draft can be typed in then worked over, polished and re-arrange as a continuous process until it reaches the point at which the document is ready to be printed out (Higgins & Johns, 1984).

A number of writing processes have been suggested to support the use of word processors. Anuar and Ai (2003) provides a four-step process for the classroom: planning, translating, revising and editing. *Planning* is getting students to list their ideas relating to the topic on the screen. *Translating* is getting students to start converting these ideas into sentences and paragraphs. At this point the teacher encourages students to write without worrying about accuracy of language. *Revising* is getting students to read their writing as a whole. Teachers encourage them to insert relevant ideas, delete irrelevant ones and improve the well-organized ideas and guide them to use the thesaurus in order to use a wider word choice. *Editing* is getting students to take note of the errors highlighted by the computer via red/green lines under words/sentences and make corrections.

Tapper (1994) also provides a three step process of writing for students when using word processing: pre-writing, drafting, and then revision. This model of the writing process was relevant to the present study. In this model, the teacher needs to accept the fact that students are at different stages and therefore may do different things in the process of writing.

(a) Pre-writing

Word processing makes it easy to brainstorm, categorize and make lists to get data to write. The students can write chunks of text on the screen, discover connections and make changes. The students may plan what they will do on the screen, perhaps using built-in tools.

(b) Drafting/writing

Students can write and change anything at any time. In this stage teachers need to ensure that students do not spend too much time making the document look nice. They may focus on this because they are not confident in spelling and grammar rules. The recommendation is that students should not worry about accuracy and formatting while writing initially. When facilitating student writing using word processing, teachers do not have to start at the same point. Some may begin writing with the planned text, some type out a point in note form to be fleshed out later, some write in chunks and rely on the cut and paste functions for organisation, and some write the first draft without looking at the screen while typing.

(c) Revision

Revision can be aided by using word processing. In fact, students are more likely to revise their work on a word processor. How the revising functions might be a disadvantage if students spend too much time on the appearance of their work rather than the content.

Of the three steps mentioned above, Huffman and Goldberg (1987) suggest that revision might be conducted in pairs and groups so that students can give feedback to each other. Suprajitno (1998) agrees that a revision technique conducted in pairs can help students learn and receive input by the way of peer review. In this way, they may get an idea that they had never thought of before. Also, students receive not only feedback, but they also learn how to overcome their problems and difficulties in writing.

Daiute (1985) claims there were three types of processes involved in writing: that is writing is a social process, writing is a physical process and writing is a cognitive process. The use of computers in the classroom needs to recognize the benefit of such theory to practice as a basis for the design of courses and the development of materials.

The relationship between the three steps and the curriculum design is explained in the following paragraphs.

Writing is a social process. As teaching business English is for the workplace, the writing class with computer support tends to be student-centred instead of teacher-centred. Teachers and students use the computers together as a learning tool for writing. Teachers act as consultants and technicians in the class more than as directors. They have to know how to solve the problems and answer students' questions. They have to give up some control of the class in order to let students pick up the skills of interacting. They share tools, solve the problems, answer questions.

Writing is a physical process. The keyboarding skill means communication with the computer. Writers can use a computer most efficiently by touch-typing. Using the keyboard for giving commands and for creating text is difficult for beginners because they have to learn the functions of the keyboard. The writer can make changes in the text while writing. The computer alerts the writer to potential and necessary uses.

Writing is a cognitive process. Writing is a complex set of mental activities, including, analyzing, making judgements, feeling, and talking to self. Experienced writers know that creating a text takes time. Writers should be concerned with creating clear, and well-written documents. Writers can develop strategies that help them use their minds and their knowledge in the most efficient way.

The benefits of using word processors

In many ways, computers have made many jobs easier, but they have also created, increased expectations about quality and amount of work. For example, word processing programs have glossaries that allow writers to store words, sentences, paragraphs and even complete letters after use which is very useful for routine tasks. As a result workers using word processors are expected to complete more documents and of a higher quality. Gupta (1998) explains that writing is generally a complex skill and that computers have the potential to handle a lot of jobs that are not possible when working with pen and paper. However, Underwood (1984, p. 50) points out that computers cannot initiate, or evaluate, communicative activities.

Using word processing is an efficient way to write with the potential to delete, revise and cut and paste easily without having to retype. Word processing makes the draft

easier to read and more convenient to make changes and improvements. Word processors enable changes quickly and more efficiently by pressing a few keys on the keyboard (Canak, 2003). Snyder (1994) explains that writing by hand can be a tedious task leading to many mistakes which is why the word processor is the most commonly used computer application in English classroom. Even if computer users cannot type well, a computer can be both a convenience and aid throughout the writing process. The great advantage of word processing is that it allows writers to write by moving, copying and editing at any point without limitation. However, to do those things, writers require a good deal of practice and skill (Johnson, 2002). Newhouse (1999) provides a list of possible benefits in students when using word processors. These include length, quality, motivation and skill development.

Length	Students produce longer pieces of writing since editing is easily performed.
Quality	The quality of the writing improves since the students perform more revisions. The students concern themselves with the structure of their writing and experiment. Students can experiment and examine alternative ways of presenting ideas. Students are not constrained or impeded by untidy work habits. Teachers can demand higher standards of work.
Motivation	Students are generally motivated by the use of the word processor. They can find revision quite rewarding and tend to spend more time revising with the word processor than they would under normal conditions. Students are encouraged to read their own writing and that of others. The writing is produced in a published form and students are often encouraged by the fact that others will see their writing.
Skill development	Word processing assists in both writing and reading skill develop. Students can start serious writing before they can hand-write well enough to produce substantial work.

Gupta (1998) has identified similar benefits for students in using word processors including length, quality and skill development. Students can produce longer texts

because it is easy to edit. The quality of texts is improved because of more revision. Student can express their ideas independently, are not obstructed by untidy work habits and can better match the standard of their task. Students are motivated by using the word processor because they spend more time in revising their writing. They are encouraged to read their writing and students are encouraged by seeing their writing in published form (Gupta, 1998).

Many studies have been conducted about the use of the word processor as a tool in the writing process with most indicating that word processing can help writers to improve the overall quality of writing (Snyder, 1994) length of writing (Dudley-Martin & Oppenheimer, 1990; Jones, 1994), spend less time planning (Goldfine, 2001), provide motivation and increase their writing satisfaction (Derewianka, 1990) when compared with using pen and paper. So the use of word processing may benefit teachers and students in various ways. Snyder (1994) shows that using word processing can contribute to students development of writing skills in exciting, engaging and liberating ways. Harris and Graham (1992) found that educators confirmed the likelihood that using word processors would improve students' writing.

Pennington (1993) found that students using word processors wrote better than those using hand-writing. Pennington (1991a) found that using word processing makes writing much easier, leaving the writer free to develop their ideas in a well-organized manner. Furthermore word processing offers spelling and grammar checkers that make the writers check their writing before presentation.

The use of word processing also improves attitudes toward writing and enhances motivation (Seawel, Smaldino, Steele, & Levis, 1994). Students make fewer mistakes on their documents, particularly with spelling, capitalization and subject-verb agreement (Herrick, 2002). When creating a written document, word processors can make the process smoother because of the ability to edit at any time. It is much easier to correct the mistakes electronically than using whiteout or erasers (Johnson, 2002). Word processing can make students feel free when writing a draft because they know that they can easily make changes while writing (Simic, 1994). Similarly, Ramos (2002) found that using computer technology helped students improve their writing and have a more positive response to writing. These students were motivated enough to stay on

task for three 90-minute periods. Ramos concluded that this indicated that instructional time for using word processing was more efficient and meaningful for the students.

In the USA, Feldman (1984) found increased student enthusiasm for composing, revising and editing in her study of a business writing class that used word processing. Word processing also made writing less messy, more efficient, with several students saying that the software made them feel more relaxed about writing and more willing to try more things on the screen. Some said it had an effect on their writing style, their writing became less stilted. The students found themselves more willing to revise and edit their composition on the computer than in traditional writing methods. The students stressed that word processing should remain in the course. Feldman therefore concluded that using word processing in business writing made students feel more comfortable with writing, enhancing, creativity and making revision easier. Moreover word processing enabled students to work at their own pace and increased the quality of teacher support for student writing.

In Singapore, Ruddell (1998) found that using word processing resulted in better writing, encouraged students to organize the important rewriting and revision of their first draft, encouraged them to re-organize and review their tasks, and prevented them from worrying about the length of the final product. The potential to display a student's work anonymously was also found to be useful in addressing writing problems. Oliver's (1993) study found that word-processing enabled people to perform more extensive and complex revision, be more motivated and more positive about the writing process, and to improve the quality of their writing.

Gupta (1998) found that students' documents were longer, better-organised and used a wider range of vocabulary. Professional looking documents gave them increased pride in their work. He suggests that the teacher advise students on the screen concerning the style and organization of a document, while encouraging the use of the computer's facilities for lower-level skills.

The benefits of word processing has encouraged teachers to emphasize the use of a writing process where students' tasks are planned and developed through producing drafts, reading and editing. The students themselves are encouraged to review documents and include appropriate formatting for the type of document. They may start their tasks by selecting basic formatting features such as styles, heading, indents and

fonts then using built-in-tool such as outlines. They may add and subtract information from the document and then print out the first draft copy. After proofreading, they may mark what they decided to change and then create the next draft. Spelling and grammar checkers may be used to assist editing. This process will continue until the document is satisfactory and finally printed out.

Sommer (1986) reports that her USA college writing classroom began by creating a first draft, either with prewriting help or alone. Students were able to understand their problems and find potential solutions. She also found the advantages and positive effects of word processing with about 84% of students increasing an interest and enthusiasm for writing. Attendance and classroom discipline were better. Interestingly, these changes continued when the class returned to hand writing composition. Sommer also reports that students who use word processing revise their text differently from those who do not. Word processing was helpful in writing a first draft because students could edit, insert, delete and move the text easily. In addition, word processing meant that students did not have to worry about organization. Word processing could make the pre-writing stage faster because they need not waste time on handwriting.

Another study, by Comber (1985) reports that writing on the computer can be used to organize ideas and to form sentences then paragraphs without worrying about structure. The editing facility can be used to change sentences and paragraphs into a coherent text. She found from classroom experience that in the first stage students felt under-confident when approached while composing. They did not want to show their work until they were satisfied with their product. Whenever students had the opportunity to write, they wrote personal writing, expressing their ideas freely.

Comber (1985) also identified benefits for teachers when students used word processors. For example, students can work more independently allowing the teacher to concentrate on the content of a lesson. The teacher can ask students to research for business letters, memos, annual reports and minutes and let them produce the text themselves. The option of providing electronic feedback for assessment may reduce the teacher's workload, when they correct their students' writing (Comber, 1985). Sommer (1986) further stresses the benefit in not having to focus on as much on the lower-level skills such as spelling, punctuation, vocabulary, idiom, grammar and word choice as

was required in handwriting classes. Writing on the computer left the teacher mainly to focus on the higher-level skills such as content, style and organization.

Therefore computers provide “powerful and flexible writing tools that can have as significant impact on the writing process” (MacArthur, 1988). Using word processors for writing skills can develop students’ in liberating ways. For example, “ When students write with word processors they do not have to worry about their handwriting. Particularly, they do not have to think about spacing their letters, keeping them on the line, keeping the size of the letter or shaping them correctly” (Kahn, 1987). These are all important issues for Thai students writing in a foreign language, English.

McKenzie (1991) argues the impact of word processing meant significantly better in overall quality and better writing on the competency and mechanics subscales of an evaluation instrument. Students could produce significantly longer pieces of writing on the computer; and they reported very positive attitudes towards computer-based editing and writing; there were no macro-structural differences in writing across media; and only one surface feature, spelling, was found to be significantly better in the computer-written work. McKenzie notes that the students recognize how their writing has changed for the better when spending a year and a half using word processing.

Word processing “remains the most commonly used computer writing application in English classroom. It is the one with which teachers feel most comfortable even though the majority would exploit only a fraction of the software’s capabilities” (Snyder, 1994). “Students can experiment with writing and easily correct errors, thus encouraging risk taking and problem solving” (Tompkin, 1994).

Limitations to the value of word processing

The majority of research findings indicate that the use of computers can be beneficial in developing writing skills, especially to encouraging students to write more and to revise their work. However, there may be some limitations to the value of using a word processor. Some studies, such as that by Phinney (1989), have found disadvantages to using word processors and that not all students gain the same advantages over handwriting. For example, Hass (1989) found that in some cases writers plan less when they write using word processing, or they do not change the structure of their writing during the revision step. Hawisher (1990) found that word processing actually produced fewer

revisions. Bell (1991) argues that word processing did not affect the overall total of superficial mistakes. The results of Bell's study were analysed in terms of the five categories: punctuation, one word error, sentence structure, consistency and spelling. The study also showed that students did not write longer papers on a word processor.

Peterson (1993) points out that, although students wrote longer texts on the computer, it was because they could add text to the end of their paper rather than revising the text within their papers. Similarly, Jones (1994) found that students could produce longer texts but this did not mean that the quality of their writing improved. Willinsky (1990) also found no significant difference in marks earned by students who word processed their assignments compared with those who wrote by hand and Cross and Curey (1984) found that overall quality ratings for essays produced with word processing were similar to those for essays produced with pen and paper.

There are also some practical limitations. Firstly, the drafting cycle requires a lot of access to the computer which may be difficult in a school. Secondly, the lack of typing experience is an impediment for many who will work more slowly using a word processor than by hand writing. If students are not taught to touch-type they cannot be expected to type quickly and accurately.

The role of word processing in a writing classroom

Suprajitno (1998) explains that in order to help students to learn how to write with a word processor, teachers need to understand the role of the computer in the classroom and to select an appropriate word processing program for the students. Classrooms where computers are used for writing will be different from traditional classrooms. Rodrigues and Rodrigues (1986) suggest that in the word processing classroom, teachers should encourage students if they get behind to catch up with help from their friends, and also if they have difficulty with their work. Also, they believe that it is important for students to get used to the tool first so that their writing skill can increase later.

Using a computer connected to a multimedia projector is useful to demonstrate to a class how a draft can be constructed and changed in the process (Gupta, 1998). The demonstration not only illustrates how easy it is to make changes, but also how convenient it is to erase a word and start over. Moreover, teachers can encourage greater collaboration during the writing process with word processors than when students write

with pencil and paper. Also, teachers should write their own material to suit their students' needs (Gupta, 1998).

One of the problems explained in the last section is a lack of keyboard skills, typing speed and a general knowledge of how to communicate with the computer. Moore (1986) explained that the most obvious implication for the classroom of poor keyboard skills is how slowly communication with the computer will take place. Students are not going to become fast typists if they only spent several hours a week at a keyboard. This problem could not be solved overnight, the teacher needs to organize instruction in correct keyboarding techniques.

Using the Word Processor in an ESL context

Although the process approach to writing teaching has begun to filter into second language teaching, generally it appears that computer use in the second language composition classroom is still in its infancy. It has been demonstrated that students can learn to use the computer to write in a second language, but that rapid changes in writing behavior should not be expected (Phinney, 1989, p. 94). Since writing skills transfer from the first to second language, those students who are basic writers in their first language will also be basic writers in their second language (Raimes, 1987). Second language learners can benefit from the facilities a word processor provides, namely re-forming the text to accommodate any insertions, deletions or re-ordering, so that they always see the text in the form in which it will be printed. But this, by itself, will not teach them to write better. Students can be provided with other kinds of aids, which will gradually be withdrawn as the student gains proficiency (Higgins & Johns, 1984).

Crockett (2002) emphasizes the importance of helping ESL students to become computer literate because their daily lives will involve the use of computers, whether it is getting money from an ATM, communicating via email or doing word processing at work. Further, people need tools to be successful in a highly technological world that uses the English language. Computer literacy skills can enhance employability, and open up new avenues of communication, knowledge, information, and entertainment. For teachers of ESL students, it is not only necessary to teach computer literacy, but also how to get started, choose resources, use word processing as a learning tool, make it relevant to the level of students and keep it simple, positive and fun.

The context for the present study was with ESL students in a South East Asian country. There have been a few recent studies in the region considering the use of computers within such a context. For example, Greenfield (2003) studied the effect on ESL student language proficiency of computer-based activities in Hong Kong. The majority of students enjoyed using e-mail and felt they had gained general confidence in English and computer skills, and made significant progress in writing. Greenfield (2003) explained that the instructional model used incorporated several recommended elements into its design: (a) new, student-centered paradigms; (b) an integrated approach for combining computers and language learning; and (c) academically sound pedagogy, methods, and theory for teaching secondary ESL students. Greenfield found that the majority of the students (84%) preferred learning English with computers. The most common reasons given were that the computer made writing easier; it facilitated the correction of spelling and punctuation mistakes; it was modern, useful, interesting and faster than writing by hand.

Another study in Singapore conducted by Gupta (1998) involved 18 students writing compositions by hand and 13 using a computer. Student essays on the computer improved both in quantity and quality. The length of the essays increased, spelling accuracy improved and there was use of more varied vocabulary. The coherence of paragraphs improved but grammatical errors and sentence structure remained unchanged. Gupta concludes that the word processing tools offered students two facilities: the easy location of errors and the easy correction of errors. However, it could be argued that Gupta's results were due to expanded writing practice rather than to the effect of working on the computer.

Rodrigues and Rodrigues (1986) found that teaching writing effectively to ESL students with word processors required regular writing tasks to be organized so that students became comfortable with the tool and more independent of the teacher. Moreover, it is suggested that writing on the computer may help lower-ability students and ESL students. This is because students can use the facilities to support their writing, such as forming letters, checking spelling (Pennington, 1993).

It is generally accepted that ESL students make a lot of mistakes and errors in grammar because they use an inter-language whereby linguistic characteristics from the native language and the target language are mixed (Brown, 1994). Using computers for

studying grammar is much more motivating than handwriting with students able to avoid making grammatical mistakes and errors by using a variety of word processing tools such as computer grammar checkers. However, a grammar checker can only identify incorrect patterns and cannot point out all errors (Daiute, 1982).

Pennington (1991b) argues that word processing produces a variety of educational benefits, but not all studies have yielded a positive effect for word processing on student writing and in particular care needs to be taken when interpreting these results for an ESL context.

Measuring Writing Quality

Research into the use of word processing to support writing must consider the quality of documents produced. Unfortunately, as Werder (2002) explains, measuring writing quality represents a most challenging task. Writing quality needs to be judged according to agreed criteria relevant to the context and type of writing. For the present study, this meant that the criteria needed to be relevant to business documents, written in English, by second language writers for Thai industry. An important issue in this study was how to measure the quality of writing in a business document. Therefore, this section firstly considers methods for assessing the quality of writing in a document and then considers appropriate criteria.

Generally, quality of writing is measured using either a holistic or an analytic instrument. In Britain analytical marking has been used on national exams to evaluate particular writing skills performed within the context of actual writing (Hunter, Jardine, Rilstone, & Weisgerber, 1991). Holt (1993) outlines the methods used in holistic scoring: determining general standards for an assignment; making comparative judgement about quality; and explaining adaptations for assessing writing in particular circumstances and across disciplines. A holistic rating approach is often used to grade students' writing tasks while an analytic approach was used to concentrate attention on particular aspects of the writing quality (Hyslop, 1990).

Hays, Kathleen & Kathryn (1988) studied the assessment of argumentative writing by high school seniors and college undergrads to either friendly or hostile audience. The papers were holistically scored, rated for variables such as audience activity, the writers were then ranked on a Perry scale. The Perry scale rank correlated better than

demographic variables with holistic score. A significant relationship was found between audience activity, Perry scale rank, grade level and holistic scores.

The method of assessment used depends predominantly on the purpose of assessment. If the purpose is to provide feedback on ideas and structure then a more holistic approach is required. For example, Hyslop (1990) suggests that teachers should teach students to become their own best readers by responding to student drafts with fewer judgments and directives and more questions and suggestions. Writing quality should be assessed not with a test, but by viewing comments and thinking about the purpose for the writing.

The criteria used to evaluate the quality of a written document depends on the type of document, the objectives of the writing task, and the context for writing. These criteria are then collated into an assessment instrument. In order to address this variety when measuring the quality of writing, a number of studies were reviewed that used assessment instruments. An early instrument, developed by Hyslop (1990) rates a written document as high, middle or low quality in the following areas: the student's ability to use words accurately and effectively; the ability to use standard English; the ability to use appropriate punctuation; and the ability to spell correctly. Each of these skills is ranked for each paper from 1 (low) to 6 (high).

Werder (2002) provided some guidelines to help writers to develop evaluation criteria. They are: *design*, to develop the criteria and then match them with assignment goals; *process*, to use the criteria to assess the writing in process; and *product*, to use the criteria to assess the final product. Elbow (1997) provides suggestions for including writing assessments in a conventional grading system. Haswell (1983) argues for a "minimal marking" approach for grammatical mistakes in student writing, that is, simply indicate, using a tick or cross in the margin of the paper, where such mistakes are, and require the student to pinpoint and correct the mistakes. Students can correct mistakes marked in this way most of the time. The technique also reduces the number of errors that appear in the first drafts. Rieber (1993) suggests hiring paraprofessionals to evaluate the writing when there are large numbers of papers.

Canale et. al. (1988) has developed an instrument to define and measure the language quality of a document, analytically. This instrument known as the Analytic Scale of Writing Quality (ASWQ) measured writing quality in terms of 5 categories: Standards

of language usages (SLU), Standards of the written documents (SWD), Effectiveness for the reader (ER), The image of the writer (IW), and Quality of the message (QM). The instrument used in the present study was a modified version of this instrument consisting of 20 characteristics in total (see Table 3.3) to measure the quality of tasks.

Attitudes and Computer Use

The attitude of learners towards computers has been found to be an important factor in the way computers are used and the effectiveness of particular applications, including word processing. For example, Roblyer (1989) found that word processing seemed to have a positive effect on student attitudes toward writing. As a result, this study included an investigation of student attitudes towards the use of computers in Business English.

Attitudes towards using computers and writing

Learners views on computers vary according to their knowledge and experience with computer. For example, Seyal, Rahim and Rahman (2002) found that non-computing students in technical colleges in Brunei Darussalam had positive attitudes towards computers. These attitudes relate strongly to previous experiences for students and teachers. Plomp and Pelgrum (1993), for example, found that teachers who use computers in their classroom have a very positive attitude towards the use of computers and that students also have this attitude. In Thailand, Wannakan (2001) reported that students had positive attitudes towards learning when using computer-assisted instruction. Also Sringam (2001) indicated that adult students had a more positive attitude towards computers where the technology was integrated significantly to support student interactivity and collaborative learning.

Pagram (1998) found that word processing promoted students' motivation to write and improved attitudes towards writing. Similarly, Johnson (1987) reported increased motivation and enthusiasm for writing. Similarly, Renshaw (1991) indicates in her study that student's attitudes towards grammar and writing skills became more positive when they used a computer.

Gupta (1998) reports in her study that the students show a greater willingness to write using word processing. Furthermore, after her students had worked with computers they began asking their teachers to use the computer lab for other classes. Similarly,

Greenfield (2003) reports that computer communication in the second language classroom improves student attitude towards writing.

Levine and Schmidt (1995) found that students had a significantly more positive attitude toward their classroom environment in inquiry-based computer classrooms. An additional study of junior high school science classroom shows that computer-based classroom is characterized by a high level of cognitive involvement and satisfaction compared with traditional science class. In addition students in computer-based classroom feel particularly positive about their role in decision-making.

Similarly, Ramos (2002) reports that overall, students respond more positively to computer-based comments than to handwritten comments and are more likely to attempt to address them. This study showed that using instructional technology to plan and revise writing motivated the students. They showed a greater interest in revisiting and revising their text when guided by instructional technology.

A number of studies have considered gender differences relating to writing with computers compared with handwriting. Several of these have shown that boys hold more positive attitudes towards computer use than girls, but girls are more positive about writing than boys and tend to write better. These findings suggest that the incorporation of computers into a writing class context provides a new perspective for both genders in the connection between computers and writing (Levine & Schmidt, 1995).

There are also the attitudes of teachers towards using computers to consider. Although some English teachers welcome computers into their English classes, many do not have adequate experience with the technology and therefore are not willing to use the new technology in class.

The present study has investigated students' attitudes towards computer use in Business English. There are many perceptions of what a computer is which result in different ways of computer users relating to computers (Newhouse, 1999). The Computer Attitudes Scale (CAS) developed by Loyd and Gressard (1984) was used in this study. The next section presents the impact of computer use on attitudes.

The impact of computer use on attitudes

In general, the impact of computer use on attitudes towards writing and learning is positive, but the actual impact on writing instruction depends on how teachers and students make use of the technology. When students see their finished written pieces produced with the assistance of a word processor, they have great satisfaction and enjoyment (McGregor, 1984). This changes students views of handwriting which has been an approach “where correctness mattered more than content and neatness possibly stifled creative impulses” (O'Brien, 1992).

Sommer (1986) reports on the advantages and positive effects of word processing with about 84% of respondents showing a greater willingness to write. The most visible change was their motivation with increased interest in and enthusiasm for writing. Attendance and classroom discipline were also better. But most importantly, all of these changes lasted when students returned to handwritten composition. Changes in attitude have also been observed among learners who may previously have never touched a computer (Quann & Satin, 2000). Overall, the pressure of seeing instant clean copy of corrected text seems to create a powerful new motivation to write.

Adult learners with computers

The present study involved higher education students learning to write in English as a second language by using word processing. Some research has shown that there will be important differences in the way adult learners are likely to use computers to learn English as a second language. For example, Pawloski (1991) states that adults tend to need skills that will help them in the business world, which usually means connected to their job or hoped for job. Pawloski's survey found that adults wanted to learn word processing, how to use databases, spreadsheets and programming.

Adults are a diverse group of learners who use their past experience and tend to be interested and want to comprehend what they are learning rather than memorizing it. They are motivated by the satisfaction of their needs rather than by obtaining a grade (Pawloski, 1991). Pawloski found that adult attitudes towards computer use included: their need to know how they could use the computer to make their life easier; their interest in keeping up with their children; their need to overcome a fear of computers, and their need to improve keyboarding skills.

Similar to the situation in Thailand, Pawloski (1991) found that adult learners learnt better if they knew the aims of what they had to learn. Adults' goals, when entering a computer class, are different from the goals of non-adult learner. Adults tended to sign up for a class in computer use in order to solve a problem which might be relevant to a job or a prospective job. They also tend to be much more anxious about computers than non-adult learners. The survey showed that the adults wanted to learn the basics about computers such as word processing, and basic programming language, and they enjoyed using word processing. The survey also showed that adults tended to need skills that will help them in the business world.

The same situation applies in Asian and Western countries, Liang and McQueen (1999) found that adult learners, whether from Asian and Western countries, need to increase their knowledge or skills because they had been away from school for a long time.

Nue and Scarcella's (1991) study focuses on adult ESL students found that their 54 undergraduate writers expressed a strong preference for word processing over 'pen and paper' methods and developed more positive attitudes towards the writing process. Similarly, Oliver's (1993) study focused on the written composition and processes of adult academic ESL writers. He used Canale et al's (1988) holistic/analytic measure of writing quality to assess the written product. The study found that the revisions made at the macrostructure level of adult academic ESL writers, texts were significantly different when word processing and when using pen and paper and tended to be much more comprehensive for word processing.

Rosen (1996) suggests that adult learners who learn English as a second or other language should expand their use of computers. One of the reasons is that they improve writing skills, for example, they learn new words through recording results of virtual visits to other countries. However, adult learners do not always find it easy to learn to use a computer.

Keeler and Anson's (1995) study found that their college students learned more when they worked in a laboratory but had high anxiety levels about using computers. Further, they suggest that computer support should be more informal and that a peer counselling model may also be an effective and cost-efficient method for students to reach their goal.

Summary

A number of areas of research have been brought to bear on the field of teaching Business English to ESL Thai students using word processing. The majority of research findings indicate that the use of computer can be beneficial in the writing process for such students.

For more than ten years, there have been discussions about the rapid changes brought on by technological developments. Various learning theorists support the use of computers to enhance the learning and the motivation of students (Bigge & Shermis, 1999). Students benefit from computer use and hence this should be related to learning activities which become an integral part of education. For Business English instructors there is the added benefit that using computers helps prepare graduates for entry into employment in the modern workplace. Business document writing is a routine task for office workers. The goal is to not only to develop the quality of students' business writing skills but also to foster an international perspective for the interdependent business world.

Since word processing is a way of writing, it should be integrated into the English writing courses. The use of word processing tools facilitates tasks involved with the writing process. Therefore, teachers of language should be the strongest supporters for the use of computers across the curriculum as an aid to teaching and learning. However, this increases the demand for access to the educational institution's limited supplies of computers. With computers in Business English students will be encouraged to engage in integrated language activities relating to a variety of business in the marketplace. The variety of written genres used in business contexts needs to be included to provide guidance on how to produce different kinds of letters, and memos in an appropriate format. Moreover, the appropriate levels of accuracy and fluency can be gained. However, an increase in the institutions' hardware is the only solution. The government policies that need to ensure that the institutions have sufficient numbers of computers available.

The present study sets out to design a new curriculum for teaching Business English relevant to the workplace by making use of word processing. The process involved with Nunan and Burton's (1989) course design. The next chapter presents the methodology of this study.

Chapter Three

METHODOLOGY

This chapter describes the background to the methodology and the research method including descriptions of the research design, the samples, the data sources, the instruments and the processes of data analysis employed. The study conducted research into the implementation of computer use to support a revised curriculum for a Business English units of study at the Rajabhat Institute Rajanagarindra Chachoengsao in Thailand. The main focus was on the use of word processing to improve the production of business documents in English. Therefore a pretest, double posttest positivistic methodology underpinned the study but this was modified to include the use of some qualitative data to assist in interpretation and to address secondary research questions.

Background to Methodology

As outlined earlier the National Education Act of 1999 was developed by Thai academics and education experts to set the mission for all higher education institutes, such as Rajabhats, in Thailand (Kaewdang, 2000). This mission included a commitment to working as a training institution for local communities. In the Faculty of Humanities and Social Sciences at the Rajabhat Institute Rajanagarindra Chachoengsao this commitment gave impetus to the provision of various Business English subjects and an interest in providing a reasonable mixture of English and computer use to suit the needs of the local community. The intention was to provide learning programmes to train students for local industry and community settings. Two critical issues have been identified that need to be addressed to better fulfil these intentions. Firstly, there are not enough qualified Business English instructors to contribute to such programmes. Secondly, there is a need to provide opportunities for stakeholders and the institute to communicate over the form and content of the curriculum. This study was concerned with addressing the second of these issues.

Business English at the Rajabhat Institute Rajanagarindra Chachoengsao

Business English units of study have been provided for students at the Rajabhat Institute Rajanagarindra Chachoengsao since 1986. These are core units for students who are majoring in tourism, marketing, accounting, and human resources both in the Bachelor degree and Associate degree. They are also elective units for the English programme in

the Faculty of Humanities and Social Sciences for both English major and minor students. There are two units, Business English 1 and Business English 2, which are provided in each academic year. Each unit is worth three credits with two and a half hours contact time per week for sixteen weeks. Business English 1 is a pre-requisite unit for Business English 2. Generally the students who are enrolled in a four-year Bachelor degree have to take Business English 1 and then Business English 2. For students who have completed the Associate degree there is no requirement to complete Business English 1 before enrolling in Business English 2.

Business English units are provided through the English Department of the Faculty by its staff who develop and deliver the curriculum. The Department also provides two fundamental English units of study, *English for Communication and Information Retrieval*, and *English for Communication and Study Skills*. In these units, the students learn basic computer operations and how to access information using the Internet together with basic communicative English. However their use of computers in these units at the time of the study was likely to be inconsistent because there were only a few computers available due to budgetary limitations and the lack of confidence and willingness of staff to expend the effort required to implement computer use.

Rajabhats have endeavoured to encourage instructors to create their own curriculum based on the needs for development in the local community. This study was conducted within this context where the curriculum for the Business English units was to be revised to be based more on practical experience and the needs of potential local workplaces to provide more skilled personnel for employing organisations. Within this context it was considered that one area of immediate urgency would be the integration of computer use into the Business English curriculum to enable students to be better prepared for successful inclusion in local organizations.

Research Design

This study was experimental in nature employing a modified Randomized Control Group Pretest-Posttest design. Details of this design are discussed later in this chapter when presenting the procedure. The intervention comprised the implementation of a new curriculum with one group using computer support, mainly through the use of word processing software. Two groups of students were compared completing the Business English 2 subject over sixteen 140 minute weekly sessions for one semester. One group

completed the activities in the curriculum only using handwriting and the other group completed the same activities using word processing. The study investigated whether the use of word processing in a Thai Business English subject produced higher quality documents than handwriting where English was a second language. The study also considered the impact of this electronic tool on the writing skills of students and their attitudes towards the Business English subject, word processing and computer use.

The Population and Samples

The study used a sample of students from the Rajabhat to form a treatment and control group and a sample of executives from potential workplaces to assist in revising the curriculum.

Sample of students

The main sample for the study comprised two classes of second year students selected from the population of undergraduate students who were majoring in marketing and accounting at the Rajabhat Institute Rajanagarindra Chachoengsao, Thailand. The students enrolled in the Business English 2 subject were either doing so as a compulsory unit of the Faculty of Management Sciences or an elective unit of the Faculty of Humanities and Social Sciences. There were six classes with a total of 228 students studying this subject in 2001, each class consisted of approximately 30 students. These classes could be regarded as quasi-randomly allocated groups as students were not allocated to classes on any academic basis or on the personal characteristics of students. However for this study the researcher selected two classes and then re-allocated students to the classes using matched-pairs on the basis of English competency using their examination results from their fundamental English unit (*English for Communication and Information Retrieval*). One of these two classes was then arbitrarily selected to be the treatment group and the other to be the control group. Each class initially consisted of 29 students.

The fundamental English final examination paper scores were used in order to ensure that the two classes for the study were matched in entry English proficiency. The scores were ranked from the highest to the lowest allowing the students to be designated as relatively high or low in English ability prior to commencement of the intervention. Progressively students with equal or closest scores were split to create the two groups.

Different instructors taught the two selected groups. The treatment group was taught by the researcher whilst the control group was taught by a colleague from the English Department who acted as a co-researcher. This is recognised as a potential confounding variable whose effect was minimised through the use of standard learning support materials and close communication between the instructors.

Sample of executives from potential workplaces

A sample of 13 executives represented workplaces that were selected from the potential local workplaces for the students were used to provide information in order to develop the new curriculum. These executive staff represented twelve companies or firms (one company had two workplaces with one executive from each in the sample) and were mainly directors of human resource departments (refer to Table 4.1 for details on these executives and their companies). The researcher visited the companies and talked with these executives who indicated that they were happy to take part in advising on the development of course materials for the students who would be potential employees for their organisations. The lessons and activities were developed after the researcher had investigated the needs of the workplace with these executives who were then asked to review the materials.

These workplaces were selected because graduates of the course typically found employment there as indicated in the journal of Rajabhat Institute Rajanagarindra. The criteria used to select the workplaces were:

- The workplace was in the same geographical location as Rajabhat Institute Rajanagarindra;
- Rajabhat Institute Rajanagarindra students had been trained in the workplace (Students have to complete a 4 months full-time workplace practice in the Bachelor course.);
- The company responsible for the workplace conducted business with overseas organizations and therefore was likely to require some business correspondence in English; and
- The designated executive at the workplace indicated in conversations with the researcher that he/she was happy to cooperate by filling in a questionnaire.

Word processing treatment

The computer platform used with the treatment group was the Microsoft Word word processor running on the Windows98 operating system on a Pentium 3 microprocessor. The computer hardware was typical for a personal computer system with internal hard disk and floppy disk drives. The computers were networked in a computer laboratory. Documents were typically saved to a hard disk, printed and then saved on a floppy disk.

During the second semester of the academic year students in the treatment group completed all of their activities using word processing. Once a week each student was given a writing exercise to complete on the word processor. These exercises included writing various business letters and other business documents. Each exercise required the student to produce one document. During each weekly session students were also encouraged by the instructor to study vocabulary, grammar, model letters, business styles, and language use. At the end of the semester each student completed two writing tests to produce two different types of business documents.

Handwritten treatment

Students in the control group used handwriting with pen and paper to complete the same writing activities as those done using word processing by the treatment group. The same curriculum materials and process of teaching Business English was used but by different English instructors and with the students using different technologies. The students completed all documents for the unit in a handwritten form. As for the treatment group the students completed two writing tests at the end of the semester. These were the same tests and rated using the same method as for the treatment group, the only difference was they were handwritten.

The co-researcher

The co-researcher was an English instructor who had considerable experience (similar to that of the researcher) in teaching Business English at Rajabhat Institute Rajanagarindra. The researcher invited her to be a co-researcher and teach Business English to the control group during the main intervention in order to avoid bias and limit the impact of a number of variables such as teaching experience, attitudes and capabilities. Both instructors had taught the subject for a number of years and had similar attitudes and levels of skill in Business English and using computers. By the similarity of the co-researcher to the researcher and the strict adherence to a curriculum

book and activity book it was considered that the effect of the involvement of the researcher could be minimised.

Data Sources and Instruments

For this study the researcher collected data from a range of sources including three student writing tests (one pretest and two posttests), four student surveys, a student interview, an executives survey and interview, and informal observations of lessons and interviews with the other instructor. The researcher used a number of instruments including the Computer Attitude Score (CAS), questionnaires for the surveys, interview proforma, and a modified Analytic Scale of Writing Quality (Canale et al., 1988) to rate documents produced by students in tests. A coursebook and activity book were also created as resources for the course.

A summary of the instruments is provided in Tables 3.1 and 3.2. A description of each instrument and discussion of their use and analysis is given in the sections following the tables. The instruments are defined firstly so that they may be referred to in the overview of the procedure that follows later in the chapter.

Table 3.1

Names, purposes and descriptions of data collection instruments used with the sample of executives.

Name of Instrument	Purpose	Description
Executive Questionnaire (Appendix B)	To collect information from typical workplaces concerning the English language and computer literacy requirements of employees. This information was used to develop the new course materials.	20 items requiring either closed or open responses. Items related to the background of the executive, their expectations of prospective employees and their opinions on the course and learning materials.
Executive Interview (Appendix C)	To find out what types of employees the executives wanted to work in their workplaces and to get more detailed information to develop the course material.	An unstructured interview related to the use of English in the companies. The questions were different in each company or firm.

Table 3.2

Names, purposes and descriptions of principal data collection instruments used with the sample of students.

Name of Instrument	Purpose	Description
Background Questionnaire (Appendix D)	To collect information from students on their previous experience with the English language and computers.	17 items consisting of 16 tick boxes response and 1 open response item.
Computer Attitudes Scale (CAS) (Appendix E)	To measure the students' attitudes towards computers and using computers	A questionnaire developed by Loyd and Gressard (1984). 30 items using a five point Likert Scale response format. Included both positive and negative items.
Analytic Scale (Table 3.3)	To define and measure analytically the language quality of a business document.	A modified version of the Analytic Scale of Writing developed by Canale et al (1988). Measures writing quality in terms of 5 categories of 20 characteristics in total.
Pretest (Appendix F)	To assess the students' knowledge and skill in producing creative business documents in English prior to commencing the course.	Students were required to write a business enquiry letter from the situational information provided.
1st posttest (Appendix G)	To assess the students' knowledge and skill in creating a business document in English at the end of the course.	Students were required to write a business enquiry letter from the situational information provided.
2nd posttest (Appendix H)	To assess the students' knowledge and skill in creating a handwritten business document at the end of the course.	Students were required to write a business complaint letter from a newspaper advertisement.
Curriculum Questionnaire (Appendix I)	To collect information from all students on completion of the course about their attitude towards the new curriculum and experiences during the course.	11 items with 10 employing a five point Likert response format and one open response providing opportunity to give advice on improvement of lesson activities.
Treatment Questionnaire (Appendix J)	To collect information at the end of the course from the treatment group about their attitude towards using computers in the Business English lessons.	4 main items with 28 sub items using tick box responses.
Student Interview (Appendix K)	To collect information from the students who the researcher deemed to be different from others based on responses to items in the Background, Curriculum and Treatment Questionnaires.	Interview proforma developed by the researcher comprising seven questions with support for open-ended responses.

Executive Questionnaire

The main aim of this study was to provide a course for Thai Business students to better prepare them for the workplace. The purpose of the *Executive Questionnaire* was to guide in the construction of lessons for Business English and to support the development of the course materials. The analysis of the data from this questionnaire was used to guide the development of the curriculum to increase the effectiveness of the lessons and its suitability and thereby provide for the needs of the workplace. The *Executive Questionnaire*, along with a letter of request from the President of Rajabhat Institute Rajanagarindra and a letter of agreement between the participants and the researcher, was sent to the manager of each selected company who typically forwarded it to the Personnel Manager or an employee with the same function. Those who were willing to participate signed the agreement form (refer to Appendices L and M respectively). A thank you letter (refer to Appendix N) from the researcher was sent after return of the questionnaire.

All information was kept confidential. The only parties that had access to the original data were the researcher and her supervisor. Summaries of these data were presented to other interested parties in such a way that no participant was specifically identified.

Executives Interview

To provide more indepth information and to review draft versions of the course book and activity book, unstructured interviews were conducted in Thai by the researcher with six of the executive staff who participated in the earlier survey. These interviews were intended to gain the executives' overall impressions of the new course materials. The executives had been sent draft copies of the material to examine the content and activities. They were asked to express their attitudes and opinions towards the new material in open-ended interview questions.

Making an appointment to interview some executives was difficult due to their busy schedules. One had to reply to the questions using e-mail and two sent short notes to recommend changes to the course book. The others talked in person with the researcher. All were told to feel free to provide more detailed information concerning improvement of the new curriculum. Some recommendations from the executives were used to help further develop the material.

Background Questionnaire

The *Background Questionnaire* was designed in Thai by the researcher to elicit students' previous experience with computers, their current use of computers, their perceptions of their Business English proficiency and their attitude towards learning English supported through the use of computers (refer to copy in Appendix C). The questionnaire required respondents to tick boxes, complete the blanks and write comments. It was used to survey all students in both the treatment and control groups prior to starting the course.

All responses were coded numerically, entered on a spreadsheet and then output to be analysed using SPSS to provide descriptive statistics such as means, standard deviations and frequencies. Some correlation tests were conducted between items and t-tests were conducted between the treatment and control groups. These data were also used in later analyses to consider differences in writing test results.

Computer Attitude Scale (CAS)

The study needed to include a measure of the attitudes of students towards working with computers before and after studying the Business English subject. The CAS, designed by Loyd and Gressard (1984), is an instrument that measures attitudes towards using computers. This instrument gives a total score and scores on three sub-scales: Anxiety, Confidence, and Liking. Each sub-scale consists of ten items with each item presented as either a positively or negatively worded statement such as "I would like to work with a computer", "I feel angry and hostile towards computers", "I don't think I could handle a computer course." The CAS was translated into the Thai language by the researcher for the students to use. Although no instance of its use in Thailand was found it was considered to be relevant as the Thai education and business environments are becoming increasingly westernised and could be considered fairly similar to those encountered by Loyd and Gressard.

The instrument uses a four point Likert response format on the thirty items without a neutral option. Alpha reliability coefficients reported for the instrument were 0.78, 0.82, 0.75 and 0.91 (Massoud, 1990), for the Anxiety, Confidence, and Liking sub-scales and the total scale score, respectively. A later study by Kluever, Lam, Hoffman, Green, and Swearingen (1994) used a modified CAS and identified four sub-scales, the fourth

being instructional usefulness, and recorded reliabilities between 0.70 and 0.94. While another modified version reported lower reliability coefficients (Woodrow, 1994).

Responses from the CAS were entered into a spreadsheet using numeric codes to represent the marked alternatives on the Likert scale. The positive items were coded by 4, 3, 2, 1. On the other hand, the negative items were coded by 1, 2, 3 and 4. The spreadsheet data were then analysed using SPSS to calculate the total scale score for each student. The alpha reliability was calculated for the total scale. A mean, standard deviation and frequency distribution were produced for both groups using these scores.

Writing Quality Tests

The study required the measurement of the quality of the business documents produced by students. This was required so that comparisons could be made before and after the course and between documents produced with handwriting and those produced with word processors. For these comparisons three business document production tests, one pretest and two posttests, were conducted. Their quality was measured using the *Analytic Scale* with three experienced assessors rating each of the documents anonymously. All writing tests were conducted in the English language.

Analytic Scale

There are two fundamentally different approaches used by researchers to measure the quality of writing, a holistic approach or an analytic approach using a standardised instrument based on specific criteria. Some studies have used the holistic approach where a panel of readers judge the quality of a document as a whole without attempting to use specific criteria (Canale et al., 1988). The analytic approach depends on the identification of key criteria relevant to the quality of the document and then asks the readers or raters to score each document on each of these criteria. This set of criteria thus become a standardized test instrument. One such instrument is the *Analytic Scale of Writing Quality* (ASWQ) developed by Canale et al. (1988). This instrument was designed to define and measure analytically the language quality of a document in terms of 5 categories of criteria of 20 characteristics in total.

In the study of English as a second language subjects the ASWQ has proved to be both reliable and valid. Using four raters, Canale et al. (1988) found that it achieved an overall inter-rater reliability coefficient of 0.92 (using the Hoyt Estimate of Reliability).

They also found the grouping of criteria into five general aspects of writing to have high validity. In this present study the analytic instrument used to assess writing quality was a modified version of the ASWQ (Canale et al., 1988).

The *ASWQ* (Canale et al., 1988) measures writing quality in terms of 20 characteristics grouped in 5 categories: Standard of language usage (SLU), Standard of written document (SWD), Effectiveness for the reader (ER), Image of the writer (IW), and Quality of the message (QM). Each category is measured on a scale of one to five and consists of a different number of criteria that are indicative of writing quality.

In the present study the researcher modified Canale's instrument in order to suit business documents. The original *ASWQ* was designed for use with writing creative literature. The five general categories used in the study and their characteristics are presented in Table 3.3. Minor changes were made to the ER category where the characteristics of effectiveness of literacy devices (e.g. imagery), effectiveness of ideas, arguments, and example were deleted. The researcher added "precise vocabulary" to the image of the writer (IW) category. At the same time, the researcher added "well organised" on quality of the message (QM) category, and deleted "balance". The characteristics deleted were deemed by the researcher not to be relevant in a business writing context.

Scoring of the business writing using the analytic instrument was done independently by three assessors, one of whom was the researcher. The three ratings were then summed for each category. The three assessors all had many years of experience in teaching English and evaluating English composition. These assessors scored all of the written activity pretests and posttests word processing and handwriting.

The *Analytic Scale* categories were discussed with each assessor in order to ensure a common understanding for each scale. The instrument was used in a pilot study at which time the three assessors discussed the results and decided that some student's documents should be allocated a zero rating. Therefore for each scale an analytic score of zero to five instead of one to five was used for each of the five categories by each assessor with each document. A record sheet was organised for the three assessors to work with the analytic scoring criteria (Table 3.3).

Table 3.3

The five general categories of the Analytic Scale modified from the AWQS of Canale et al. (1988).

Label	Category and Characteristics	Description
SLU	Standards of Language Usage	
	- Spelling and capitalisation	Correct spelling and use of capital letters.
	- Grammar	Correct grammar including tense, sentence structure, etc.
	- Vocabulary	Appropriate and precise words are used.
	- Lexicon	Relating to items of pronoun, conjunction or transition expression such as however, on the other hand, in addition, and finally.
SWD	Standard of Written Documents	
	- Layout	The overall elements format of business documents such as address, date, salutation, body and complementary close etc.
	- Neatness	Relating to alignment, spacing and margins
	- Punctuation	Appropriate use of punctuation characters and spacing
	- Paragraphing	Separating into appropriate paragraphs, indicated by space between paragraphs
ER	Effectiveness for the Reader	
	- Appropriate language	Relating to suitable language usage such as stating purpose, making an enquiry, apologizing and complaining
	- Length	Appropriate length of the body of the documents which go straight to the aims.
	- Subject matter	Relating to the formality of the language
	- Choice and variety of sense	Suitable degree of detail or background provided
	- Depth of discussion	Relating to the emphasis idea
IW	Image of the Writer	
	- Ease	Easy to read and understand
	- Clarity of purpose	Relating to the response of communication
	- Maturity of expression	The idea produced by the writer
QM	Quality of the Message	
	- Continuity	The consistency of facts opinion and writer perspective relevant to newly introduced ideas
	- Completeness	All necessary ideas included in a piece of writing task
	- Well organised	Relating to the unity and logically organization of each idea
	- Development	The sense of direction and the order of presentations of ideas and progression to the next idea

Before rating test documents they were all given a student identification code and names removed to avoid bias in assessment. All scores from each assessor were entered on a spreadsheet by the researcher and were then analysed using SPSS to calculate the total scores for each student on each category and descriptive statistics were generated

for the cohort. An inter-rater reliability was also calculated. Comparisons were then made of the achievement of students using word processing and those using handwriting and between pretest and posttest using t-tests, effect sizes, percentage and ANOVAs.

Pretest

The researcher constructed a pretest that was reviewed by her supervisor and two English instructors who were more experienced in teaching Business English at Rajabhat Institute Rajanagarindra. The pretest was designed to assess the quality of business documents produced by students in both groups prior to commencing the course. It required the preparation of a business enquiry letter. The control group wrote by hand and the treatment group used the word processor on a computer. Each of these documents produced in the test were assessed by each assessor using the *Analytic Scale*.

All scores from each assessor were entered on a spreadsheet by the researcher and were then analysed using SPSS to calculate the scale and total scores for each student and some descriptive statistics for the cohort. T-tests were used to compare the document quality between the treatment group and the control group.

To check the extent to which the assessors were influenced by the typed nature of the word-processed documents the researcher retyped the documents for the pretest for the control group maintaining the content and formatting. All of these retyped documents were mixed and assessed again by the same assessors using the *Analytic Scale*. All scores were entered onto a spreadsheet and were then analysed using SPSS program to calculate the scales and total scores for each student and the descriptive statistics for the cohort. T-tests were used to compare the ratings of the handwritten and retyped versions of the pretests.

First Posttest

At the end of the course, the researcher used the same activity as the pretest, an enquiry letter, for the first posttest. This was done to not only allow a comparison of the quality of business documents produced between both groups but to also allow a direct comparison with the pretest as a measurement of writing skill development during the semester. Once again the control group wrote by hand and the treatment group used the

word processor and all the documents produced were scored using the *Analytic Scale* by the three assessors.

All scores were entered onto the spreadsheet and were then analysed using SPSS to calculate the total scores for each student and the descriptive statistics for the cohort. T-tests were used to compare the achievement of students using word processing to those using handwriting and to compare with pretest scores.

Second Posttest

A week after the first posttest, the second posttest was conducted using a different activity to that of the other two tests. The document to be produced was a complaint letter based on a situation found in a newspaper advertisement. The second posttest was designed by the researcher and checked by English instructors for validity. It was given to both groups with all students handwriting the document this time. The second posttest was given to determine whether writing skills development by students in the treatment group using word processing would be evident when they were required to handwrite. The control group provided a comparison to account for the different activity from the other two tests. Conducting this second posttest also permitted students to be asked in the interviews which method of document production they preferred.

All student test documents were scored using the *Analytic Scale* by the three assessors. T-tests were used to compare the quality of the handwritten documents produced by the two groups and to compare the assessed quality of writing skills with the previous two tests, particularly for the treatment group. Finally a repeated measures test was conducted to consider the differences between the three tests and both groups for the five categories of writing quality.

Curriculum Questionnaire

The *Curriculum Questionnaire* was constructed in Thai by the researcher to collect data on the students' attitudes towards the new Business English curriculum. It was conducted with both the treatment and control groups. The ten items used a four point Likert response format without a neutral response option. Responses to the questionnaire were analysed after the completion of the course and did not influence the student achievement or standing in the course.

Responses from the questionnaire were entered into a spreadsheet using numeric codes to represent the marked alternatives on the Likert scales. The spreadsheet data were then analysed using SPSS to provide descriptive and reliability statistics for the two groups.

Treatment Questionnaire

The *Treatment Questionnaire* was constructed in Thai by the researcher for the treatment group to complete after finishing the prescribed lessons. The purpose of this questionnaire was to investigate the students' attitudes towards Business English when using computers. It did not influence the results of their other studies in the course. The items were based on their perceptions of their English proficiency and their competence and use of computers. The 20 items required either a ranking of given responses or the selection of a response using a five point Likert scale.

Responses from the questionnaires were entered on a spreadsheet using numeric codes to represent the marked alternatives on the Likert scale. The spreadsheet data were then analysed using SPSS to provide descriptive statistics for the group.

Student Interview

An unstructured interview was conducted in Thai with a selection of the students at the conclusion of the study. These interviews were intended to provide more indepth information on their response to using the word processor as a writing tool and how the processes of composing on the computer and composing with handwriting differed for them. The interviews were recorded on audiotape.

The researcher randomly selected five students from the control group and five from the treatment group to interview. The interviews were conducted after all marks for the subject were finalised so that students were aware that the interviews could not influence their grades. They were asked to describe their attitudes towards and opinions about Business English and the new curriculum. The students from the treatment group were also asked to reflect upon the differences that they found in having to handwrite of the second posttest compared with word processing the first posttest. They were asked, what the two most difficult things about handwriting the posttest activity were, what the two most difficult things about word processing the posttest activity were and which they preferred, handwriting or the word processor. This information was added to an attitude profile on selected students.

Overview of Procedure

There were four distinct phases to the study: (1) a survey of typical workplaces, (2) the development of a new curriculum, (3) a pilot study and (4) the main intervention. Each of these phases is discussed in detail in this section. An overview of these procedures is given in Figure 3.1.

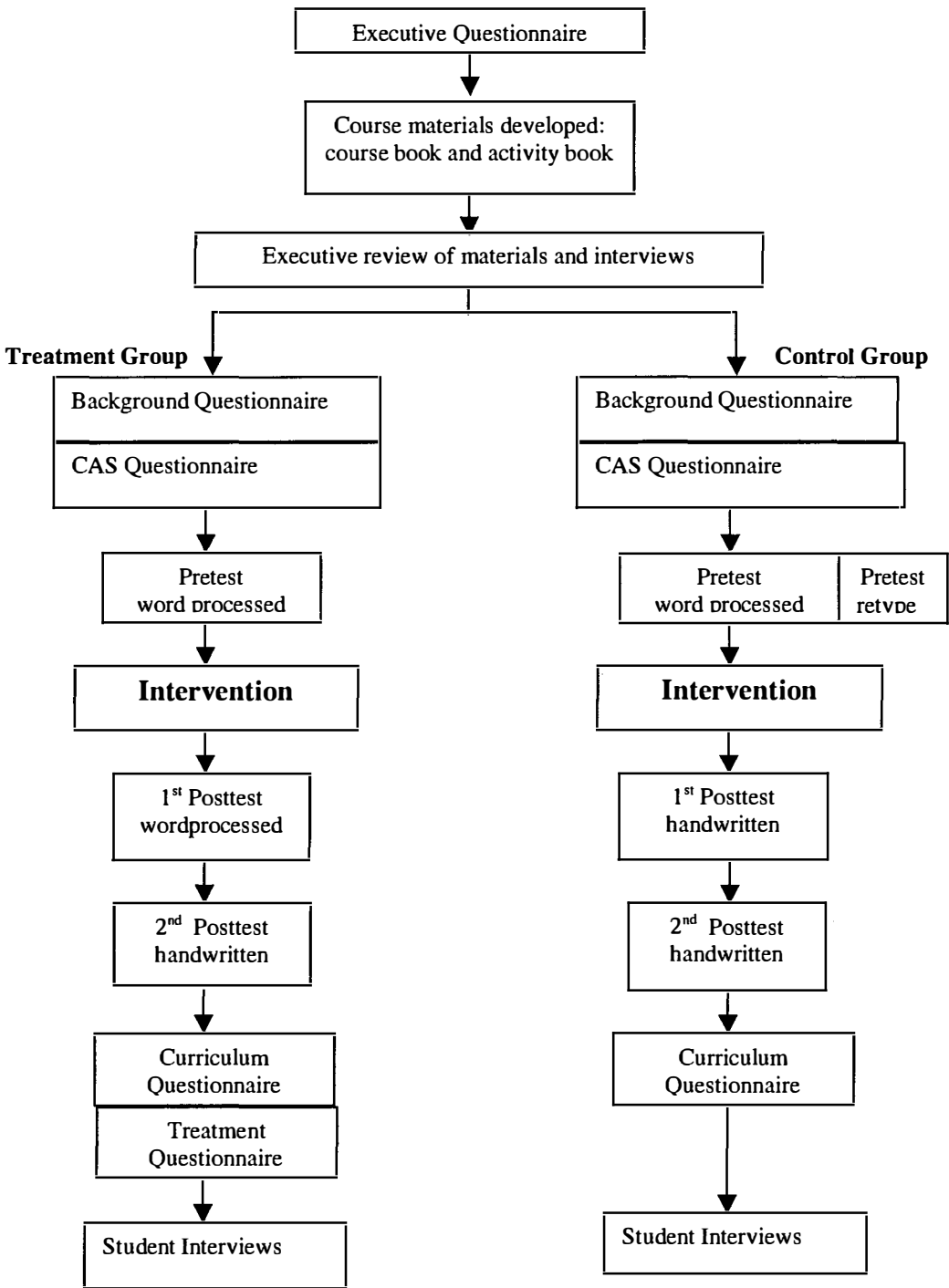


Figure 3.1 Flowchart of the procedure used in the study to collect data.

Survey of Workplaces

Thirteen local workplaces were selected by the researcher to be surveyed using the *Executive Questionnaire* (Table 3.1). After the researcher had surveyed the workplaces, a course book and an activity book were constructed to support the new curriculum. The interviews with executive staff were designed to assist with the development of these course materials, which were then used for the pilot study.

Development of New Curriculum

After collecting the questionnaire data from the executive staff, the new curriculum was developed to suit the course description and the perceived needs of the workplace as guided by the survey of the executives. A course book and an activity book were written to support the new curriculum. The plans and support materials for the new curriculum were reviewed for suitability by six of the executives and some of the English instructors from the Rajabhat.

To ensure that the course materials would prepare students for the workplaces, the researcher collected activities for a variety of types of correspondence. Although speaking and listening skills were not the focus of this study, the executives indicated that these were also important communication skills required in their businesses. Therefore, the researcher added to the new curriculum some sections on speaking and listening together with some sections on reading.

The course book consisted of 13 modules, each with four sections. The first section explained how to write a particular type of business document. The second section was on grammar use and exercises. The third section was on vocabulary and exercises. The last section provided mainly activity tasks. The students had to finish each module in a single two and a half hour session. The activity book consisted of the exercises from the course book. Both books were used during the pilot and main studies. The control group received both books in paper form while the treatment group received the course book in paper form and the activity book as an electronic file on floppy disk. The researcher together with the technician installed the activity file on the server disk and floppy disks.

Pilot Study

Two classes of second year undergraduate students who took Business English 2 as a compulsory major subject at Rajabhat Institute Rajanagarindra were selected to do the pilot study for one semester. The purpose was to trial the new curriculum materials, all the instruments and to train the assessors in the use of the *Analytic Scale* so that any problems could be addressed before the main study.

The pilot study was arranged from June to September 2001. The researcher presented all sessions in a computer laboratory for a treatment group. The control group was taught in a normal classroom by the researcher. The students worked 140 minutes per session once a week for a 16-week semester. They had to complete all of questionnaires and the pretest and one posttest. The three assessors scored the documents for all students on both tests.

After the pilot study, the course book and activity book were edited. Some sections on grammar and some of the content for each module were removed because the students were not able to finish all of them. The email and fax sections were split because there were too many activities for one class time. A reading graphs module was added. In addition the wording of some items in the questionnaires and interviews were improved.

Some technical problems also occurred that had to be solved before the main intervention. For example, the printer was not accessible by every computer. At one point the exercises installed on the server disk disappeared. Some students could not understand the English menus of the word processor clearly. Some computers crashed while doing the exercises and some would not save documents to floppy disk. The Internet for the e-mail module was very slow and was sometimes down. In some lessons, 20 to 30 minutes of lesson time was lost trying to fix persistent problems with connecting modems. All of these problems were solved except the Internet connection.

The Main Study

The main intervention was conducted between November 2001 and February 2002. Sixty-one students were randomly selected to take part in the study. These students were split into two groups. Match-pair groups using scores from an English proficiency examination paper conducted during the semester break. Students were ranked using their fundamental English score (*English for Communication and Information*

Retrieval) and then divided into two groups by alternating down the rankings. The student orientation was held and then the *CAS* and *Background Questionnaire* were given to all students in both groups during the first lesson of the semester. At the same time, an agreement form requesting their participation in the study was distributed (refer to Appendix O). Those who were willing to participate signed their name. The two groups were then separated: one was a control group and the other one was a treatment group. The control group studied in a normal classroom whereas the treatment group studied at the computer laboratory. Both classes were conducted at the same time but used different instructors to avoid bias and minimise contact between the two groups.

At the beginning of the study, the students in both groups completed the pretest to assess their business document writing skills by handwriting and by word processing. The control group wrote by hand and the treatment group used the computer. All the documents were scored using the *Analytic Scale* by the three assessors. During the data collection period, all students also completed other assignments for each unit. Assessment of these assignments was not included in analyses for the study.

Because there were not enough computers in one room for the 28 students in the treatment group, the group was split into two classes meeting in adjacent rooms. A technician for the computer laboratory was organised to help the students in case of any technical problems. Both of the computer laboratories did provide some additional facilities for the students and instructor such as air conditioning, free paper for the printer and the use of an overhead projector.

To make sure that the students were provided with adequate access to the computers, an extra session was available during the first week after school. This session concentrated on a typing tutor program and the main processes of word processing such as using the mouse, simple editing (backspace, delete keys, cut and paste), formatting documents (centering, right and left justification), changing fonts, making words bold, italicized, underlined, spell-checking, and saving a document in a file. During this period the hand-writing group received no instruction.

To follow up the initial data collection for the main intervention, the researcher's supervisor visited Thailand in December 2001. At the time, the *CAS* questionnaire, *Background Questionnaire*, and pretest data were analysed. On the basis of this analysis it was decided to have a second posttest where both groups would handwrite the same

test. This would allow for a better comparison between the groups, a consideration of the transference of skills and the role of the word processor, and a more indepth investigation of the students' attitudes towards the word processing and handwriting in the interviews.

The lesson programme

For the Business English subject for one semester, the two groups worked for sixteen 140-minute sessions completing one module per session. Throughout the semester, students in the word processing group completed all of their written activities and assignments on the computer. Four main areas were emphasised: document design, accurate grammar, accurate formatting and vocabulary. Each session involved approximately one exercise focusing on the type of business document together with grammar parts, and vocabulary exercises via the computer. The students were encouraged to complete all of the activities. Students in the control group completed the same activities but in handwritten form.

The programme included instruction and practice in the use of editing features such as the ability to format documents on screen, to move blocks of text within a document. Each student was given a weekly writing exercise to complete on the word processor. These exercises included developing writing varied letters and business documents. Each exercise required the students to produce one document and to study vocabulary, grammar, model letters, business styles, and the appropriate use of language. Students in the handwritten group used pen and paper to complete the same writing activities. The groups did the same curriculum activities but used different technologies and had different teachers.

After completing the lessons and activities, the researcher gave both groups the first posttest in the second last week. The second posttest was given to both groups in the final week of the semester. For the first posttest, the treatment group produced the document by word processor whilst the control group did so by hand writing. For the second posttest, all the students wrote by hand but completed a different activity from the first posttest. The two posttests were scored by the three assessors using the *Analytic Scale*.

The *Curriculum Questionnaire* was given to both groups after they had finished the second posttest. At the same time the *Treatment Questionnaire* was given to the

treatment group to investigate their attitudes after finishing the Business English lessons using computers. Also the CAS questionnaire was given again to the treatment group. The purpose was to compare the students' attitudes towards the use of computers before and after using them in Business English course.

Provision of computer experience for control group

After all data for the study were collected two sessions in the computer laboratory were provided by the researcher for students in the control group to compensate them partially for not having access during the study. For one session the email activity was completed and for the other instruction in the use of some of the main facilities of the word processor (spelling checker, grammar, thesaurus, word count, cutting, pasting and deleting) was provided. The sessions were voluntary for the students but most of the students attended.

The Data Analysis

The students were encouraged to complete all of the activities and questionnaires. The handwriting group's pretest and posttests were photocopied after writing and filed systematically. The word processing group's documents were saved on a disk. Before scoring, documents were coded, grouped and ordered differently for each assessor. The three assessors scored all documents using the *Analytic Scale* with a 0 to 5 on each of the five scale categories. Originally there were 28 students in the treatment group, however, one student was added to the class during the main intervention. There were 33 students in the control group but only data from 29 were included. One student was absent for the first and the second posttest. One withdrew from the institution and the other two withdrew from the class.

The data from each instrument were initially analysed separately, as discussed in the earlier sections. In some cases the data were collected in the Thai language and had to be translated into English by the researcher for her supervisor to read. Some initial conclusions were made from these analyses. Then the data were combined using SPSS to allow more indepth analysis to occur. T-tests and effect sizes were used to investigate and describe differences between the two groups on the pretest and two posttests.

Attitudes towards using computer, the Business English subject, and the new curriculum were considered as covariates in ANOVA tests.

Independent t-tests were used in order to test for differences between the means for the two groups on the pretest and posttests and within each group between the means for the three tests on the five categories. The t-test results were reported at 0.05 and sometimes 0.001 level of significance. Effect sizes as standardized mean differences were calculated using the formula $d = (\text{mean difference} / \text{pooled standard deviation})$ which is discussed by Dunlap, Cortina, Vaslow, and Burke (1996). Sizes above about 0.05 were regarded as moderate and those above about 0.70 regarded as large (e.g. Fraser, 1989). The analysis is depended primarily on the use of the effect sizes, which Thompson (1996) recommended should be general AERA editorial policy in line with American Psychological Association policy. Rennie (1997) also discusses the merits of using effect sizes to consider differences between group means.

Correlation analyses were conducted between the five writing quality categories on the *Pretest*, *Posttest 1* and *Posttest 2*. The analyses of the data from the executive and student interviews were conducted to assist in interpreting the results from the analysis of the writing tests data. Because there were significant mean differences on the *Pretest* between the groups Univariate Analysis of Variance were conducted on each writing category for each posttest using the *Pretest* scores as a covariate. This is an unusual situation for randomly created groups and thus this is discussed in detail in the next chapter.

Summary

This chapter has presented the methodology employed by the study aimed at identifying improvements in students' Business English writing as evidenced by the quality on the documents produced to ensure that skills developed better meet the expectation of the workplace. Data were also collected to investigate factors that may influence these improvements other than the new curriculum and technology used and the student's attitude towards the computer and the new curriculum. The next chapter will present the results of the analyses of all these data and the findings of this study.

Chapter Four

RESULTS

This chapter presents the results of the analyses of the data collected in the study from a small sample of executive staff from local employer companies and a main sample of Bachelor of Arts students of Rajabhat Institute Rajanagarindra, Chachoengsao, Thailand. The data associated with the main sample of students consisted of three writing quality tests, five questionnaires and an unstructured interview all focused on the effect of using word processing in place of handwriting on authentic practical activities designed to better meet the expectation of the workplace. The multiple sources of data were used to allow for data triangulation and corroboration of results from the linking of data analyses.

The results from the analyses of the data from each source (instrument) are presented separately, firstly for the small sample of company executives and then for the main sample of students. Towards the end of the chapter some data triangulation is provided in the synthesis of findings from the results of these analyses.

Data Collected from Executives

A questionnaire and an unstructured interview were used to collect data from a sample of 13 executives of typical organizations likely to employ graduates of the courses within which the Bachelor of Arts students for the main sample were enrolled.

Executive Questionnaire Data

Questionnaires were distributed to all 13 executives with every questionnaire being returned to the researcher. They responded to 20 items that used either closed or open-ended responses to provide information likely to assist in the development of the new curriculum for the Business English subject. Information pertaining to the backgrounds of the executives and their companies collected from the questionnaire is given in Table 4.1. The executives included six males and seven females ranging in duration of employment from two to 28 years. One company had run its business for more than 100 years while some had only five years of history. These were all medium to large companies with the mean number of employees 1062 and ranging from 100 to 3886

with five above the average. All thirteen companies communicated overseas at least daily.

Table 4.1

A summary of some of the data from the *Executive Questionnaire* concerning the backgrounds of the executives and their companies.

Subject	Gender	Position in company	Duration of employment (years)	Company established (years)	Number of employees in company	Frequency of contact overseas
1.	M	Personnel Manager	3	34	410	Very often
2. *	F	Admin. Secretary	28	123	599	Daily
3. *	F	Vice President	1.5	122	250	Very often
4.	M	Site Human Resource Officer	4	10	100	20/wk
5.	F	Personnel Manager	13	13	3,886	20/wk
6.	F	Development Supervisor	6	6	1,300	More than 30/wk
7.	F	Senior Customer Relations	2	25	320	Daily
8.	M	Division Director	5	5	100	Daily
9.	F	Personnel Adviser	5	30	414	All the time
10.	F	Human Resource Officer	11	14	2,400	25/wk
11.	M	Division Head	3	13	576	All the time
12.	M	Personnel Supervisor	7	35	1,241	3/wk
13.	M	Division Head	9	30	1,400	10/wk
Mean values			8	28	1062	

* These two subjects worked for different departments at different location for the same company. Executive No. 3 worked in a branch of the company of Executive No.2.

The questionnaire asked the executives to reflect upon their experiences as administrators in their organisation to probe their background and experience with employing graduates. The questionnaire asked a number of questions concerning some of the desired characteristics of employees of their organisation. Their responses are summarised in Table 4.2 and clearly indicate that a variety of skills in English proficiency, computer literacy, writing, speaking, and listening were highly desirable.

Each of these areas is discussed below in terms of the data collected from this questionnaire.

Table 4.2

Frequencies of responses by the executives to Items 4 to 12 on the Executive Questionnaire (N=13).

Item. Question and Responses	Freq.
4. How much does the English proficiency of applicants affect the way you recruit for your organisation?	
4.1 English is a major consideration	8
4.2 English is a small factor	4
4.3 English is important but can be learned on the job.	
5. How much does the computer literacy of applicants affect the way you recruit for your organisation?	
5.1 Computer is a major consideration.	12
5.2 Computer is important but can be learned on the job.	
6. How much the use of computer help with writing English as required by your company?	
6.1 Computer is essential to our Business English.	7
6.2 Computer use is helpful to our Business English.	6
7. What is the main criteria your company use in hiring?	
7.1 Level of education	2
7.2 Specific technical skills required.	2
7.3 Experience	9
8. What level of English writing skill do you feel your staff requires?	
8.1 Fundamental level	4
8.2 Intermediate level	7
8.3 Advanced level	2
9. What level of computer skill do you feel your staff requires?	
9.1 Fundamental level	1
9.2 Intermediate level	9
9.3 Advanced level	3
10. What are the main types of software programs your company uses?*	
10.1 Word processor	13
10.2 Database	4
10.3 Spread sheet	5
10.4 E-mail	13
11. Estimate the proportion of time your employees use handwriting compared with using a computer.	
11.1 > 80%	11
11.2 < 60%	2
12. Which of the following Business English writing does your company require employees to do? *	
12.1 Business letter	10
12.2 Message taking	13
12.3 Note-taking	13
12.4 Correspondence	12
12.5 Documentation	10

**More than one item may be selected*

According to the executives a high level of English proficiency was a major characteristic desired of applicants who wanted to work in these organizations. Eight executives (62%) indicated in Item 4 (Table 4.2) that English proficiency was a major consideration although Executive 11 felt that while English was important it could be learned on the job. However, four companies (31%) indicated that English proficiency was not an important employment factor for their companies. On further enquiry of these four executives the reason given was that they felt that as their companies were large they had enough employees with English proficiency to work in the administration office so they now recruited employees for non-office work where English proficiency was not critical.

Writing, reading, speaking and listening skills in English were seen by the executives to be most important. Business writing and reading skills were critical because employees were required to conduct many forms of correspondence such as to write memoranda, use email, complete application forms, import/export documents, and construct a variety of business letters such as complaint letters, acknowledgement letters, order letters, and inquiry letters. Indeed, they indicated that these aspects of English writing proficiency were of critical importance to their companies because all of these companies conducted business with overseas organisations. They added that employees spent much of their normal working day writing because most business transactions had to be written. In addition, all of the companies always used email for some communication. They claimed that while many of their employees could use email they felt uncomfortable typing in English. They ranked the type of business documents required most often in the order: a variety of business letters, memoranda, taking messages, agenda, minutes and annual reports.

When considering speaking and listening skills using English ten of the executives (77%) indicated that the telephone was normally used by employees for this type of communication with group meetings used sometimes. Two of them (15%) indicated that employees were unlikely to have face-to-face communication in English.

They were asked for which departments in their organisations English writing proficiency was most critical. The most common response was employees such as secretaries and clerks who have to learn how to conduct external correspondence. Other positions where employees may have to deal with documents requiring at least an

intermediate level of English proficiency were in departments for sales, production control, administration, quality control, public relations and operations. All of these people had to produce some documents to contact with oversea customers.

The executives were asked about the main criteria their company used in selecting new employees. Nine of the executives (69%) mentioned that their general work experience in any previous jobs was the most important with specific technical skills also required. It would seem that if students had some prior experience, the transfer to work would not be so difficult. On the other hand, if they did not have any previous experience, they would be less likely to be considered. A high level of education was required but this was not the main criteria for employment. Other criteria mentioned were that the applicants should be honest, punctual, well-organized, dynamic, efficient, persuasive, creative, adjustment and flexible in personality.

Computer literacy was also considered to be a major desirable characteristic of applicants in their companies. All of the executives indicated that computer use was essential and helpful. Executive 11 (Table 4.1) indicated that both computer literacy and English proficiency were important but could be learned adequately on the job. Overall it appeared that at least a fundamental level of computer literacy was a common requirement for employees to start working in these companies. Most of the executives (85%) estimated their employees spent more than 80% of time handwriting compared with using computer with the other two executives estimating this time as less than 60%. So clearly while they considered computer literacy skills important it may have been a minor consideration. The main software programs their companies provided were for word processing (Microsoft Word), database handling, web browsing and spreadsheeting.

The following general comments, reflections, and suggestions are paraphrased from responses made in the open-ended items in the *Executive Questionnaire*.

Their employees lacked English writing, speaking and listening skills and in particular writing ability was below the necessary level for the company and therefore needed practice in these courses.

The Business English curriculum should consider various types of written documents using authentic examples from typical workplaces.

The use of computers for at least fundamental tasks should be learned and practiced from school before getting a job. Further skills could then be developed with experience in the job.

The context of learning should always refer to real situations in Thai businesses.

The employees should write a straightforward message for someone in the factory.

The employees (clerical workers) should be able to fill in a variety of forms.

Meetings should be arranged between the institutes and small groups of employers in order to discuss ways in which the institutes and companies could collaborate at the local level.

Executive Interviews

Shortly after receiving copies of the support materials for the new Business English curriculum, six of the thirteen executives were interviewed in Thai to get their feedback on the adequacy of the materials. Informal discussions between the researcher and these executives were scheduled for specific times at different places. The interviews were conducted as informal conversations with each taking approximately 15 minutes. Records of these interviews were transcribed by the researcher into English and then analysed in terms of the main issues emerging with some reference back to the questionnaire results.

They were asked to comment, reflect and suggest on anything relating to the course materials. They responded that they would like Thai students to be able to operate computers effectively and improve English proficiency in listening, speaking, reading, and writing. The executives claimed to have seen weaknesses in the writing of their employees and needed the students wishing to gain employment to improve their English. One executive complained that his employees took a long time to write standard business documents. Generally they thought that students should be trained by educational institutions to have better essential communication skills so that they could achieve more in their jobs. One of the executives said the company provided special classes after work in intensive English for their staff for two hours twice a week. Some staff were given time support to attend short courses at educational institutions which they believed gave these employees better opportunities to progress in their work. In some cases, they noted that poor writing skills caused employers to terminate some staff members within their first year of employment.

Most of the executives indicated that students should take advantage of computers because of the rapid development of computer technology, particularly the Internet. One facility of the Internet that is commonly used in the office is email. This was indicated by Executive 9 who said that in the typical new workplaces at her company, employees

must daily read and write the new forms of text created by new technologies such as email and online databases in order to manage the information they receive and make decisions. She said they tended to lack English expertise and that her employees at the administration office could only use word processors to work efficiently in the Thai language, not in English. Generally the executives believed that both English proficiency and computer literacy were essential for the modern Thai workplace.

When critiquing the support materials Executive 7 suggested that the activities in a business English curriculum should be aimed at improving basic language skills such as grammar review, grammar explanation, vocabulary spelling, punctuation, numbers, and currency. He added that these were essential for Thai students who studied English as a Second language (ESL). He believed that these would help them to produce documents more easily with fewer errors. He and the others agreed with the selection and exploitation of authentic materials using documents directly relevant to the needs of the workplace. Generally they strongly agreed with the new curriculum as indicated in the following statement by Executive 11.

It's a very practical approach to instruction. I liked the mix of English-both British and American. It does seem to lean more towards British though. It's easy to read and understand.

Another comment from Executive 4 said that,

The unit of socializing is beneficial for students who should learn how to make contact with people from different cultures in international business. They should know at least greetings and introductions. People in business from different cultures can quickly feel more comfortable with one another.

When asked to reflect upon employees they expect to be as the head of a department Executive 7 said that,

Normally, the new employees will need higher skills. The widening gap between the skills needed in the workplace seems to be different what students are taught in school and what the employers required in the workplace. It will be better if the students can practice more at school.

In our company when staff reached the stage of junior management, they were sent on courses of "effective writing", "retraining course" or "intensive course". I agree that the writing business English course should be designed to be built on basic skills to learn at school.

Interestingly, Executives 1 and 6 agreed that they would like to add more on speaking skills. The former believed that this was important because the policy of the government was to increase exports to international countries, and English was most often used in

business areas around the world for commercial transactions. He believed that there was still an increasing demand for proficient English speakers so that business communication could be concise, courteous, and clear. He believed that misunderstandings due to poor use of English may be costly to the company.

The researcher asked them whether or not the materials for the new course directly addressed the needs of their companies. Executive 6 said,

Well, I am sure that the students will be better in writing business English documents. I would actually like to add hotel reservation, like a small talk such as greeting, telephoning, talking about the weather, family, health, leave taking, make an appointment and some negotiations.

Executive 13 supported that view,

I like the tips for e-mail users. Technical terms, and abbreviations should have developed to understand the word clearly and save time which people in business are familiar as well as acronyms. Money matters and currency exchanges are required. It would be beneficial if there is a part of minutes of meeting.

Our company set a test to examine a prospective employee's understanding of written instructions; for example, part of a test for secretarial staff is to ask them to correct a letter which contains 20 mistakes of spelling or grammar. Resume and application letter and interview are required both in English and Thai. This is a common situation met in our office where secretarial employees spend a lot of time checking for error.

Another response to the same question was,

I do like the business letter sections but it is not easy for our staff and me to write in the English language. I think vocabulary and grammar points are the two main concerns in writing documents. It is really good having a new curriculum focusing on writing proficiency at your institution. It would be helpful and useful for our administration office.

Executive 11 commented that,

Some abbreviations are essential to write by taking messages and e-mail. Students should learn some common abbreviation from the newspaper that common use in business areas.

One comment from Executive 1 indicated that,

The use of computer in our company is one of the most crucial factors, which might be supported by educational area today in order to develop the students who are going to work in the modern workplace. It would be worthwhile for further careers.

Overall the executives indicated they were happy with the new curriculum materials, which they expected to include a lot of content directly relevant to the types of work in their companies.

Conclusion from the Data from the Executives

The findings associated with the data collected from the thirteen executives who represented the views of prospective employers of graduates of Business English at the Rajabhat were critical to the development of the new course and resource materials. The involvement of these stakeholders in the development of the new curriculum gave some confidence that what was input for the students would provide appropriate output for the employing organisations. The executives themselves had become good resources in the construction of the curriculum for the students. This was in line with the strategic plans of the Rajabhat to link educational planning and the local community workplaces and be cognizant of the rapid technological advancement in society to produce graduates responsible for shaping the society and supporting sustainable development.

Data Collected from a Sample of Students

The remainder of this chapter is concerned with the analysis of the data collected from the sample of Business English students who were divided between a treatment and control group. The data from each source were analysed separately and are reported here in chronological order of collection. Later in the chapter cross analyses of data is reported with some triangulation leading to a synthesis of findings in the following chapter.

Background Questionnaire

In order to elicit information from all students in the sample pertaining to their previous experience with English language and current use of computers students in both groups completed the *Background Questionnaire* before commencing the first lesson, after the orientation session. Fifty-eight students responded to nine main items, seven sub-items and some open-ended questions (refer to Appendix C). Since only 6% of the sample were males no gender comparisons were made throughout the study. For each item in the questionnaire a test of difference (either t-test or Chi-squared) was conducted between the treatment and control groups with no significant differences found for any of the items. Therefore the data is not reported for each group separately. Initially

descriptive statistics were compiled including a frequency count for each item which was converted to a percentage. Summaries of this analysis of these data are presented in Tables 4.3, 4.4 and 4.5.

The responses to the first three items (Table 4.3) showed that forty-eight students (84%) did not have computers at home. Fifty-six students (97%) had used a computer before they attended the Business English class. These students indicated in the open-ended question that they had only used the computers provided in the library at the institution.

Table 4.3

Frequencies of responses from all students for Items 1 to 3 on the *Background Questionnaire* (N=58).

Item No.	Description	Frequency responses	
		Yes	No
1.	Do you have a computer at home?	10	48
2.	Have you used a computer before?	56	2
3.	Do you want to learn English on the computer?	53	5

They definitely wanted to learn English on the computer. Fifty-three students (91%) wanted to learn English on computer with only five students (9%) indicating that they did not (Item 3 in Table 4.3). One student who wanted to learn English using computers indicated in her open-ended response that,

I am curious to learn English using computer. This means that I can learn both English and computing. Last semester It took a computer course as a compulsory unit of my human resource major. I like it. But now I spent a lot of time to play games at the computer café.

Another added in her open-ended response that,

English writing skills are important for the respective careers. I would like to improve my writing skills such as writing business letters using a computer which is suitable for the modern workplaces. I dare say if I am good at both English and computing, I would hopefully get a better job and receive a better salary than someone who do not have any experience in English and computer.

There were some negative comments from some students including,

I used to learn a computer class at my high school and the other one of the first semester at Rajabhat. It did not interest me. I am a slow learner. I cannot catch up on the lessons. I do not have any computers to practice after class.

Another student said,

I learnt computer at school once a week, I do not think I am good at computer skill because I cannot afford one at home. When I had a computer class, I had to share a computer with my friend.

Another female student commented that,

Computer scared me. I preferred handwritten to word processed. I never miss to attend computer class. There are a lot of problems to solve on the screen. It challenges, sometimes it discouraged.

Word processing was the main focus of this study, particularly the development of basic word processing skills. In responses to Item 4 (Table 4.4) only six students (10%) indicated that they had never used a word processor before, but only thirteen students (22%) had often used the application with thirty-nine (67%) doing so sometimes (Table 4.4). There was little difference between the two groups with the same proportion in each group not having used a word processor but 31% (nine) of the treatment group having used the application often compared with 13% (four) of the control group. This means that, while most students in both groups had some exposure to word processing, they probably were not proficient users. Responses to the other parts of Item 4 indicated that at least half the students had never used a database program, spreadsheet (such as Excel), nor Powerpoint.

Table 4.4

Frequencies of responses from all students for Items 4.1 to 4.7 on the *Background Questionnaire* (N=58).

Item	Description	Never	Sometimes	Often
4.1	How often do you use a database?	30	27	
4.2	How often do you use word processing?	6	39	13
4.3	How often do you use a spreadsheet?	38	19	
4.4	How often do you use email?	4	44	10
4.5	How often do you use the Internet?	2	35	21
4.6	How often do you use Microsoft Excel?	38	17	3
4.7	How often do you use Powerpoint?	41	17	0

Email was a part of the new curriculum because, as indicated by the executives, it is used extensively in offices and for company correspondence. From Item 4.4 forty-four (76%) students indicated that they sometimes used email, only four of them (one from the control group and the other three from the treatment group) had never used it before, however, only ten (17%) had used it often. In addition, 70% indicated that they sometimes used the Internet, 53% often used it whereas 3% had never used it before.

This probably indicates that they mainly used the Internet for access to information using the World Wide Web. In fact the open-ended responses showed that they used the Internet for information surfing, chatting and playing games.

The responses to Items 5 to 9 (Table 4.5) indicated that most of the students could operate a computer although they did not appear to be good at typing. Thirty-two of the students (55%) could type between 21 to 30 words per minute (wpm) and twenty-one (42%) could type less than 20 wpm. Only five (9%) could type more than 31 wpm. All of them were less than an acceptable typing speed for most Thai companies where 45-60 wpm in English language is expected.

Table 4.5

Summary of frequency of responses collected from all students for items 5 to 9 on the *Background Questionnaire* (N=58).

Item	Description	Responses	Freq.
5.	Approximately how many words per minute do you type?	<20wpm	21
		21-30wpm	32
		>31wpm	5
6.	How long have you been using a computer?	<1 year	15
		1-3 years	31
		>3 years	12
7.	How long did you spend learning the basic skills on the computer?	<1 year	24
		1-3 years	26
		>3 years	8
8.	How long did you practice using a computer before you felt comfortable?	<1year	32
		1-3 years	21
		>3 years	5
9.	How long have you been studying English?	1-5 years	8
		6-10 years	39
		> 10 years	11

On average the students had been using computers for approximately one to three years (Item 6 in Table 4.5). Most felt that they could become comfortable using a computer in less than one year with some requiring between one to three years. They indicated that they had spent about this much time just learning basic computer skills. This probably reflects the fact that there is normally an inadequate number of computers for them to use. Typically at the institution two students would need to share a computer, so they would have little opportunity to practice their skills individually. From the open-ended

responses, one participant indicated that she did not want to share a computer and that she felt frustrated and uncomfortable.

Thirty-nine of the students (67%) had studied English for 6 to 10 years (Table 4.5). Eleven of them (19%) had studied more than 10 years, whereas eight of them (14%) had studied ESL between one and five years so they did not use English to communicate much in their normal environment. In the open-ended questions most of the students indicated that they could not understand English and that it was difficult for them to learn to use a computer when a lot of the information was in English. One student stated that because of her poor English, she could not understand the computer commands. She said she felt irritated having to ask someone so many times. The students assumed that English proficiency was a barrier to the development of adequate computer literacy.

From this initial analysis of the survey of the students using the *Background Questionnaire* and a consideration of correlations between items (only significant correlations are quoted here) some assertions can be made about the students' previous experience with computers, their basic English instruction and the need to study Business English using computer. Firstly, the students were obviously concerned with the use of computers with most only having recent experience as part of their education and few having a computer at home. Secondly, the majority of students indicated a preference for learning English with the computer. Thirdly, students who had typing experience before tended to want to learn English by using of word processor program ($r = 0.047$, $p < 0.05$). Finally, it seemed that the students who had computer experience were more likely to want to learn English on computers ($r = 0.034$, $p < 0.05$).

Computer Attitude Scale (CAS Questionnaire)

The study needed to consider the attitudes of students towards using computers. The *Computer Attitude Scale* (CAS), designed by Loyd and Gressard (1984), was the instrument used to measure attitudes towards using computers. This instrument consists of 30 items, both positive and negative, and uses a four point Likert Scale response formats. To avoid the use of an undecided response, the students are only given four possible responses of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). These were converted to numeric scores as follows: SA = 4, A = 3, D = 2, and SD = 1 for items that are positive towards using computers and the opposite for reverse items. A CAS score is obtained by summing the response codes from all items

so that a higher score indicated a positive attitude and a low score indicated a negative attitude towards computers.

The CAS questionnaire was given to the treatment and control group before starting the course and again to the treatment group at the end of the course in order to compare their attitudes to computers before and after the course. The independent samples t-test was used to compare the mean CAS scores between the control and treatment groups. The paired samples t-test was used to compare mean CAS scores for the treatment group before and after studying Business English using word processing.

A summary of the descriptive statistics from these data is provided in Table 4.6. The alpha reliability coefficients indicate the high reliability of the measure.

Table 4.6

A summary of some descriptive statistics of the data from the CAS Questionnaire for both treatment and control groups before starting the course and after finishing the course.

Group	N*	Highest score	Lowest score	Mean	Standard deviation	Reliability Coefficient
Before course						
treatment	28	98	67	86.18	7.50	0.77
control	33	94	68	82.09	6.81	
both groups	61	98	67	83.97	7.37	
After course						
treatment	29	100	70	87.69	6.87	0.83

* One student from the treatment group joined the class during the main intervention while four students left the control group.

The results from this analysis of the CAS data indicated that the students from both the treatment and control groups had, on average, positive attitudes towards using computer both before and after the course. The scores ranged between 67 and 98 compared with a maximum possible range of between 30 and 120. A score of 75 indicates a neutral attitude and therefore clearly with the mean for both groups above this score few students had a CAS score indicating a negative attitude. This pattern of high CAS scores is clearly seen in the histogram (Figure 4.1) that shows the range of scores for all students at the beginning of the course. Most are much higher than the neutral score 75 with over 80% of the students in both groups starting with positive attitudes towards

using computers. The mean scores of the treatment and control groups were not significantly different ($p>0.05$).

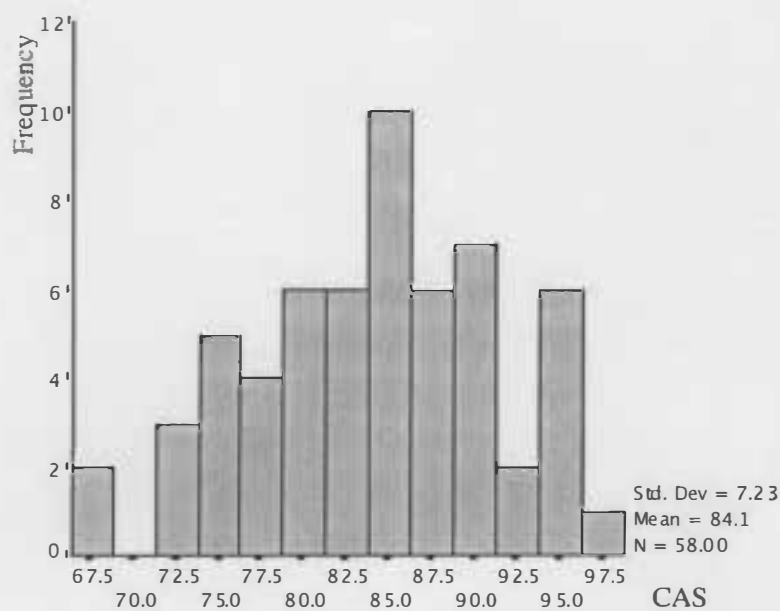


Figure 4.1 Computer Attitude Scale scores for all students prior to start of course.

At the end of the course, the CAS questionnaire was given to only the treatment group in order to investigate any changes to their attitudes towards computers from the beginning of the course. Analysis (Table 4.6) indicated that as a group the students still had positive attitudes towards computers after the course with a mean score well above the neutral score and significantly higher ($p<0.05$ on t-test) than the mean for the group before starting the course (Table 4.6). The alpha reliability coefficient reported for this administration was 0.83 and the mean score was 88.0.

Analysis was carried out to see whether there were any correlations between the CAS of the group before the course and the CAS after finishing the course (see Table 4.7). As expected it was found that there was a small but significant correlation ($p<0.05$). This indicates that students who had a positive attitude towards the computer at the beginning of the course were likely to finish with a positive attitude.

Further correlation analysis was done between the CAS data and the *Background Questionnaire* (BQ) data to assist in identifying groups of students that may respond differently to the main intervention. The significant correlations are shown in Table 4.7. As expected a moderate but significant ($p<0.05$) correlation was found between the CAS score and item BQ4, concerning previous access to computers. If the students had

used computers for a long time they were more likely to have positive attitudes towards computer use. There were also small but significant correlations ($p < 0.05$) between the CAS and items BQ3 and BQ7.2 of the treatment group, which showed that if students had typing speed skills, they could use word processing. The other correlation showed that students who had used computers before were more likely to have a positive attitude to using computer.

Table 4.7

Summary of correlation analysis between selected items of the Background Questionnaire and the CAS pretest and posttest of the treatment group.

	CAS_Posttest	BQ3	BQ4
CAS_Prettest	0.15		0.04
BQ7.2		0.04	

B.Q = Background Questionnaire; BQ7.2 = Background Questionnaire item 7.2; Refer to Appendix D for the wording of items.

Writing Quality Tests

The *Analytic Scale* was the main instrument utilised in this study to measure the quality of the business documents produced by the students. It is a modified version of an instrument that has been used by other researchers and proven to be both reliable and valid. Five general categories were measured (see Table 3.3 in Chapter 3): Standards of language usage (SLU), Standards of written documents (SWD), Effectiveness for the reader (ER), The image of the writer (IW), and Quality of the message (QM). Three assessors were used to assess the students’ work and determine a score on each sub-scale for each piece of work.

The research design called for each student in the treatment group to complete 3 test tasks, two word-processed (*Pretest* and *Posttest 1*); one handwritten (*Posttest 2*), and each student in the control group to complete 3 handwritten test tasks (*Pretest*, *Posttest 1* and *Posttest 2*). Three assessors rated the students work for each test using the *Analytic Scale*. The data were collected to address the main research question to examine whether the use of word processing in place of handwriting improves Business English writing skills.

The curriculum in Business English focused on writing a variety of business letters, email, fax, application forms, resumes and so on. So students were given these types of

tasks to do in three tests. For each test a score was calculated for each category of *Analytic Scale* for each student by adding the scores given by the three assessors. Scoring of 202 students' tasks ($3 \times 58 + 28$) were done independently by the three assessors, who were highly experience at the English programme of Rajabhat Institute Rajanagarindra, following the procedure outline applied from Canale et al. (1988).

The data from these analytic scoring procedures were analysed and are presented for each test respectively below giving descriptive and comparative statistics. This is followed by comparisons between the test results and groups using t-tests, ANOVAs and a repeated measures test.

Pretest

For the *Pretest* all students in both groups wrote an inquiry letter. The *Pretest* measurement was used to evaluate students' business writing ability before commencing the course. The treatment group composed the letter using a word processor while the control group handwrote the letter. Three assessors used the *Analytic Scale* to rate each participant's task. Then, to remove the influence of the aesthetics of machine printed compared with hand written text, the control group's documents were retyped without change by the researcher and then rated again, anonymously, by the three assessors. A summary of some of the descriptive analyses of these data is provided in Table 4.8. The reliability of all category scales was around 0.8 indicating high reliability. The distribution of scores for each category was reasonably normal. An example is illustrated for QM in Figure 4.2.

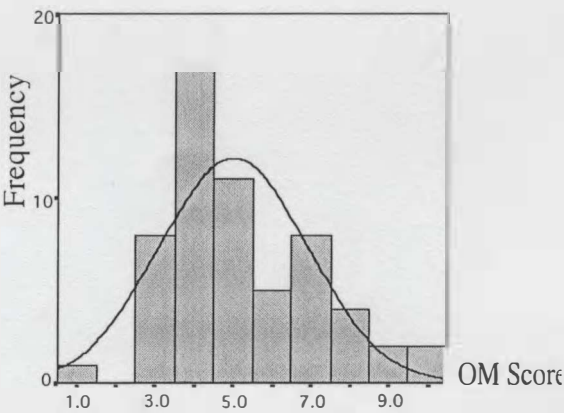


Figure 4.2 *Frequency distribution on the Pretest QM category, both groups combined (retyped).*

Table 4.8

A summary of some descriptive statistics for the *Pretest* data for both treatment and control groups and a comparison of means using independent samples T-tests.

Cat.	Rel.	Pos. max. score	Treatment Group		Control Group		Comparison between groups	
			Mean	S.D	Originals Mean (SD)	Retyped Mean (SD)	Indept. T-test prob.	
							Originals	Retyped
SLU	0.80	15	6.0	2.0	4.2 (1.6)	4.3 (1.6)	<0.01	<0.01
SWD	0.77	15	5.2	1.7	4.3 (1.4)	5.2 (1.2)	0.07	1.00
ER	0.80	15	5.7	1.8	4.5 (1.6)	4.6 (1.6)	0.07	0.02
IW	0.82	15	6.0	2.0	4.2 (1.6)	4.3 (1.4)	0.01	<0.01
QM	0.82	15	5.7	2.1	4.2 (1.5)	4.3 (1.5)	0.01	0.01

Descriptive statistics were calculated for the *Pretest* scores (see Table 4.8) using the 5 main categories for the treatment and control groups, and the original ratings. The highest possible score was 15. The mean scores for the treatment group were relatively low at between 5 and 6 for all categories. The highest was for SLU which included sub-items such as spelling, capitalization, grammar, vocabulary and lexical use. The lowest mean was for SWD which was a measure of neatness, punctuation and paragraphing. The mean scores for the control group were all lower than for the treatment group being between 4 and 5 for each category. The highest mean score was for ER which assessed language register, length subject matter, choice and variety and depth of discussion whereas the lowest was for QM which assessed continuity, completeness, organisation and topic development. For the categories SLU, IW and QM the mean score for the treatment group was significantly higher ($p < 0.05$) than for the control group.

Descriptive statistics were also calculated for the *Pretest* scores (Table 4.8) for the control group when the tests were rated again after retyping of the documents. There was little change from the original rating except for the SWD category that measured neatness, punctuation and paragraphing (Table 4.8). On this category the rating of the retyped documents resulted in an increased identical mean of 5.2 to that for the treatment group (standard deviations were different). However, the mean scores for the treatment group were all significantly higher ($p < 0.05$ or $p < 0.01$) than for the control group on all categories except this SWD category when considering the ratings for the retyped documents.

In correlation analysis on *Pretest* scores between the writing quality categories, SLU was correlated to ER, IW and QM ($r = 0.900, p < 0.01$; $r = 0.899, p < 0.01$ and $r = 0.904, p < 0.01$ respectively) which were highly correlated to each other. ER was highly correlation to IW and QM categories ($r = 0.936, p < 0.01$; $r = 0.938, p < 0.01$ respectively). Similarly IW was highly correlation to QM ($r = 0.972, p < 0.01$). SWD was not correlated to other categories.

In correlation analysis on *Pretest* scores for the control between handwritten and retyped document of the writing quality categories, the correlations were all high: SLU ($r = .995, p < 0.01$), SWD ($r = 0.925, p < 0.01$) ERT ($r = 0.989, p < 0.01$), IWT ($r = 0.995, p < 0.01$) and QMT ($r = 0.992, p < 0.01$). Therefore it is reasonable to suggest that the process of having the tests retyped was unlikely to change the relative position of the student to the group.

Posttest 1

In order to measure the business English writing skills of the two groups at the end of the course, the students completed the same inquiry letter that was used in the *Pretest*. The treatment group composed the letters using word processing while the control group wrote by hand. The same three assessors used the Analytic Scale to rate the students' work. Descriptive statistics comparing the scores of the two groups are shown in Table 4.9. The reliability of each category was high, above 0.90. The illustration of scores for the QM category (Figure 4.3) showed the distributions reasonably close to a normal distribution.

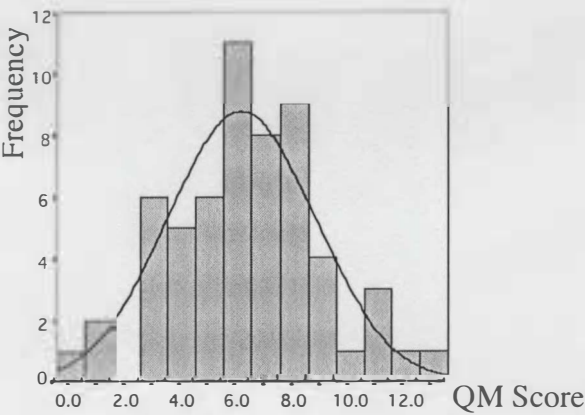


Figure 4.3 Frequency distribution on the Posttest 1 QM category, both groups combined.

Table 4.11

A summary of descriptive and comparative statistics from an analysis of the data from the first posttest for both the treatment and control groups.

Cat.	Rel.	Possible Max.	Treatment Group		Control Group		Indept t-test probability
			Mean	S.D	Mean	S.D	
SLU	0.91	15	7.2	2.1	5.9	2.5	<0.05
SWD	0.93	15	10.6	2.1	7.2	2.7	<0.01
ER	0.94	15	7.6	2.1	6.0	2.3	<0.05
IW	0.93	15	7.4	2.3	6.1	2.5	<0.05
QM	0.90	15	7.0	2.1	5.8	2.3	<0.05

The highest mean score of the treatment group was SWD (10.6) and the lowest was QM (7.0). For the control group, the highest mean score was SWD (7.2) and the lowest was QM (5.8). The SWD and ER means for the treatment group were the only means for either group above half of the maximum possible score of 15. For all categories, there was a significant difference between the mean scores for the two groups ($p < 0.05$). The treatment group, using word processors, had higher mean scores for all categories than the control group.

In correlation analysis on *Posttest 1* scores between writing quality categories SLU test scores were highly correlated with ER, IW and QM ($r = 0.904$, $p < 0.01$; $r = 0.886$, $p < 0.01$ and $r = 0.869$, $p < 0.01$ respectively). ER test scores were highly correlated with IW and QM ($r = .961$, $p < 0.01$; $r = .947$, $p < 0.01$ respectively) and also IW was highly correlated with QM ($r = .969$, $p < 0.01$). Clearly students tended to be rated as similarly proficient in each area of writing skill when compared with their peers.

Posttest 2

The second posttest was designed to measure the students’ business writing skills independent of the use of word processors. Both the treatment and control groups used hand writing to complete a complaint letter. Once again the three assessors scored all of the letters. Descriptive statistics were calculated for each of the five *Analytic Scale* categories, correlations between the categories were conducted and then independent samples t-tests were used to compare mean scores between the two groups (Table 4.13). The reliability coefficients for the five categories were all between 0.8 and 0.9 indicating high reliability. Posttest 2 results for the treatment group were not correlated to other *Analytic Scale* categories.

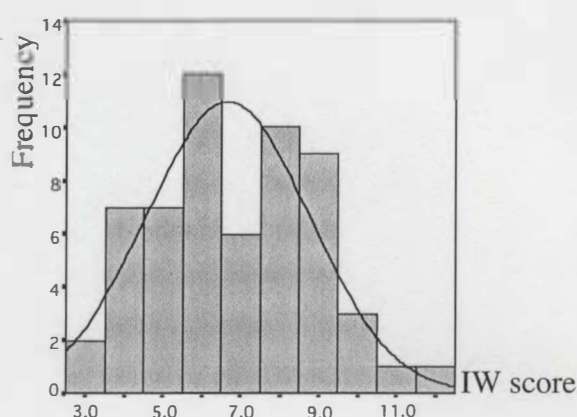


Figure 4.4 Frequency distribution on the Posttest 2 IW category, both groups combined.

Table 4.13

A summary of the statistical analysis of the data from the second posttest for both treatment and control groups.

Cat.	R	Possible Max.	Treatment Group		Control Group		Indept-test prob.
			Mean	S.D	Mean	S.D	
SLU (Standards of Language Usage)	0.87	15	7.6	2.1	6.6	2.9	0.15
SWD (Standard of Written Documents)	0.88	15	7.5	2.3	8.6	2.4	0.23
ER (Effectiveness for the Reader)	0.89	15	7.2	2.2	6.3	2.1	0.12
IW (Image of the Writer)	0.89	15	7.1	2.1	6.1	2.0	0.08
QM (Quality of message)	0.81	15	6.6	2.1	6.1	1.8	0.35

For the treatment group the mean scores were all about half of the maximum possible with the highest for SLU and the lowest was QM. For the control group the mean scores were lower with the highest for SWD and the lowest for QM. The standard deviations for each category for each group were also very similar, all between 1.8 and 2.9. There were no significant differences ($p < 0.05$) between the means for the groups for any of the categories.

In correlation analysis on Posttest 2 scores between the writing quality categories SLU scores were highly correlated with ER, IW and QM ($r = 0.900$, $p < 0.01$; $r = 0.899$, $p < 0.01$ and $r = 0.904$, $p < 0.01$ respectively). ER was highly correlated with IW and QM ($r = 0.936$, $p < 0.01$ and $r = 0.938$, $p < 0.01$ respectively) and IW was highly correlated with QM ($r = 0.972$, $p < 0.01$). SWD was not correlated to any other categories.

Comparisons between Pretest and Posttests

The main research question concerned whether the use of word-processing in place of handwriting in the course would improve the business English writing skills of students. In analysing the writing quality test data it would be hoped that the treatment group would have higher mean scores on the posttests than the control group (this has been demonstrated for the first posttest) and higher mean scores in the posttests than the pretests. Therefore the mean scores for the three tests were compared for the treatment group by calculating effect sizes and using paired samples t-tests. Descriptive statistics were calculated (Table 4.15) for the treatment group for comparison between the three tests: (a) *Pretest* and *Posttest 1*, (b) *Pretest* and *Posttest 2* (c) *Posttest 1* and *Posttest 2*. A similar analysis was done for the control group and these results are shown in Table 4.15.

Table 4.15

A comparison between the mean scores on the three writing quality tests for the treatment group.

Cat.	Pretest	Posttest 1	Posttest 2	Effect Size and t-test sig.		
	Mean (SD)	Mean (SD)	Mean (SD)	(a) Pre-Post 1	(b) Pre-Post 2	(c) Post1-Post 2
SLU	6.0 (2.0)	7.2 (2.1)	7.6 (2.1)	0.60	0.80**	0.20
SWD	5.2 (1.7)	10.6 (2.1)	7.5 (2.3)	2.80***	1.14***	-1.41***
ER	5.7 (1.8)	7.6 (2.1)	7.2 (2.2)	0.95*	0.73**	- 0.17
IW	6.0 (2.0)	7.4 (2.3)	7.1 (2.1)	0.66	0.58**	- 0.12
QM	5.7 (2.1)	7.0 (2.1)	6.6 (2.1)	0.61	0.43	- 0.18

* Significant difference at 0.05 level using T-test
** Significant difference at 0.01 level using T-test
*** Significant difference at 0.001 level using T-test

For the treatment group the Pretest and the first posttest were word-processed and the second posttest was handwritten. The analysis showed some dramatic and representative changes in the mean scores for the SWD category. The mean SWD score of the Pretest was considerably lower than half of the maximum possible score of 15 but this rose significantly ($p<0.001$) in the first posttest to 10.6 (about double) with a high effect size of 2.8. However, on the second posttest the mean score declined significantly ($p<0.001$) to 7.5 with a large effect size of -1.41 , although still significantly higher ($p<0.001$) than for the Pretest also with a large effect size of 1.14.

The pattern exhibited by the SWD scores tended to be followed to a lesser extent (lower effect sizes) for the other categories although the differences between the means were only significant ($p < 0.05$) for the ER category for the first posttest and for no other categories between the posttests. One abnormality was that the SLU mean score on the second posttest was numerically higher than for the first posttest but this generated only a small effect size. The standard deviations for all categories on all three tests were similar being around or just greater than 2.0.

There were four categories, SWD, SLU, ER and IW, for which there were moderate to large effect sizes when comparing the *Pretest* and both posttest means for the group. The SWD category relates to formatting, layout of the letter, punctuation and paragraphing. The ER category relates to the use of appropriate language, creating sentences, the use of a variety of sentences and being better in discussion. The SLU category relates to spelling and capitalisation, grammar and vocabulary, and the use of pronoun and conjunction. The IW category relates to ease, clarity of purpose, the use of precise vocabulary and maturity of expression. For these categories the results would seem to indicate that using the word processor had improved the students' skills markedly in these areas, even when they did not use the word processor, although much more so for SWD when they did.

The QM category related to continuity, completeness, and organisation and development. For this category these results would seem to indicate that the word processor had improved the students' skills markedly in these areas, but probably not when they did not use the word processor.

A summary of the results for the control group of the comparison on the five categories of writing quality between the *Pretest* and two posttests is given in Table 4.16. The students handwrote all activities.

Table 4.16

Comparison between the mean scores on the three writing quality tests for the control group.

Category	Pretest Mean (SD)	Posttest 1 Mean (SD)	Posttest 2 Mean (SD)	Effect Size and T-test sig.		
				(a) Pre-Post 1	(b) Pre-Post 2	(c) Post1-Post 2
SLU	4.2 (1.6)	5.9 (2.5)	6.6 (2.9)	0.82**	1.04***	0.26*
SWD	4.3 (1.4)	7.2 (2.7)	8.3 (2.4)	1.	2.02***	0.40
ER	4.5 (1.6)	6.0 (2.3)	6.3 (2.1)	0.74*	0.93***	0.13
IW	4.3 (1.6)	6.1 (2.5)	6.2 (2.0)	0.87**	1.05***	0.04
QM	4.2 (1.5)	5.8 (2.3)	6.1 (1.8)	0.82**	1.14***	0.15

* Significant difference at 0.05 level using T-test

** Significant difference at 0.01 level using T-test

*** Significant difference at 0.001 level using T-test

On both posttests for all categories the mean scores were significantly higher than for the Pretest, in particular the mean score for SWD in both posttests was much higher than the Pretest and generated large effect sizes. The second posttest mean scores for all the categories were significantly higher than for the *Pretest* ($p<0.001$) with large effect sizes. For the first posttest means on all categories were all significantly higher ($p<0.05$) than for the *Pretest*, also with large effect sizes. Clearly students in the control group had also shown considerable improvement in all aspects of writing quality considered by the study, without the use of a word processor. Unlike the treatment group there were small gains between the two posttests on all categories although only the SLU was significant. There were certainly no losses as there were for the treatment group.

From these initial analyses it could not necessarily be concluded that using word-processors during the course had contributed to improvements in business writing quality although it appeared that using the word-processor in the tests was an advantage. As a result further analysis using ANOVAs and a test of repeated measures was conducted.

Univariate Analysis of Variance on Posttests

Analysis of the writing tests reported earlier in this chapter found that overall the documents produced at the end of the course were of higher quality than those produced before, for both groups. Whether using the word-processor or handwriting the quality of writing tended to be judged to be better across most of the categories considered. As

was to be expected the treatment group's writing quality was not judged as good when they were not using the word processor for the second posttest but even so it was judged to be better than they had exhibited at the beginning in the *Pretest*. Therefore to consider to what extent and in what ways using the word processor may have benefited students in the treatment group comparisons need to be made between the groups over the three tests. A Univariate Analysis of Variance was conducted between the groups for each category on each posttest using the *Pretest* as a covariate. The results of these analyses are summarized in Tables 4.17 and 4.18.

The Univariate ANOVA for the first posttest showed that only for the SWD category was the group (i.e. control or treatment) a significant contributor to the variance (Table 4.17). However, the *Pretest* (retyped) result contributed significantly to the variance for SLU, SWD, and ER.

Table 4.17

Univariate Analysis of Variance for first Posttest with retyped rating of Pretest as covariate and treatment or control group as main effect.

Category	Source	Mean Square	F	Significance
SLU	Pre_SLUT	37.31	5.83	p<0.05*
	Group	0.83	0.13	p>0.05
	Error	6.40		
SWD	Pre_SWDT	93.84	16.96	p<0.001*
	Group	158.90	28.71	p<0.001*
	Error	5.53		
ER	Pre_ERT	30.71	4.42	p<0.05*
	Group	9.93	1.43	p>0.05
	Error	6.95		
IW	Pre_IWT	20.25	2.67	p>0.05
	Group	4.88	0.64	p>0.05
	Error	7.60		
QM	Pre_QMT	24.08	3.72	p>0.05
	Group	4.88	0.76	p>0.05
	Error	6.47		

Univariate ANOVA for the second posttest (Table 4.18) showed that the group (i.e. control or treatment) was not a significant contributor to the variance for any of the categories. Once again the *Pretest* result contributed significantly to the variance for ER and IW.

Table 4.18

Univariate Analysis of Variance for second Posttest with retyped rating of Pretest as covariate and treatment or control group as main effect.

Category	Source	Mean Square	F	Significance
SLU	Pre_SLUT	18.20	2.96	p>0.05
	Group	2.30	0.37	p>0.05
	Error	6.14		
SWD	Pre_SWDT	0.65	0.12	p>0.05
	Group	7.97	1.43	p>0.05
	Error	5.59		
ER	Pre_ERT	28.05	6.51	p<0.05*
	Group	2.55	0.59	p>0.05
	Error	4.31		
IW	Pre_IWT	24.52	6.29	p<0.05*
	Group	1.55	0.40	p>0.05
	Error	3.90		
QM	Pre_QMT	13.51	3.65	p>0.05
	Group	0.15	0.04	p>0.05
	Error	3.70		

Repeated measures analysis for the three writing tests

To extend on the analysis using effect sizes, T-tests and Univariate ANOVAs a repeated measures analysis was conducted. A repeated measures general linear model was applied for each of the five writing quality categories using the three writing tests (pretest and two posttests) and the two groups, treatment and control. The results are discussed below. Analysis of the within-subjects (the 3 tests) and interaction effects (tests X group) used Pillai’s Trace, Wilks’ Lambda, Hoteilling’s Trace and Roy’s Largest Root tests. The analysis is reported for each category of writing quality separately.

Standard of Language Usage (SLU)

Profile plots were constructed for the two groups on the SLU category (Figure 4.5). The analysis showed that the within-subjects measure of the SLU on the tests was a significant effect (p<0.001) while the interaction effect was not significant. The estimated marginal means between the groups was significant (p<0.01) as was the difference between the pretest (1 on graph) and both posttests (2 and 3 on graph) but not between the posttests.

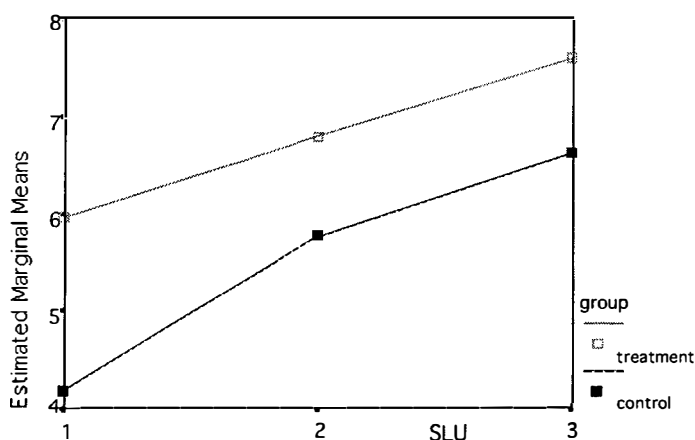


Figure: 4.5 Estimated Marginal Means for SLU for treatment and control groups.

Standard of Written Document (SWD)

Profile plots were constructed for the two groups on the SWD category (Figure 4.6). The analysis showed that the within-subjects measure of the SWD on the tests was a significant effect ($p < 0.001$) while the interaction effect between groups was significant as well. The estimated marginal means between the groups was significant ($p < 0.01$) as was the difference between the pretest (1 on graph) and both posttests (2 and 3 on graph) but not between the posttests.

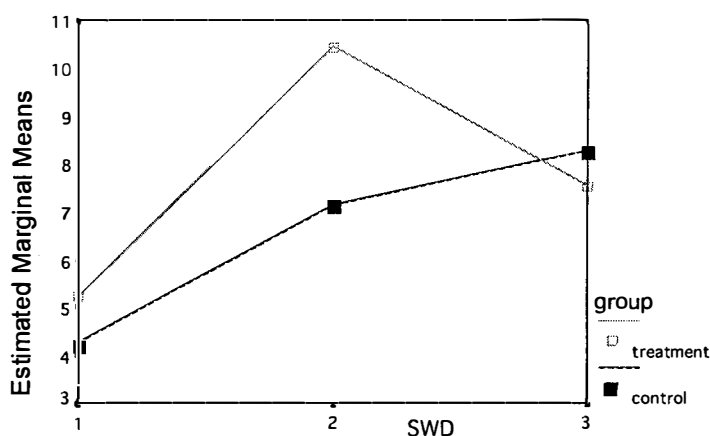


Figure 4.6 Estimated Marginal Means for SWD for treatment and control groups

Effectiveness for the Reader (ER)

Profile plots were constructed for the two groups on the ER category (Figure 4.7). The analysis showed that the within-subjects measure of the ER on the tests was a significant effect ($p < 0.001$) while the interaction effect was not significant. The

estimated marginal means between the groups was significant ($p<0.01$) as was the difference between the *Pretest* (1 on graph) and both posttests (2 and 3 on graph) but not between the posttests.

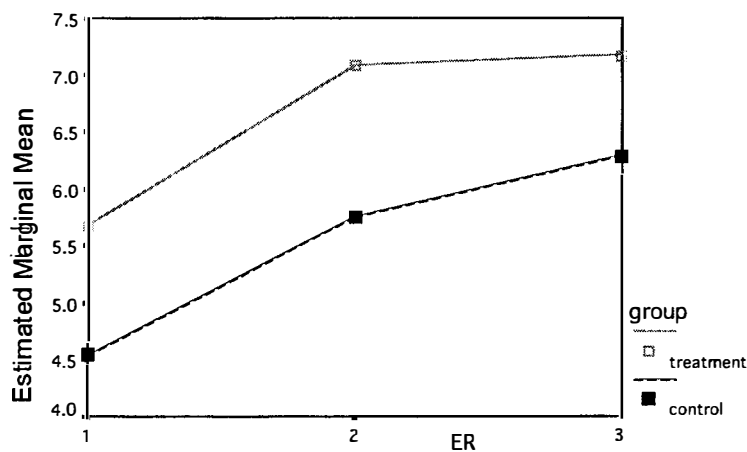


Figure 4.7 Estimated Marginal Means for ER for treatment and control groups.

Image of the Writer (IW)

Profile plots were constructed for the two groups on the IW category (Figure 4.8). The analysis showed that the within-subjects measure of the IW on the tests was a significant effect ($p<0.001$) while the interaction effect was not significant. The estimated marginal means between the groups was significant ($p<0.01$) as was the difference between the *Pretest* (1 on graph) and both posttests (2 and 3 on graph) but not between the posttests.

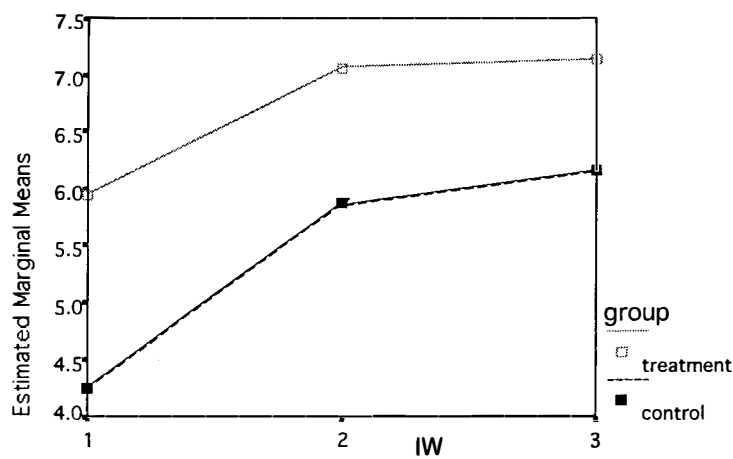


Figure 4.8 Estimated Marginal Means for IW for treatment and control groups.

Quality of the Message (QM)

Profile plots were constructed for the two groups on the QM category (Figure 4.9). The analysis showed that the within-subjects measure of the SLU on the tests was a significant effect ($p<0.001$) while the interaction effect was not significant. The estimated marginal means between the groups was significant ($p<0.01$) as was the difference between the *Pretest* (1 on graph) and both posttests (2 and 3 on graph) but not between the posttests.

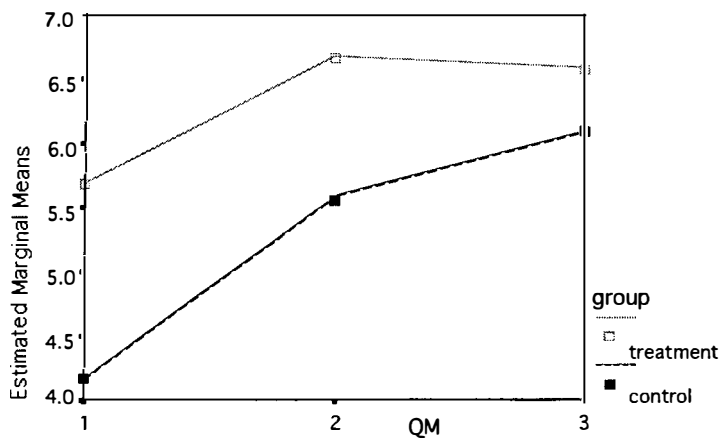


Figure 4.9 *Estimated marginal means for QM for treatment and control groups*

Correlations with data collected before intervention

The posttests data for the treatment group were correlated with data from relevant selected items from the *Background Questionnaire* and *CAS*. Very few significant correlations were found. There was a small correlation between the SWD score on the first posttest and item 4 on the *Background Questionnaire* concerning the length of time the student had previously used a computer. Students who had used computers for a longer time tended to produce documents that were rated better in terms of layout, neatness, punctuation and paragraphing. Overall it could be concluded that attitudes towards using computers and previous experience with computers had little connection with results in the posttests for students in the treatment group.

Summary of writing quality data analysis

The mean scores for the five categories on the first posttest for the treatment group were significantly higher ($p<0.05$) than for the control group with moderate to large effect sizes for differences between the *Pretest* and posttests. These results seemed to indicate that while students in both groups had improved overall, those in the treatment group

had improved to a greater degree in all aspects measured, if they were using a word processor. This did however, not translate to when they were handwriting although it did not appear to disadvantage them compared with those who had completed the course using handwriting. However, it appeared that apart from formatting, layout, punctuation and paragraphing (SWD category) students in the treatment group had not gained a significant advantage over those in the control group by completing the course using word processors, and for those areas only when they were permitted to use a word processor.

Apart from the connection between previous experience with computers and the SWD category there was no explanation for these findings in the *Background Questionnaire* and CAS data. Therefore this will be considered again after an analysis of the *Curriculum Questionnaire*, *Treatment Questionnaire* and interview data.

Curriculum Questionnaire

The curriculum for the Business English subject studied by the students had been redesigned taking account of the opinions of the sample of company executives. To support the new curriculum a new course book and activity book had been created for the students to use. The attitudes and perceptions of students towards this new curriculum and the new materials were likely to influence their achievement in the subject and their use of word processing, particularly since the treatment group used an electronic copy of the activity book. Therefore students from both groups completed the *Curriculum Questionnaire* after the course to gather data to address these potential factors and to determine whether what the students perceived matched the intentions behind the new curriculum. The questionnaire required respondents to tick boxes, encircle alternatives and express ideas in open-ended questions. The first ten items used a five response Likert Scale which were numerically coded from 5 to 1 with the strongly agree response coded 5 and the strongly disagree response coded 1. A summary of the frequencies of responses are presented in Table 4.19.

Table 4.19

Frequency data for control (c) and treatment (t) groups on the Curriculum Questionnaire.

Item	Description	Responses*					
			sd	d	n	a	sa
1.	The lesson activities appealed to me.	c.	0	3	23	3	0
		t.	0	0	17	11	1
2.	I enjoyed doing the lesson activities.	c.	0	0	12	16	1
		t.	0	0	10	15	4
3.	I think doing the lesson activities would be useful for my future career.	c.	0	0	4	7	18
		t.	0	0	2	13	14
4.	I had difficulty with the work in the lesson activities.	c.	1	4	16	6	2
		t.	0	3	20	5	1
5.	I felt comfortable doing the lesson activities.	c.	0	0	14	15	0
		t.	0	0	18	10	1
6.	140 minutes doing each activity was too long.	c.	0	5	19	4	1
		t.	4	12	12	1	0
7.	The lesson activities help me easily understand the content.	c.	0	0	11	15	3
		t.	0	0	9	13	7
8.	The lesson activities made me feel uneasy and confused.	c.	2	11	12	3	1
		t.	1	11	15	2	0
9.	The lesson activities encouraged me to produce longer written documents	c.	0	0	15	11	3
		t.	0	1	10	15	3
10.	I was very confident when working on the lesson activities.	c.	0	1	13	11	4
		t.	0	1	13	16	0

* c=control group.; t=treatment group; sd=strongly disagree; d=disagree; n=neutral; a=agree; sa=strongly agree

The results summarised in Table 4.19 showed that almost all students tended to be positive towards the new curriculum. This is particularly illustrated in the responses to Items 2 and 3 with all responses neutral or in agreement. For Item 1, no students in the treatment group indicated that the lesson activities did not appeal to them but some in the control group did. It appeared that using the computers for the classroom activities had contributed to a greater sense of enjoyment. Interestingly, there was a tendency for students in the treatment group to not see 140 minutes as too long (Item 6) for the activities when compared with students in the control group. For Item 3, 90% of all the students either agreed or strongly agreed that the lesson activities were useful for their future careers while for item 2, 62% enjoyed doing the activities. The strongly positive response to Item 3 was particularly important because the new course materials were designed to be more applicable to the needs of the workplace. Further, their overall

positive response to Item 7 (66%) agreed or strongly agreed indicated that the activities had been well structured and set at an appropriate level. They appeared to be happy with the time allowed for each activity with only six students indicating in Item 6 that the time was too long.

While the students appeared to believe that the curriculum was appropriate and well constructed they clearly had some concerns and did not necessarily find the activities easy. Over 57% of the students indicated that the lesson activities made them feel uneasy and confused (item 8). Although responses to Item 10 indicated that over half (53%) felt very confident working on the activities. They appeared to indicate that the activities actually encouraged them to produce longer documents than previously (item 9) with only one student disagreeing. Generally they appeared to be very confident and comfortable when they were working on the lessons activities with no negative responses to Item 5 and about 45% indicating that they positively felt comfortable doing the lesson activities.

The findings suggested that students agreed that the new curriculum was useful for them in their future career, which has been concerned about the students' demands. Many students perceived enjoyment from doing the lesson activities. They seemed to be confident when working on the lessons. Moreover the lesson activities encouraged them to produce longer written documents.

When comparing the two groups there were some differences. The treatment group ranked much higher on Item 1, which indicated that the lesson activities motivated them. For Item 1, 41% of the students in the treatment group agreed that the lesson activities appealed to them whilst only 13% of the control group did so. Further, 55% of the students in the treatment group disagreed that 140 minutes was too long to do the activities, compared to only 17% of the control group.

Correlation analysis was conducted using the posttest results and items on the *Curriculum Questionnaire* but no significant correlations were found.

Treatment Questionnaire

The *Treatment Questionnaire* was used to collect information from students in the treatment group at the end of the course concerning their attitude towards using computers in Business English lessons. The questionnaire comprised 4 items with the

final item having a number of sub-items. Item 1 required a ranking according to preference. Item 2 asked students their choice of medium when writing. Item 3 asked students about their feelings towards writing after working with the computer. Finally Item 4 consisted of 20 sub-items that used a five point Likert Scale response type that was coded using numbers from 5 to 1 with Strongly Agree coded 5 and Strongly Disagree coded 1. These sub-items concerned perceptions of how studying Business English using word processors could help students. Frequencies for Item 1 is provided in Figure 4.10 while a summary of some descriptive statistics for the first three items is presented in Table 4.16 and for item 4 in Table 4.17.

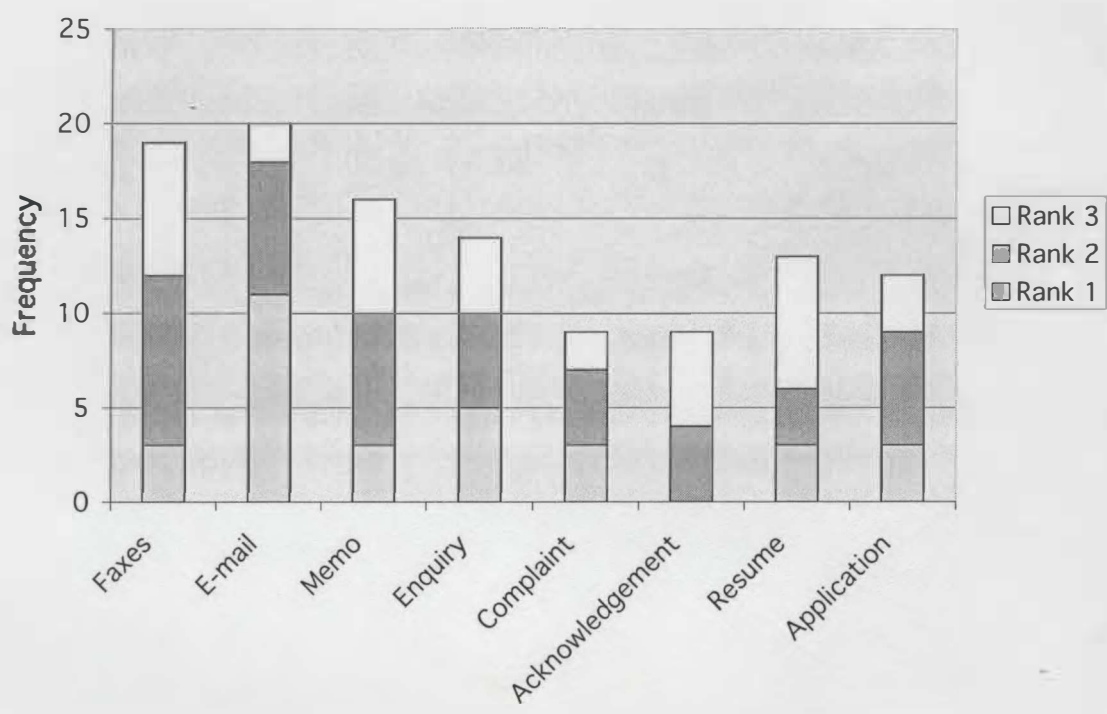


Figure 4.10 Frequency graph for responses to student preference for lesson activities (Item 1 of the Treatment Questionnaire) of the treatment group.

The data presented in Figure 4.10 indicates that students’ first preference in lesson activities was E-mail. Interestingly, the only activity not ranked first by any students was the ‘Acknowledgment Letter’. The ‘Complaint Letter’ which was the basis for the second posttest was also not ranked highly by many students.

Table 4.20

Summary of some descriptive statistics data collected from the treatment group for items 2 and 3 on the Treatment Questionnaire (N=29).

Item	Item description and responses	Frequency
2.	If you had some writing to do on your own, how would you choose to write?	
	1. Pen or pencil	1
	2. Computer	26
	3. Typewriter	2
3.	After working with a computer, how does the writing process seem to you?	
	1. Harder	2
	2. The same	9
	3. Easier	17

The results from Item 2 (Table 4.20) showed that most of the students (90%) agreed that if they had some writing to do they would choose to use a computer. Only one student said he/she would choose pen or pencil. Further from responses to Item 3 it was clear that most (61%) found the writing process easier after taking the computer-based business-writing course and working with a computer. Correlation analysis was conducted between posttest1 and the *Treatment Questionnaire* Item 3. No significant correlations were found.

Some descriptive analysis of the data for Item 4 on the *Treatment Questionnaire* is given in Table 4.21. Generally it appeared that the students agreed that they could understand the content easily, that word processing assisted them in understanding more communicative English, and that they did not need to worry about making as many mistakes in grammar and vocabulary. The students also indicated that word processing allowed them to better create their own ideas. However, while many agreed that they could write more using the word processor many still did not feel that this was more than they could do by hand.

Table 4.21

Frequencies collected from treatment group for Item 4 using the *Treatment Questionnaire* (N=29).

Item	Description	Preferable level				
		sd	d	n	a	sa
Studying business English with word processing can help:						
4.1	to understand the content easily.	0	1	11	15	2
4.2	to understand the content to the same level as provided by the teacher.	0	5	13	10	1
4.3	to maintain your interest.	0	1	6	15	7
4.4	to enjoy studying English using computer.	0	0	5	12	12
4.5	to enjoy each activity.	0	4	15	9	1
4.6	to solve problem by yourself.	0	1	21	7	0
4.7	to create your own ideas.	0	0	17	10	2
4.8	to learn without being controlled by the teacher.	1	5	11	11	1
4.9	to assist in understanding more English.	0	0	15	10	4
4.10	to accept the use of word processing in other subjects.	0	1	2	16	10
4.11	I enjoyed writing less than I used to.	1	8	8	9	3
4.12	I enjoyed writing to the same extent as I did without using a computer.	1	4	10	14	0
4.13	I can write more than I used to.	0	1	6	17	5
4.14	I can write more by hand than I use a computer.	0	2	12	13	2
4.15	I can write less by hand than I use a computer.	0	6	14	9	0
4.16	I don't worry about making as many mistakes now.	0	2	13	9	5
4.17	I used to worry about making spelling errors, but not now.	0	5	6	13	5
4.18	I don't think the computer has helped me.	7	12	7	2	1
4.19	I make fewer mistakes than I did when using computer.	1	1	4	13	10
4.20	Computer classes made me uncomfortable.	4	15	6	1	3

sd= strongly disagree= 1, d = disagree= 2, n= neutral = 3, a = agree = 4, sa=strongly agree= 5

From the *Treatment Questionnaire* data (Table 4.21) it appeared that more students agreed that they were comfortable using computers and this helped them in Business English writing classes and further that they enjoyed studying English with a computer (no one responded negatively to Item 4.4). They enjoyed the activities as shown by responses to Item 4.5 and as shown on Item 4.10, most the students accepted the use of word processing in other subjects. Only one student disagreed in this case. Students also indicated that they made fewer mistakes than they did before using a computer (Item 4.19).

Almost all students indicated that word processing helped them to maintain their interest after studying the Business English course (Item 4.3). They could understand the content more easily (Item 4.1) and write longer document than they did previously (Item 4.13). Most agreed that using the computer assisted them in understanding English language (Item 4.9). They agreed that using computers helped them to create their own ideas (Item 4.7), helped them in writing and that it was comfortable in the computer laboratory (Item 4.20). They also indicated that they did not worry as much about making spelling errors and other mistakes (Item 4.17). The students agreed that the computer had helped them in composing the documents.

The students ranked their preference for various types documents after they finished the course. Top ranking went to email with the belief that this benefited their future career and the popularity for communication among their friends. The complaint letter which was the basis for the second posttest was ranked quite low probably because it appeared to be irrelevant to their daily lives.

Correlation analysis was conducted between the *Posttest 1* data and the *Treatment Questionnaire* using Items 4.8, 4.11 and 4.15 since the data for these items had higher standard deviations (responses more spread between the alternatives). No significant correlations were found.

Student Interviews

One week after finishing the course a representative sample of students from each group were interviewed. Five students, randomly selected from each group, were interviewed particularly with a view to corroborating data obtained from the *Curriculum Questionnaire* and to get their views on the posttests. The interview schedule was designed to have a number of open-ended questions that allowed the students to express themselves freely. All interviewees were asked a core set of questions and then some were asked additional questions arising from their responses to earlier questions. Interviews were conducted in the Thai language but were translated into English for the purposes of analysis.

Responses from Treatment interview group

Students were asked to express their feelings about the original random sampling selection of students to be in the treatment group. One female student in the treatment group gave a typical response,

I am not sure whether the other students will like having a computer instead of handwriting. But for me it would be good because I want to get a good chance to practice the computer in class before I look for a job. Now English and computing are great benefits for someone who would like to get a job in a modern workplace. I am quite sure that if I am keen at computer and English proficiency, I can look for a job easier than someone who does not.

When the researcher asked her what the main differences were in having to hand-write the second posttest compared with word processing the first posttest, she replied,

I really prefer the first posttest using computer to the second posttest with handwriting. I could correct the words I made mistakes in without being messy. If I do this with handwriting, it is very messy. I could do better job for the first posttest than for the second posttest. I hope that I can get better marks in word processing than in handwriting.

When another student was asked the same question she said,

On the second posttest, it wasted time to write on the scraps of paper. I do not want to make pages on pages for rough drafts.

When asked whether her business letters were different with the word processing, she replied,

Using the computer makes me feel more confident than before because at least I know that my document will not be all messy. I was afraid to use computer at first. I typed very slowly. It is not easy for me to write in the English language at the first draft actually I do not like writing. I could not jot down freely on blank paper and I now have learned that a computer makes me get a good draft on the screen. Moreover, I spend my time on ICQ. I have my typing speed.

Typing speed seemed to be an important factor in composing handwriting and word processing in the posttest activity. For example, a third student said that,

I liked using the computer but I can only type very slowly which make me take a long time to finish each assignment. Moreover, I do not have enough time to do my assignment out of the classroom because my schedule is unavailable. I could not use the computer laboratory after class because it is busy all day.

In response to a question on how the Business English class had affected the students' attitude towards writing. She responded that,

I am much more positive about studying English, in particular writing skills. And also I feel that the computer challenges me. I have a lot of things to learn from an amazing machine. I will suggest my friends to take the course if it is provided again. My friends need to learn about struggling with the computer as same as me.

When asked about the new curriculum such as the e-mail session and whether they enjoyed this part or not, one of the students stated that,

I had used the e-mail before attending Business English class. Email is my favourite part. I am a member of a Thai website, but I had never used the email in English before.

She added that,

Writing English is difficult for me. I know how to if I am thinking and using Thai, but I cannot write out exactly what I think in English. I tried in my Business English course. Anyway, I found the use of e-mail between lessons a problem, particularly gaining access to the e-mail facility at the institution.

When asked to comment or reflect upon the course after finishing the lessons, she added that,

I would like to learn and practice at the institution more because I do not have my own computer at home. I spend no time on the computer outside school hours. The most impressive thing for me was that I felt curious in the English class, which I had never felt before. I was happy to present each of my work to my instructor.

Another student responded that,

The computer saved time in rewriting. I can write directly on screen without paper or writing rough drafts. I got everything done on time, correct spelling, adding information, switching some sentences immediately. In the computer classes, there are more facilities for us such as an air-conditioner, free paper to print out , and no charge for attending the computer laboratory class.

One of the students indicated that,

Using computer made me learn a lot of English words by myself. Whenever I spelt wrongly, I learned by the red underlined word. And I can correct it immediately by using spelling checker to help me. I felt confident and enjoy English class using computer. If I have enough time to practice my typing skill, I believe that I will finish the document that the teacher assigned me each time.

One of the students recommended that,

I have learned that spelling checker cannot help me to identify the appropriate word from among the options offered. It is difficult for me to select the correct spelling of the word. I sometimes make a mistake on my typing, spelling checkers are unable to show me what I did it wrong. For example: I wrote 'I am find'

instead of 'I am fine'. Poor spelling skills like me may be unable to know which is right or wrong.

When asked what was difficult about word processing in the posttest activity, one of the students said that,

It is difficult translating from the Thai language to English. I lack of the confidence to produce a document because of limited vocabulary, weak grammar skills, spelling problems, inadequate understanding of the structure of English and low confidence levels.

Another response was that,

I am happy to help my friends' problems on their computers.

Not all students said they would like to learn Business English using computers. One student expressed her idea on the open ended question that,

I am a slow learner. I am not good at English. I am not good at typing. I feel like a silly person to have to ask another student, technician or even the teacher for help. I do not think I can learn both difficult English and the computer at the same time.

In summary the interviews of students from the treatment group indicated that the students preferred studying Business English using word processing rather than only handwriting for reasons associated with ease of use, future employment, and quality of presentation. In addition they were keen to learn to use computers in the course because they did not have a computer at home. They tended to be most interested in activities such as email. The main problem for the students using computers was their slow typing speed and poor keyboard skills. English proficiency also seemed to be a barrier to using computers effectively. However, they believed that good English proficiency and computer literacy were critical to finding a better job and good salary.

Responses from Control interview group

The students in the control group appeared to be positive about the new curriculum as being beneficial to their future careers with a typical response from a female student being,

The new curriculum is very useful and helpful. I can apply the lessons to suit the real situations. It is really good for my future career, but if I am unemployed, I cannot use it - that is a big problem.

Although they would have liked to be in the treatment group as typified by the response of another female student who said that,

I missed the opportunity to study Business English class using the word processor. I hope I have a chance to do that someday. Computer challenges me, I would like to try on any English subjects.

And another student who said,

I sometimes think that it was unfair for me to miss the computer laboratory.

However, despite this they were happy with the new curriculum as typified by the response,

Even though I do not have a chance to attend Business English using computer laboratory like my close friends, I am happy to study Business English with another class. It is my new environment.

She went on to explain,

I like most of the lessons. They are not too difficult for me to do the exercises. I can work and share some ideas with my friends. We checked each other before presenting the tasks to the teacher. Nothing to be worried about.

One of the interviewed students did not want to be in the treatment group as she explained that,

Last semester when I took a computer session I had a problem with my eyesight on the screen. When I sat in front of the computer for more than one hour, it hurt my eyes. Fortunately, I was in the handwriting class. I don't want to use computer anymore.

Another student expressed some reservations about using a computer in the course.

I prefer learning from human teacher to computer.

They made a number of suggestions for improvement in the curriculum, including,

Make content not so much work.

Make content more entertainment.

There is not enough time to finish my work so cut down some parts of the exercises.

In summary, students from the control group were interested in the new curriculum and found the lesson activities beneficial in terms of their training before seeking work in their future career. Ideally many would probably have liked to study Business English using the computers and naturally felt they had missed out on an opportunity. Some students suggested that the content of the text should make more entertaining.

Main Points from the Interviews

The student interviews supported the conclusion that the students tended to have a positive view of the new curriculum and believed that the use of the computers was beneficial. They indicated that the new curriculum was useful to learn how to produce documents for the real situation and therefore better prepared them for work. In addition, for students in the treatment group they believed that using a word processor assisted them generally in learning the English language. The word processing tools gave them confidence when using English and therefore they preferred the first posttest to the second posttest.

After finishing the course, the participants who studied in the control group asked to use computers for the next subject. And the treatment group asked when they could come back to the computer laboratory again. They appear to have maintained interest in the activities and were likely to use the word processor to support work in other units of study.

Other Data Collected

Some data were collected informally by talking with the control group teacher, observing the treatment group and talking with instructors from other Rajabhats.

Informal Interview of Control Group Teacher

At various times the researcher informally discussed the progress of the control group with the teacher of that class. At the end of the course, when reflecting on the outcomes of the course she commented that because the students were not English majors they had found it difficult to produce the documents in English. The students were poor at the basic grammar point, and had limited vocabulary. She also felt that a problem that had occurred for a few students who had close friends in the treatment group was that they were keen to go to the computer laboratory and so they hurried through their activities without reviewing their work in order to see friends. When asked to reflect on the new curriculum the lecturer made the following comments.

Overall of the course book and activity book were quite good. Easy to understand. I think that it will be useful if the employers can provide us with examples of the material that our students who will be in employment must read, write and understand. These can be used in our lessons and updated material is made available in our institute.

I enjoyed teaching. Most of my students enjoyed studying. We may use these text and activity books with the students who are majoring in English. I agreed that this was suitable for starting Business English writing. I sometimes could not finish some sessions. I assigned my students to finish at home and brought them back in class to check. Some of my students asked for computer laboratory.

Informal Observations of Class

The researcher observed the students' of both groups in their classrooms. Firstly, she observed many students relying on the spell-checker too much. If the students were not good at English, they often did not know what was right or wrong. For example, the letter *t* may be left out of the word *the* but the spellchecker would not pick this up and the error would remain. Secondly, students who had good prior knowledge in English and keyboarding skills produced larger documents than those who did not. Thirdly, some students ignored grammar and vocabulary entirely when using the word processor. Finally, students who did not participate in the computer laboratory felt upset at missing out and therefore some opportunities were afforded them at the end of the course to use the computer laboratory.

It was anecdotally observed that there appeared to be more interactions between students and teachers, students and students whilst they were studying in the computer laboratory. This also extended to interaction with the technician who was a part of our Business English class.

Informal interview with English lecturers from other Rajabhats

The researcher had the opportunity to talk with English lecturers from other Rajabhats about the Business English curriculum and its relevance to students and the local community. When asked to reflect upon their own Business English courses they agreed that it was difficult to find good textbooks to match the curriculum. Some of the lecturers were happy to use their own handouts by collecting from variety of books but some preferred published textbooks.

When asked about their students' backgrounds, one lecturer said that,

My students are different English and computer background, some students are good but some are not. It is rather difficult to teach English by using computer because there are not enough computer laboratories in my Rajabhat. Some of my students do not have typing experience. Sometimes the students are reluctance to admit to difficulties and lack of confidence to use the technology. If the students do not have any computer literacy and English proficiency, it is uneasy to teach. I

agreed that the students would get more benefits if they have a chance to practice computer skill from the institution.

Another lecturer remarked that,

We try to discuss about how to approach Business English with our colleagues. We try to construct or compile the activities for our students. It is difficult to do that because we have variety subjects to teach. The current situation now, the lecturers have to be responsible for the subject by their own. Some lecturers used the text given but some do not use.

Another lecturer said,

It was interesting to study Business English with word processing. It can be used in the real situations of business world. Most of us still use hand writing to produce the business documents. I hope that we will be able to afford technology facility for our students sufficiently.

One of the lecturers suggested that,

The study reflected on the impact of new technologies and cultural change on the curriculum in order to cater for diverse learning styles. Lecturers should apply computers and related technologies to support instruction in their subject areas such as Business English course, formulaic writing course or English composition.

Another lecturer added that,

I agreed that each Rajabhat should have its own curriculum because we are in different communities. Each curriculum should be suitable for each local community. Institutional education like our Rajabhats should develop the talents and capacity of our students. In particular, when they have to leave school, they should be confident, creative and productive users of new technologies particularly information technologies and understand the impact of those technologies on society. We need more train in business area.

Another lecturer added that,

There are plenty of students who would like to enroll in Business English courses each semester, but we cannot afford all of them. We do not have enough Business English lecturers to support the course.

Another lecturer said that:

I agree with using computer in the Business English. In the current situation at my Rajabhat, we still have some problems in using computer laboratory. The students are assigned to do some activities out of the classroom and then presented what they did the next period. Some students cannot access the computer or surf the Internet. Some could not present their works in class because they did not do the assignment.

In the summary it appears that most of Rajabhats do not have any textbooks to teach Business English. They believe that students currently are provided with a poor technological environment but that it was essential to use computers in their teaching in order to parallel the technological processes in the business arena. However, they recognized the constraints of resourcing such initiatives and the lack of time for lecturers to prepare courses to incorporate computer use.

Factors affecting Posttest scores

The *Pretest* and first posttest results clearly indicated that using a word processor contributes to higher quality documents, as defined by the *Analytic Scale*, than handwriting. This effect did not seem to be just the visual quality of the document because when the handwritten documents were simply retyped they were still judged to be of significantly lower quality than the word processed documents on all categories other than SWD (concerned with formatting etc.), despite the fact that this was before the students began the course of study. By the end of the course of study overall students using word processors were able to produce significantly higher quality documents, but so were those using handwriting.

Correlation analysis was conducted to consider factors, other than the treatment, related to the students' characteristics and experience that may have affected the posttest scores. Data from the *Background Questionnaire* and CAS were used. Posttest results for the treatment group were not correlated to previous experience with using computer and the posttest results for the treatment group were not significantly correlated to the CAS scores. Interestingly, the correlation of *Posttest 1* and *CAS posttest* of the treatment group were not related to each other whilst there were significant correlations ($p < 0.05$) on SWD, ER, IW, and QM for the control group. However, this is a relatively meaningless result.

Other factors affecting the scores based on the student interviews and open-ended questions indicated that students perceived using the word processor as valuable. The students used the simple editing that made them confident to move the text around without creating mess. The spelling and grammar tools helped them check the accuracy of the words and sentences. The formatting tools helped them to improve the accuracy and presentation of the documents. Some of the students were confident that they could

get better marks for documents they produced using a word processor compared with by handwriting.

Summary of Results

Overall the results from the writing tests showed that the students' documents produced using word processing in place of handwriting at the end of the course were of higher quality, particularly with regard to layout, punctuation, vocabulary, expression, continuity, organisation and appropriate use of language. Documents produced using the word processor were generally of the higher quality although this did not translate into higher quality written documents. Almost all of the students using the computer believed that this helped them to produce better documents and maintain interest in the new curriculum. However, although using the word processor during the course appeared to generally improve their Business English writing skills it was only in the areas of formatting, layout, punctuation and paragraphing that they appeared to have gained an advantage over those using handwriting.

All stakeholders (i.e. company executives, students and academic staff) believed that the new curriculum for Business English better meet the expectations of workplaces and more so if computers were used. Most of the students had very positive attitudes towards the Business English subject, word processing and using computer from the start. Those using word processing were generally proud of the documents they produced due to the professional look.

This chapter has presented the results of the analysis of the data collected and started to synthesize major findings. The next chapter will discuss these results and findings making links with the literature and providing a basis upon which to make conclusions and recommendations in the final chapter.

Chapter Five

DISCUSSION

This chapter discusses the results from the analysis of all the data as presented in Chapter Four. The discussion is structured using the three research questions and the four supplementary questions with each question dealt with separately.

Research Question One

Will using word processing in place of handwriting in an undergraduate Business English course improve the writing skills of students of a Thai Rajabhat Institute?

This was the main research question for the study and was largely addressed using the writing quality tests data analyses. The writing quality tests data comprised the combined judgements of three assessors using five categories of writing quality relating to various writing skills (refer to Table 3.3) applied to three tests completed by the students. These data were analysed to compare skills from the beginning and end of the course and differences between the performance of students in the treatment group using word processing and the control group using handwriting.

The results of the analysis of the writing quality tests data showed that, in general, where the students used word processors to produce documents they tended to be judged to be of higher quality than those written by hand. This was the case at the beginning and end of the course with those documents at the end typically judged to be of higher quality than at the beginning of the course. Further, this result did not appear to be just determined by the visual quality of the document for when the handwritten documents for the pretest were typed, the documents that had originally been word-processed were still judged overall to be of higher quality for all but one of the categories of writing quality used in the study. This category was Standard of Written Document (SWD) (Table 3.3 Chapter 3) which related strongly to the visual quality in terms of document layout.

Thus while the students using word processing tended to demonstrate improved writing skills, as represented by the five categories of writing quality, so too did students using only handwriting. So, firstly the study has demonstrated that the new Business English curriculum facilitated improved writing skills as evidenced by the production of higher quality documents by both groups. The study has also demonstrated that when students

use word processors to produce documents this will tend to further enhance the demonstration of their writing skills. However, it cannot be concluded that if students completed the course using word processing they would develop improved writing skills when compared with those who only used handwriting.

Overall the word processing students' documents tended to be rated of higher quality in all categories when compared with the students' handwritten documents in all tests where they used word processors (pretest and first posttest). However, in the second posttest, where both groups used handwriting, there were no significant differences in the rating of the quality of their documents leading to the conclusion that using word processing itself was making a difference, rather than the application of better developed writing skills in general. That is, if the students in the control group had been permitted to use a word processor for their tests, they too may have performed as well as those in the treatment group. This was born out by the repeated measures test for all categories other than the SWD category.

It did appear that for the SWD category the students in the treatment group gained an advantage through using the word processor throughout the course. This category is concerned with the layout, neatness, punctuation, and paragraphing of a document and clearly these features are easier to manage using word processing software. Their skills in these areas appeared to generally have improved throughout the course above the improvement shown by students in the control group. It was interesting to note, however that, when these students did not use the word processor, they did significantly worse in this category with the mean actually below that for the control group. A likely explanation for this may be in the development of skills in the use of simple formatting and editing tools was gained at the cost of mastering these skills in their handwriting.

In the *Treatment Questionnaire* students expressed the belief that they made fewer mistakes when using the computer and in the *Interviews* said that they preferred the first posttest using computers to the second posttest with handwriting. Some students stated that they did a better job in the first posttest than the second posttest and that they were quite sure of getting better marks with word processing than with handwriting.

On all writing quality categories other than SWD, the test results also seemed to indicate that the factor influencing the quality of the document was the use of the word processor rather than learning with the word processor. For example, for the SLU

(Standard of Language Usage) category it appeared that students could produce higher quality documents in spelling and capitalization, grammar and vocabulary and the correct use of pronouns, conjunctions and transition expressions. A plausible explanation for this is that they relied on the tools provided by the word processor such as the spelling and grammar checker and particularly the automatic feedback on errors provided through the red or green jagged lines under words/sentences. Since this is automatic it does not require the recognition of errors and the student can either use the dictionary to correct the word or change the structure until it is accepted by the grammar checker. However when the student is using handwriting, he/she no longer has this advantage and may not have shown improvement in these areas and thus will only perform at the same standard as those not learning with the technology.

Similarly, the ease of editing with a word processor explains improvements in the IW (Image of Writer) category which related to ease of reading, clarity of purpose, the use of precise vocabulary, and maturity of expression. The written products can be saved on a disk, students can revisit their tasks later. It not only gives them time to develop ideas, but also helps them see how much their writing ability has matured. But it is unlikely that the students would have developed adequate skill in the use of more sophisticated tools such as outlining and the use of the thesaurus that may have supported writing skills in this area.

A possible explanation for improvements in the QM (Quality of the Message) category (i.e. continuity, completeness, organization and development) may have come from the fact that students appeared to have more confidence when using a word processor as it facilitates the addition or removal of any text. The students knew that their documents would not appear messy and this allowed them to change the order of ideas and progression to the next idea by moving text: cutting, deleting, inserting and pasting without spoiling the appearance of the document. The students could add anything they wanted and could delete and modify their documents. They could organize their ideas in the development of their document, sentence-by-sentence and paragraph-by-paragraph, producing a more coherent document. Saving the document to disk allowed them to revisit their tasks later to develop their ideas further.

When these students did not use the word processor, in the second posttest, they did significantly worse in this QM category. That is, the written document produced by the

treatment group was of lower quality than when they used word processing. Therefore, while it is likely that they may have developed word processing skills that translated to improved writing skills, this was not adequately supported by the analysis of the writing tests data. It may be that these skills, being more sophisticated than those for the SWD category, would need a longer treatment course to show significant improvement.

The ER (Effectiveness for the Reader) category relates to the appropriate use of language and length of document, the formality of the language used, the depth of discussion, the subject matter, choice in sentence structure, and appropriate language use of the document. It would also seem that the word processor offered certain advantages over handwriting, but again the analysis of the data did not confirm any significant improvement in these skills. Once again, a plausible explanation for the slight improvement would be that the use of the thesaurus and the English-Thai Dictionary, the word count tool and cut and paste tool made them more adventurous in their writing. This would be unlikely to be sustained without these tools, particularly if they had only had limited exposure to the tools.

These explanations are further supported by the responses of students to the open-ended items from the *Treatment Questionnaire*. Many students contributed the decline in the number of errors they made to the easy-to-read appearance of the document and the simplicity of screen editing. They noted that errors were easier to spot than in handwritten document and this had helped them to improve their vocabulary and grammar because they were helped by spelling and grammar checkers.

The attitudes of the students towards using the computers may also provide explanations for some of these results. From the *Treatment Questionnaire* data, it appeared that by the end of the course most students felt very confident when using the word processor to complete writing tasks. Many indicated that because they did not need to show their documents to the teacher until they were satisfied with their work, they were more confident about their writing. So they were more confident doing the first posttest task by word processor than for the second posttest task by handwriting. Almost all of the students using the computer believed that word processing had helped them to produce better documents. They also felt that the word processing activities had encouraged and motivated them to produce better documents.

The analysis of the *Writing Quality Test* data for the treatment group (Table 4.8) showed that the students' first posttest documents tended to be judged to be of a higher quality than the second posttest. Clearly the use of the word processor was an advantage that students may have come to rely on so that when it was removed they were disadvantaged. Although the study did not show that students produced significantly longer documents on the word processor, the students believed that they could produce better quality than they did before. This suggests that there is potential for the use of word processors in Business English for improving a wider range of writing skills. However, realizing this potential may require more prolonged use of the word processor and the incorporation of the use of the more sophisticated tools.

In summary this study has suggested that Thai students using word processors to create Business English documents could complete higher quality documents than students who create handwritten documents. There is strong evidence that using the word processor facilitates better writing skills and general improvement in writing. In addition, there is evidence that using a word processor in a Thai Business English course facilitates improvements in writing skills. Generally students using computers in such courses were more confident that they could produce better documents. The results of this study clearly suggested that word processing offer significant potential for the development of higher quality writing skills than handwriting.

Research Question Two

Will using word processing in place of handwriting in a Business English course at a Rajabhat better meet the expectations of Thai workplaces?

The original purpose in developing the new Business English curriculum was to fulfill the strategic goal of better meeting the expectations of the workplace for graduates. To address this research question, findings based on the qualitative data collected from company executives and from the students are used along with some connections with the writing quality test data.

Analysis of the data from the executives' questionnaires and the interviews clearly indicated that a range of English proficiencies in writing, speaking, and listening were highly desirable in the workplace. Computer literacy was considered to be a major desirable attribute for applicants for most jobs. The qualifications provided by the institution needed to align with the requirements of prospective employing companies.

The executives indicated that they felt that it was important for their personnel to collaborate in the course design process to ensure that it adequately addressed their needs. They clearly appreciated being involved in the design process for the new Business English curriculum and generally felt that the new curriculum would better meet the needs of the workplace.

The new curriculum and associated materials (text and activity books) were constructed based on an analysis of the needs of the typical workplace. Although there was variation in the executives' expectations for prospective employees training experience from the educational institution, generally they agreed that the curriculum should reflect the real work tasks required in the workplace and that the new curriculum did this. Further, they suggested that students needed an appropriate grasp of technical vocabulary, structures, authentic materials or functions and competent language for a variety of demanding workplace situations. Once again they believed that the new curriculum provided this.

All the executives indicated that their companies often had contact with overseas organisations where communication relied on English and often the use of computers for business letters, email, fax transmissions and sometimes telephone. All the executives indicated that the main applications used were word processing and e-mail. For example, most executives explained that they used e-mail to contact overseas organisations. Therefore the new curriculum provided an e-mail section which the students ranked as their first preference for classroom activities.

Analysis of the data from executives revealed that most of their employees were required to use computers to write documents and to support business communications rather than using handwriting. Further, a large quantity of this work was conducted in English and, while many employees could use computers, they generally had poor English skills when using computers. A number of executives were convinced that graduating students lacked an adequate combination of proficiency in English writing skills and computer competency skills. They believed that it was important that graduates learned to use computers to support document production and communication in the English language while studying. They felt that the revised Business English curriculum did address this inadequacy, but needed to continue to be cognizant of rapid technology changes. Their comments, reflections and suggestions indicated a strong

desire to cooperate with educational institutions as a stakeholder in the learning community. Their input was beneficial in the development of the course materials.

Clearly the executives believed that the new curriculum did better suit the needs of their workplaces. However, it is important also to consider the perception of the students and also analyse data on the implemented curriculum, including the *Writing Quality Test* data.

Analysis of data from the *Curriculum Questionnaire* showed that the majority of the students wanted to learn Business English using word processing. Some part of the activities in the course book such as e-mail was seen to be more useful to students' learning. For many students, the opportunity to use computers was seen as beneficial because they had limited opportunities to develop this competency, which they believed was necessary in their future career. Clearly most considered that they would be expected to use computers in real workplace situations and therefore using them in their course would be of benefit.

Analysis of data from the *Treatment Questionnaire* showed that the students in the treatment group believed that they had gained an advantage and that they would find it easier to look for a job than those without the same experience. They perceived that the combination of English and computing were of great benefit for getting a job in a modern Thai workplace.

The development of the course book and activity book helped to ensure that the designed curriculum was adequately implemented. Most of the documents produced in the course were typical of those used for correspondence between company and customers requiring basic computer skills and intermediate English level. These authentic activities were more likely to better prepare students with skills for the workplace. The extent to which students developed these skills was evidenced by their achievement on the *Writing Quality Tests*. In skills associated with the formatting, neatness, punctuation, and paragraphing, students who had used the computers improved dramatically and significantly more than those not using computers. For some other skills there was some evidence that with further refinement of the curriculum the use of computers would lead to significant gains.

In summary, the executives and students perceived that the new curriculum did better meet the expectations of Thai workplaces and particularly where word processing was used in place of handwriting. The demonstrated learning outcomes for students in the treatment group substantially supported these perceptions. Thus, the cooperation between the educational institution and the workplace personnel had been beneficial in creating the new curriculum and it was now more likely that company executives responsible for employing graduates would be confident in the qualification offered by the Rajabhat.

Research Question Three

What are the advantages and disadvantages of using word processing in a Thai Business English subject?

Clearly from the first two research questions, there were advantages in using the word processor in terms of improvement in the quality of documents produced and the improved congruence with the requirements of the typical workplace. This third research question considers whether there were additional advantages and balances these against any disadvantages. Therefore, all the findings from the data analysed in Chapter 4 have been used to address this research question, and particularly those based on the more qualitative measures such as the interviews. Although the treatment group was only engaged in one Business English subject for one semester, they provided enough evidence to consider the overall advantages and disadvantages of using word processing in the subject. The results, however, only reflect the present study as applied to a Thai Business English subject at a Rajabhat.

For most students this was their first opportunity to use computers in English for authentic tasks. Many students said they had used computers for entertainment only, such as to surf the Internet, play games or chat with pen friends, but had not considered the benefits in areas such as Business English. As such, initially they were inquisitive but increasingly enthusiastic as they realized the benefits of computer use in practice. For most of these students, the advantages outweighed any perceived disadvantages when using the computers to learn Business English.

As outlined in the discussions on the first two research questions the use of the word processor had made the process of writing easier. The students could type any ideas on the screen and could correct mistakes such as vocabulary spelling, structure,

capitalization, and punctuation. Further, writing using the computer appeared to help the students to be free to generate their ideas. In particular, as evidenced by the SWD category results, they benefited from the basic and automatic formatting and editing tools provided by the word processor to improve the layout of business letters, punctuation and paragraphing. They typed what they wanted first and deleted later, correcting errors easily, until a satisfactory draft could be printed out to present the teacher. These were obvious advantages for the students in using the word processor.

The results from the ER, IW, and QM categories showed that most of the students gained the advantages by using the word processor in terms of appropriate language, ease of reading and organisation. The SLU category showed improvement in spelling, grammar and vocabulary. These ‘quality’ advantages in using a word processor were acknowledged by the students, as evidenced by their responses in the *Interview*. Many expressed the belief that their vocabulary had been enriched by having to correct the red underlined word. Similarly, they had learned the correct grammar and punctuation by the green underlined sentences. One student claimed that the computer was not doing her work, but was helping her to find her mistakes. She felt that the computer challenged her to learn a lot more. She mentioned that the level of use of word processing was much more advanced than in her high school. Moreover, the computer saved her time and removed the need for a lot of scraps of paper for rough drafts.

An important advantage, for both students and staff, attributable to the use of the word processor was the increased motivation of the students to improve their documents. Analysis of data from the *CAS* revealed that the students from both the treatment and control groups had highly positive attitudes towards using computers both before and after the course. From the *Curriculum Questionnaire*, it was clear that most of the students tended to be positive towards the new curriculum and were particularly interested in learning English using a computer. They believed that the new curriculum allowed them to understand the content more easily and encouraged them to produce longer written documents. They believed that the lesson activities were useful for their future careers and applicable to the needs of the workplace. This analysis of attitudes and perceptions was further supported by data from the *Student Interviews*. A number of students expressed their belief that using a word processor in the subject was a great benefit for them to practice before getting a job in a modern Thai workplace. In fact some said that they had been curious about the use of the word processor in the subject

and were most impressed when they realized how it could be applied to real working environments.

However, the lack of computing facilities to practice was a problem. The availability of up-to-date equipment and printed versions of the new curriculum, particularly textbooks were problems. As expected, a few students did experience some frustration because of their weak typing skills and their initial difficulty with learning the commands of the word processor. Sometimes they lost work because of not saving correctly. But these disadvantages did not prevent them from being enthusiastic about using computers and perceiving the benefits.

For the students, an important advantage was the rare opportunity to use a computer. Results from the *Background Questionnaire* indicated that most of the students did not have computer at home and rarely used one in their studies. The financial constraints on families to support their children made investment in computers unlikely. To equip children with the latest in computer technology, parents could spend around 30,000 Baht (approximately AU \$1,200) whilst their parents' average annual income may be approximately 77,173 Baht. This is not including connection to the Internet via a modem. So parents in the local community simply could not afford this added expense. To add to this problem, government educational institutions cannot provide students with access to such services due to budgetary limitations. From an analysis of the data from the *Student Interview* it was clear that the students appreciated the opportunity to use the facilities in the computer laboratory in the Business English course without having to pay the service charge normally paid when enrolling in subjects using these facilities.

While the cost of investing in the computer infrastructure was a disincentive for the institution, this was somewhat counter-balanced by the likely positive response of prospective employers as evidenced by the data collected from the sample of executives. In the *Executive Interviews* most executives were extremely happy with the new curriculum and were pleased to have been consulted in its development. Therefore the investment by the institution had helped in realizing an important strategic aim of cooperation with the workplace in order to develop the local community towards sustainable development.

The data from informal interviews with English lecturers in other Rajabhats revealed that most Rajabhat Business English programmes did not use computer laboratories. The computer laboratories were only provided for students who were majoring in computer sciences, computer education and some fundamental subjects relevant to using computers such as *English for Communication and Information Retrieval* and *English for Communication and Study Skills*. These subjects filled the timetables of the computer laboratories leaving no time for others such as Business English.

Therefore, for students there were overwhelming advantages in using computers. For the institution there were advantages associated with student motivation, the quality of work, and the achievement of a strategic aim in cooperating with local industry, but the cost of the investment was a major disadvantage. For Rajabhat staff involved in a Business English unit with word processing would also create an increase in their workload.

Supplementary Research Questions

Supplementary 1

What is the impact on Thai students' business writing processes of the use word processing in place of handwriting?

This question naturally progresses from the first main question of the study. Further analysis of the qualitative data from the *Student Interview* and *Treatment Questionnaire* combined with the results of the *Writing Quality Tests* data provide information to address this question. The Business English subject was designed for students wanting to work in clerical and middle management positions in organisations. An attempt was made to develop authentic materials for classroom activities. To help students to write clearly, concisely and courteously, Smith and Bernhardt's (1997) writing process was adopted. They approached writing in three stages: planning, drafting and revising. The students were encouraged by the teachers of the two groups to use a process approach to writing which was explained step by step starting with the planning, drafting and then rewriting in a Business English writing style. For the planning stage, both groups did the same thing. They were encouraged to think about the situation that they were to write about. For the drafting stage the treatment group did a rough draft on the computer whilst the control group did it on the paper. Finally, for the rewriting stage the treatment

group drafted and reread the document by revising and editing on the screen and printed it out, whilst the control group did a final draft using pen and paper.

Using word processing encouraged students to use a drafting cycle, supported them in the accurate formatting of documents, encouraged them to be more adventurous, more confident, and more satisfied with the appearance and accuracy (e.g. layout, spelling) of their documents. Moreover, the students felt their documents were much more professional looking when word processed. However, a lack of keyboarding skills or initial low typing speeds may have inhibited the application of the writing process for some students.

Word processors are designed to create and edit formal written documents such as those required for business communication. They provide tools to accurately format written documents (such as layout, grammar, appropriate language, ease of reading and development). Typically word processing encourages engagement in the vital planning, drafting and rewriting (revise and edit) of such documents. Using word processing, therefore, made the process of learning to write in English more interesting for the students. A few students did have some trouble using word processing with the business writing processes. They did not think that they could learn two difficult sets of skills at the same time, English writing and computer literacy.

The results from the *Writing Quality Tests* mainly showed word processing supporting improvements related to layout, neatness, punctuation and paragraphing, for example, the Tab function helped them format letters more accurately. However, the results from the *Treatment Questionnaire* indicated that most students enjoyed writing by using the computer. They could write at their own pace without much assistance from the teacher. They could produce a better document than they did by hand. Most students found that they made fewer spelling errors than before due to the spell check feature. In the open-ended questions, students said that the step-by-step writing process helped them to produce better business documents. They could start writing by putting their outline headings on the screen and then they began adding to these ideas while revising and editing. They could move the sentences around the whole paragraph to improve their text without spoiling their document. One student said she preferred to print a hard copy to make sure that the page on the screen was the same format on the printout. The neat text display gave her pride in her work because it looked like a professional document

in a real office. Most students felt that there were a lot of changes in their work after they used a word processor in Business English. According to the *Student Interviews*, students perceived that word processing had offered significant potential for the development of their writing skills. They expected to continue writing by using the computer in their future work.

The results from the *Curriculum Questionnaire* indicated that most students in the treatment group felt confident when they produced documents. They said that the word processing encouraged them to write longer document and that they were confident in their ability to produce good quality finished product. However, a few students indicated that the need to demonstrate two competencies (computer literacy and English proficiency) in the tasks was not easy for them as ESL students. Another factor that may have affected the students' writing was keyboard proficiency. A low level of proficiency in keyboard typing skills would have slowed their word processing learning. Students with little keyboard experience would also have little computer experience, so needed more time to familiarize themselves not only with the keyboard, but also with the functions of the word processor. This meant, more time spent on how to use a computer and less time on correcting errors and focusing on the processes of writing.

The students also indicated that the use of word processing in Business English had improved their writing within the semester, and had helped them to become more aware of creating business documents. Therefore, from this study it was apparent that the use of word processing encouraged students to be concerned with the steps of writing, and the writing process. Word processors helped the students to produce better business documents and improve their English writing skills through the ease of editing and revising.

Supplementary 2

Does the quality of the business English documents produced improve when Thai students use a word processor?

This supplementary question also follows naturally from the first main research question. It is largely addressed by the analysis of the *Writing Quality Test* data. These tests showed that, when the students used a word processor on average they produced documents judged to be significantly better than handwritten ones on the range of categories considered by the study. The quality of their documents improved

throughout the semester. Obviously that measured by the SWD category could be strongly attributed to actually using the word processor throughout the semester. Therefore the software supported improvements in quality by enabling students to readily correct errors on screen such as misspelling, grammatical mistakes and inappropriate paragraphing. In handwritten documents revising, editing and rewriting are permanently evident, while in the word-processed versions they remain invisible. Moreover, some handwriting is difficult to read which influences the readers/assessors' perceptions of the document.

This study has clearly found that the use of word processing by Thai Business English students is likely to improve the quality of their documents in many ways and that the consistent use of word processing is likely to lead to substantial and sustained improvements in layout, neatness, punctuation, and paragraphing. Furthermore integrating computers into all aspects of the writing process may have an influence on other aspects of writing quality.

Supplementary 3

What attitudes do students have towards the business English subject, word processing and using computer?

Data were collected addressing the attitudes of the students towards the Business English subject, the new curriculum, the use of computers and word processing. These data were collected using the *CAS, Background Questionnaire, Curriculum Questionnaire, Treatment Questionnaire* and the *Student Interviews*. The data analyses support the assertion that the vast majority of students in the treatment group were willing to use the word processing in the Business English course and that the vast majority of students in both groups had positive attitudes towards the new curriculum.

The analysis of the *CAS* data indicated that most students from both groups had highly positive attitudes towards using computers before and after the course. However, initially some had demonstrated negative attitudes towards computers but by the end of the course they had changed their attitude. When these students were interviewed, it appeared that they had been nervous about using a computer at first, but after finishing the course, they realized that there was nothing to be worried about. Those students who still had negative attitudes were the ones who could not catch up on the lesson because

they did not have adequate keyboard skills. Some had even sent their work to the local Internet shop to finish the lessons.

Analysis of the *Treatment Questionnaire* data revealed that by the end of the semester almost all of these students preferred using the word processing to using pen and paper. Further data from the *Student Interviews* showed that they tended to relate using a word processing application to developing their English writing skills. They enjoyed learning to write in English and did not want to go back to using pen and paper. They believed that using the computer had helped them to maintain interest and enjoy each activity in the new curriculum. Moreover, the word processing features made them comfortable about writing without worrying about vocabulary, spelling, grammar, and sentence order. Interest and enthusiasm in writing was increased attendance improved and some transfer to handwritten documents.

From the *Student Interviews* it was clear that students from both groups perceived advantages in learning Business English with the new curriculum. They agreed that the new curriculum helped them understand English better than before. However, some of the students in the control group asked to participate in the treatment group so that they could use the computers.

From the *Curriculum Questionnaire* and *Student Interviews* it was clear that many students would have liked to make more use of computers. They felt that they needed more computer training because they did not have computers at home. The negative attitudes towards computers obviously resulted from the previous lack of opportunity to use computers at school or at home. The results from the *Curriculum Questionnaire* showed that students believed that the new curriculum was beneficial for their future careers.

The connection between the students' attitudes towards computer literacy and English proficiency is important. From the *Background Questionnaire* the importance to the students of both good English writing and computer skills for their careers was clear. As a result, almost all of them exhibited highly positive attitudes toward using computers for writing in English. Most students were interested in and satisfied with their participation in the treatment group. They saw the computer as a valuable tool that they would encounter in the real world. Even the few students who had problems with their keyboard skills found computers to be useful for them.

The *Background Questionnaire* showed that almost all the students with the negative attitudes had little previous access to computers. A few in the treatment group indicated that they felt computers were imposed on them with some regarding the use of computers as a threat to their identity. However, most students who took part in the study were highly motivated to use computers since they believed that word processing made them a better writer in English.

In summary computer literacy is regarded as a route to future academic and employment opportunities. As a result, the students tended to have highly positive attitudes towards using computers, and particularly towards using them in the new curriculum. In particular, students who did not know much about computers were motivated to develop their computer skills and English proficiency during the course. Most students were happy to engage in the variety of activities in the course book, although some lesson activities made some of them feel uneasy due to their poor keyboarding skills and difficulties with the English language.

Supplementary 4

Do the business English documents produced and English language skills developed meet the expectations of the modern Thai workplace?

This question follows from the second main research question. While the analysis of documents in the *Writing Quality Tests* demonstrated that on average the business documents produced by students in both groups improved in a variety of areas throughout the semester, this does not in itself mean that they met the expectations of the workplace. However, when this is considered in the light of an analysis of the data collected from the sample of executives and some of the qualitative data collected from students and other staff, it would appear that the new curriculum supported students in improving their English language skills and business document production to better meet the expectations of the workplace.

An analysis of the data from the *Executive Interviews* showed they believed that the new curriculum and support materials focused on the skills and documents required and that in particular the use of computers would provide additional critical skills. They believed that graduates of the course would enter the workforce with technical skills that make them better prepared for the twenty-first century. The *Student Interviews* revealed that the students tended to perceive that the new curriculum was more suitable

for their future careers with students in the treatment group valuing the combination of computer use and English language development.

In summary this study supports the value in involving industry stakeholders in the development of courses and in using computers in the teaching of Business English. In doing so the curriculum supported students in developing skills and producing business documents likely to be required by employing organisations.

Summary of Discussion

In summary, this study investigated the impact of the use of word processors and to a lesser extent email by Thai students in a Business English subject on their business writing skills, attitudes and the relevance of the subject to local Thai workplaces. The study found that using a word processor contributed to the production of higher quality Business English documents for the majority of students as represented by all five writing quality categories (SLU, SWD, ER, IW and QM). The results from the quantitative writing tests data showed that using the word processor facilitated students' demonstration of better writing skills as evidenced by the production of higher quality documents compared with students who used handwriting. This was particularly the case for the SWD category of writing quality which is concerned with layout, neatness, punctuation and paragraphing. However, other than for this SWD category it was inconclusive whether actually using the technology in the class led to any long-term improvements in writing skills.

The study has shown that in a Thai Business English writing subject at a Rajabhat the advantages of using word processing outweighed the few disadvantages. The students were advantaged in a number of ways in using computers and this was reflected in their increased motivation, and their higher quality work. Most were able to develop Business English writing skills at the same time as developing generally computer literacy skills, both of which are important for most of their likely employing organisations. As a result of the new curriculum, most of the students had highly positive attitudes towards Business English and using computers. However, the cost of computer equipment was the major limitation for students and the Rajabhat.

The study has demonstrated the value in educators collaborating with key stakeholders, such as the executives of employing organisations, in the development of curriculum

and materials. The new Business English curriculum and materials implemented in the study were well received by the students, facilitated the learning of students in both groups and prepared them better for modern Thai workplaces. This collaborative approach is in line with a strategic goal of the Rajabhat to better meet the expectations of the workplace and to foster local community development. It also appeared that the company executives who collaborated in the new curriculum design process would be more confident in the qualification offered by the Rajabhat.

The next chapter will provide a synthesis of the results in terms of the conceptual framework for the study and compare them with the findings of other researchers. Finally it will make recommendations for the application of the findings of the study to educational policy and practice and for further research.

Chapter Six

CONCLUSION

This chapter starts by summarising the purpose, method and findings of the study that was concerned with the use of word processing in a Thai business English class to improve student writing quality and the relevance of the curriculum to Thai workplaces. Following this a number of limitations of the study are discussed followed by implications of the findings of the study for educational policy and teaching practice in Thai Rajabhats. Finally, recommendations are provided for further research.

Summary of Study

The aim of this study was to investigate the value of using word processing in place of handwriting to assist Thai students in improving their English writing skills in the production of authentic business documents. The study was principally focused on a comparison of the quality of writing between Thai students using word processors and those using handwriting to create typical business communication documents in English. However, this was set within the context of redeveloping the curriculum in Business English at a Rajabhat to better meet the needs of local workplaces. Therefore the study considered an undergraduate Business English subject and changes necessary to the curriculum as represented in new course and activity books. This involved input from executives of prospective employing companies, other teaching staff and students.

The value of using word processors to support writing in business has been recognised for many years in many countries but only recently in Thailand. Whether using the software as a tool to teach Business English for Thai ESL students would provide adequate benefits to outweigh the costs provided an ideal basis for research to be conducted. So the aim was to get these students using word processing software to conduct their business writing tasks.

A new curriculum for an undergraduate Business English subject was designed to require students to produce a range of appropriate business documents and develop skills in the use of English as required for communication in Thai business environments. The curriculum was developed to allow the incorporation of computer use, particularly for word processing in English. A sample of 13 executives from

prospective employing companies provided advice and feedback, which finally indicated that the curriculum was likely to provide skills and understandings appropriate to typically Thai workplaces.

A sample comprising 58 students was selected and divided into two groups, a treatment group and control group. These students completed the new curriculum during a semester with students in the treatment group using computers and those in the control group completing all activities using handwriting. Background data were collected from all these students prior to starting using a purpose constructed questionnaire and the Computer Attitudes Scale (CAS) developed by Loyd and Gressard (1984). To examine the Business English writing skills of students in both groups the quality of documents they produced was measured with a pretest and two posttests. Finally, some data were collected from the students at the conclusion of the semester using two purpose developed questionnaires, the CAS, and an interview of some of the students.

To measure the quality of writing in the three tests the Analytic Scale of Writing Quality (ASWQ) developed by Canale et al. (1988) was modified and three assessors trained. An analysis of data from the writing tests using this modified instrument found that overall the documents produced at the end of the course were of higher quality than those before and those produced using the word processor were generally of a higher quality than those handwritten. When handwritten documents were retyped and rated it was found that generally they were still not rated as highly as those that had been word-processed. Finally, when students who had been using word processors had to use handwriting it was found that in general their documents were no better than those of students who had used handwriting throughout the semester.

The value of using computers throughout the semester for the class activities was not as clear to identify as was the value of using word processing to create business documents. Repeated measures analysis indicated that on at least one of the *Analytic Scale* categories students in the treatment group were likely to have gained an advantage in writing quality. This category measured the quality of the layout, neatness, punctuation, and paragraphing of a document for which a plausible connection with the use of word processor features could be made. Students were supported to use the basic editing and formatting facilities that would help students improve these facets of their documents. In particular the use of the automatic spelling checker, grammar checker

would have helped with punctuation. Some advantages may have been possible in other facets of writing quality but may have needed longer exposure or the use of more sophisticated facilities of the word processing software to show a measurable advantage.

The value of using computers was also considered in terms of the attitudes and perceptions of students. It was found that most of the students in both treatment and control groups had a positive attitude towards computer use. Some students who had negative attitudes towards computer use from the start had changed to be positive by the end of the course. They believed that using the computer kept them interesting in writing and that the finished document gave them pride in their work and motivated them to produce other documents. Students seem to be willing to spend more hours and do more exercises on a computer than by hand. They also appreciated the need for good English writing skills using computers and the important role in their careers.

The study also investigated student attitudes towards the new Business English curriculum. It was found that most of the students in both groups had positive attitudes towards the new curriculum. They found the activities motivating, relevant and reasonable, particularly enjoying the e-mail module. Most believed that the activities helped them to understand important concepts and provided them with confidence in the production of authentic business communication documents. They believed that the activities in the new curriculum would be of benefit for them in finding jobs and in developing their future career.

Synthesis of Findings

In this section the findings of the study are synthesized and connected with the theoretical framework using the four elements listed in the research questions: the impact of using a word processor on quality business document, the impact of word processing on writing skills, the advantages of using word processing in a business course and the response to the new curriculum.

The impact of using a word processing on the quality of business documents

Word processing software applications were developed to assist in the processes of writing and the production of high quality documents. The present study found that

when students used word processing the business documents they produced tended to be of a higher quality than when they handwrote. It was found that word processing better facilitated their use of a revision-based writing process through the ease of formatting, editing, and inserting new material while maintaining a professional looking document. Ring (2003) explained that there have been many times writers would write material to add to the content of a document but it was too hard to rewrite so the new material was left out. In this way word processing can help the writers very easily by using the tools provide.

From the beginning this type of software has been increasingly used to support the production of business documents (Cohen, 1993; Harris & Graham, 1992; MacArther, 1988; McGregor, 1984; Newhouse, 1999) but has only recently become a critical tool in Thai businesses, particularly for communication in the English language. Wood (1999) argued that effective business writing for such as e-mails to co-workers, reports to the boss or letters to customers was not difficult as it may seem because most word processing programmes are set up to use templates for producing documents. Word processing programmes have tools to help the writers to fix spelling and grammatical errors. Similarly, Scheffenacker (2003) stated that most word processing can calculate readability for the writers by using the tools menu to improve the business writing documents.

In Thailand there has been little research conducted into how word processing relates to Thai business other than to suggest that it is becoming essential for the business document processing and the management of tasks. There has been recent work on a high quality Thai language word processing software package with the inclusion of more of the important features which are likely to be of benefit for business writing tasks (Koanantakool, Tanprasert, Viravan, Phantachat, Dubey, & Poovanich, 1998). However, this will not address the issues of companies needing to communicate internationally using English language. The benefit of the present study is that it analyzes how word processing may promote improvements in business writing in the English language.

This study has clearly demonstrated that when word processing software is used by Thai students to produce business documents in English, the writing quality is significantly higher than when they are handwritten. For all five categories (SLU,

SWD, ER, IW and QM) of writing quality considered there were significant differences between word processed and handwritten documents that went beyond the visual quality of a typed document. This effect was particularly noticeable for the SWD (Standard of Written Document) category that involved the quality of the layout, neatness, punctuation, and paragraphing of a document. Improvements were also significant in important business writing skills such as spelling and capitalization, grammar and vocabulary and the correct use of pronoun, conjunction and transition expressions.

The use of basic editing and formatting facilities of the word processing software are a plausible explanation for the improvement in the quality of documents. This was recognised by many students from the treatment group who indicated that they preferred to use the computer to write because they believed that this helped them to improve their writing skills. These students seemed to have learned that the word processor provided many facilities for them to write easier and to produce better quality documents. In particular it is likely that the students came to rely on some of the facilities provided such as the automatic spelling and grammar checker to an extent that they were slightly disadvantaged when required to handwrite.

The improvement of documents by using word processing has been addressed by many studies in more developed countries such as the USA, UK and AUS. Their findings have typically been that word processing software tended to be more effective than hand-writing with editing documents and led to fewer errors being made (Herrick, 2002). Generally word processing has been found to have a positive affect on the quality of written documents with the editing of written material easier (Johnson, 2002) and lead to improved development of writing skills (Warschauer, Turbee, & Boberts, 1996). Improvements in English language writing have even been found with the use of word processing features embedded in other applications.

The impact of word processing on writing skills

Word processing is generally valued in society and effective in the classroom at improving English writing skills. Such improvements in writing in English as a Second Language has been found throughout Asia. For example, Nalliah and Jamaludin (2001) found that Malaysian students made significant progress in writing with their grammar usage and discrete language function improved when they used word processing to

write. The students received benefits in using word processing for developing writing skills particularly in English language. They found that students were more likely to revise their work than with pencil-and-pen writing and that students benefited from using the spell check feature of word processors. Another study by Cox (2001) in Hong Kong referred to research by Hunter, Jardine, Rilstone, and Weisgerberthat (1991) that found that the effect of using word processing on writing seemed to be better but could not find any 'solid' evidence. As a writing teacher in Singapore, Ruddell (1998) was interested in using technology in the classroom like word processing to encourage students to make a multitude of changes to initial drafts. He found that word processing software can help the students to work at their own pace and the result is better writing. The present study has found this to be true for the Thai context.

The findings in this study support the findings of previous researchers. As the study found that technology improves students' communication skills and the quality of their presentations and makes it easier for them to complete writing and editing assignment. In addition the study showed that student showed increased mastery of vocational and work force skills (UNESCO, 2003b). Similarity the quality of students' writing will improve if they use computer and word processing software (Oliver, 1993).

The relative advantage of using word processing in a Business English course

While this study clearly showed that using word processors with Thai students is likely to lead to the production of higher quality business English documents this does not in itself imply that business English should be taught using computers in Thai Rajabhats. Given the prohibitive cost of providing adequate access to computers in a Thai Rajabhat the educational value must be substantial. In terms of business writing quality this study has only demonstrated that using computers in a single subject for one semester is likely to improve skills associated with layout, neatness, punctuation, and paragraphing. Improvements in other skills may occur with more sustained and comprehensive exposure. However, the study has demonstrated a number of other advantages that may accumulate to provide a rationale for using computers in a business English course.

The value in developing confidence and competence in the use of computers and the use of the English language for second language learners should be considered. The study did demonstrate that using the word processor was likely to be associated with more positive attitudes towards learning business English and more confidence in using

computers and writing in English. The neat appearance of documents produced using the word processor motivated students. These findings concurred with those of previous studies that have reported that using computers in ESL classrooms improves student attitudes towards writing (Egbert, Jessup, & Valacich, 1991; Ramos, 2002). Similarly Seyal, Rahim and Rahman, (2002) found that their students had positive attitudes towards computer use and their confidence in English writing was much increased when they did rough drafts and final draft on the screen and presented the teacher with a printed copy.

In the present study, the treatment group only engaged in using word processing for one semester and comprised only one class. However, they provided sufficient evidence to illustrate the advantages of this practical method in the teaching and learning of Business English using word processing. This was the first time the dual-focus approach to introductory learning in Business English was implemented at the Rajabhat with a focus on developing students' English proficiency and computer literacy. The use of the computer was in the context of authentic workplace activities and therefore increased the opportunity and ability of students to make decisions about things affecting their future careers. This approach is supported by Baron (1998) who argued that English for business is a real and living language so authentic and current materials for business need to be used in teaching.

Although this study identified the considerable potential of word processing to improve second language English writing associated with business English documents several problems and questions remained. Firstly, for some of the categories of the *Analytic* Scale of writing quality there was inadequate evidence of benefit to students completing learning activities supported by computers. Skills such as the use of appropriate language, clarity of purpose, the use of precise vocabulary, maturity of expression and the development of ideas did not clearly improve as a result. Secondly, a problem that may have contributed to this is the poor typing skills of many students in the treatment group. Some of them stated that they found that the time taken typing destroyed the advantages when compared with pen and paper writing. Some stated that typing problems interrupted their concentration while attempting to write. If these typing skills had not been such an obstacle, they may have been much better in producing documents and a greater range of writing skills may have shown improvement. Kitao (1994) suggested that learning to use the computer requires time and energy, particularly to

develop keyboarding skills, before students can use them effectively to study a subject. Similarly, Quann and Satin (2000) suggested that most students still require instruction and practice with introductory computing skills: keyboarding, using the mouse even if turning the computer on and off properly. They stated that their students needed to become proficiency in doing any basic word processing.

While the students were generally satisfied to use word processing in Business English they accepted that they could make better use in their writing task. Many believed they needed more time to practice but apart from typing skills did not consider the range of features and tools of the word processor they did not make use of. It is likely that further improvements in writing skills would be evident if they learnt to use some of the more sophisticated features such as the use of 'outlining', 'master documents', 'styles', and specialised 'inserting and formatting' features. Also most could make more use of the 'thesaurus' tool to check the meaning of vocabulary and of 'replace' features to correct wrong word occurrence and the use of the 'trace change' feature in order to preserve the original draft for later reference. Goldfine (2001) suggests the use of many of these features and tools to provide improvements in writing skills. Johnson (2002) proposed that to really take advantage of the powers of word processing requires the use of the sophisticated editing and formatting features of a word processor. Similarly, Procter (2001) added that a style checker may help the writer overcome bad habits such as overusing jargon or the passive voice.

A concern was that for some students using word processors their satisfaction may have been more related to the neatness of documents rather than the meaning-making process and they may not have used the drafting cycle to improve the content quality of their documents. The great advantage of using word processing is that it provides tools that facilitate the drafting cycle which help them to produce higher quality documents (Johnson, 2002). However, this advantage is lost if the user does not know how to use or understand the use of the features and functions of the tools. Therefore the students may have needed some pre-teaching activities focussed on skills in using these tools starting with using the mouse to click and drag to highlight the selected text and the use of functions such as 'Cut and Paste'. Then students who initially were not confident jotting down on the screen would become more eager to engage in writing activities with the word processor. Quann and Satin (2000) argued for such an approach with pre-writing activities.

In the present study, the students were encouraged to do a draft of each document by discussing and sharing their ideas and opinions of the initial draft with fellow students in order to get feedback on the content to improve later drafts. The students copied the first draft of their document to the teacher's computer from their floppy disks. The teacher could then use the main computer in front of the classroom connected to the projector to show each students' document on the screen to check it and make suggestions for improvements. This then allowed students to improve on their initial drafts and use ideas from other students in the final production. Gupta (1998) suggested pre-writing classroom activities with the use of the computer connected to a projector in order to display one or two student's writing for suggestions on improvement. The suggested changes can be typed in so all students can see the effect of the changes. This encourages students who do not have to imagine what the revision process draft of the final version will look like. They do not worry about making changes on their draft because this is done in front of them.

The response to the new curriculum

The new curriculum aimed to involve students in completing authentic writing activities associated with tasks in prospective workplaces. There were two groups of students who used this new curriculum, one used word processing and the other used pen and paper. Overall students in both groups indicated their satisfaction with the new curriculum. For the students writing using word processors most had positive attitudes towards both the use of the technology and the new curriculum. The control group had positive the new curriculum because the authentic materials will help them to learn what the real workplace needs. The evidence was confirmed by the previous study indicated that teachers of career-related writing have to design their courses by the purposes and expectations of workers at work (Anderson, 1985).

The type of activities used in the new curriculum appeared to have encouraged more positive attitudes towards the new curriculum for students in the treatment group. This was likely to be as a result of the dual-focus of development of computer skill and English proficiency through providing more authentic activities and using the word processor both of which the students believed would help them find a job in their future careers.

General Conclusions

This study considered one approach to incorporating the development of valuable computer skills and English proficiency in business study. It considered the perceptions and motivations of students and the perceptions of industry stakeholders. The focus on authentic business activities rather than academic language skills were appreciated by these groups of people as was the use of computers. Improvements in a number of writing skills were reasonably attributable to the combination of computer use and authentic activities and there is reasonable potential for a greater range in the future.

In the modern Thai workplace, employers are asking that all workers be better prepared and possess the following skills: broader, more functional basic skills (i.e., reading, writing, communicating, and computing for purposes of training and performing work-related tasks), and computing literacy. The workplace seeks employees who are computer-literate and English proficient as a high performance workforce. As a result to adequately prepare students for the future, teachers need to incorporate the use of computers and English language into the curriculum, particularly where the two naturally complement each other as they do in Business English. Hence students must be prepared to understand and apply technologies in an effective and efficient way in order to prepare themselves for employment in the future.

The present study assessed the impact of using word processing on the Business English writing skills of Thai students as evidenced by the quality of business communication documents produced. It considered the relative advantage of using word processing in a Business English subject at a Thai Rajabhat. At the same time it evaluated the responses to a new, more authentic curriculum, developed in collaboration with local employer stakeholders. The findings provide a basis for a better understanding of requirements of Business English courses in Thai Rajabhats and their alignment with the needs of prospective workplaces.

Limitations of Study

The new curriculum was designed for Thai students enrolled in a Business English course at Rajabhat Institute Rajanagarindra, Chachoengsao where English was not their first language. The study was only conducted for one semester of approximately 14 weeks with a limited sample of 58 out of a cohort of 228 students. Finally, the results

are based on an assessment of writing quality on three tests and students' attitudes towards the course and computer use. As such some limitations of the study must be considered before discussing the implications and applications of the findings.

The students are not likely to be representative of tertiary students in terms of general English proficiency and computer literacy. These students tended to have low levels in both areas of competence. As a result the findings are only likely to be relevant for introductory Business English classes in Thai Rajabhats.

The course focussed on the production of Business English documents and as such the findings are unlikely to be relevant to other types of writing such as creative writing. Unlike for creative writing the emphasis in technical writing like for the production of Business English communication documents is clearness, succinctness and consistent and recognised organization (Houp, Pearsall, & Tebeaux, 1995). Each type of document generally follows specific structures with strict guidelines for writing style and form.

An important limitation of the study was the lack of time for students to practice both English language and word processing skills. They had limited time to use the institution's computer laboratories and limited alternative access to other computers. Almost none of the students had their own computer. Another study has shown that lack of keyboarding skills slowed down the students' work output (Moore, 1986; Pagram, 1998). Quann and Satin (2000) found that students who are unskilled in typing are hampered in their efforts to write their ideas down freely. The lack of experience with keyboarding can lead to students' frustration when they attempt to work.

Finally, the study was conducted in a Thai cultural context. Students study Business English as a second language within a Thai cultural context therefore the findings are unlikely to apply to contexts outside Thailand. There is a need to make contact other people in different cultures. An internal accepted way of writing from different culture is important. Other studies have shown that formulaic language for example, greeting and introduction (Ellis & Johnson, 1994). Other studies have shown that differences in cultural backgrounds may lead to misunderstandings and breakdowns in communication in doing international business. Kirkpatrick (1993) found that differences in cultures may produce inappropriate use of language.

Implications of Study

It was the aim of the study to inform educational policy and teaching practice. It is also important that any study should contribute to the progress of the educational research community by suggesting further research and reflecting on comparisons with the findings of other studies.

Implications for Educational Policy

Educational institutions and educators in Thailand have the responsibility to equip students with English language and computer use skills to help them survive in future workplaces, for both the government and private sectors. The provision of an appropriate Business English curriculum is an essential aspect of preparing students for the workplace and life-long learning in the increasingly competitive world. Students are now graduating into a world where success depends on their ability to utilize technology.

This study recommends that using computers to develop Business English writing skills is a worthwhile investment in Thailand for the present and future. In particular the use of word processors being one of the most widely used types of software would provide students with transferable job skills. This would require investment in computer facilities, software, curriculum support materials, technical support and educator professional development. It is recognized that in Thailand there are serious financial constraints to such plans. However, this problem will not be solved unless educationists at all levels are convinced of the importance of computer use to students writing, particularly in the English language.

Implications for Teaching Practice

The selection of materials and decisions about appropriate tasks and activities are important concerns for teachers. These tasks need to focus on the way in which students have to apply the knowledge and skills which are needed to compete in the modern workplace. Therefore, it is essential to gather some information about the needs of the workplaces in order to receive specific knowledge to construct new curriculum for Business English. This was successfully implemented in this study.

The reform of learning processes for Thai Rajabhats stipulated that “educational institutions should organise learning processes to cover activities drawing from

authentic experience to enable learners to critically think and apply to their real lives” (Kaewdang, 2000, p. 25). Further, it aims for learning programmes that should be developed and promoted to provide students with opportunities to learn with information technology, which will be used to create a local knowledge community. This study found tremendous value in aligning with these imperatives through the collection of data from executives and students through the use of questionnaires and unstructured interviews before and after constructing the new curriculum. This concurred with the National Education Act that stated that all stakeholders should participate in educational institutions (Kaewdang, 2000, p. 41).

This study confirmed the value in using word processing in Business English study with most of the students indicating that they wanted to learn Business English with computer. Educators can enhance student motivation by helping students gain knowledge and skill in using computers, giving them a chance to use electronic communication, and carefully integrating computer activities into the goals of the course. If Business English saw itself as being responsible for the teaching of electronic writing, then perhaps a greater number of students would learn to use word processors to apply in the workplace. Some lecturers from other Rajabhats recommended the new curriculum for their students but had the problem that their teachers lacked experience in the use of technology in the classroom and needed professional development.

Recommendations for Further Research

This study was limited in extent but indicated some important directions for Business English education in Thai Rajabhats. Further studies are needed to not only confirm the findings of this study but also to further extend them. Similar studies need to be conducted in other Rajabhats with a variety of students with a stable curriculum. For example, further studies with students who have high skills in English and/or computer use may find improvements in a greater range of writing skills when learning activities are supported with word processing and other software.

Finally, long-term studies would be useful which follow up the students after they finish the course and they find employment. Such studies may use questionnaires or interviews of past students and their line managers. These results might be a starting point for others who would like to continue researching this important area of Business English.

Conclusion

Clearly, word processing incorporated with a new more authentic curriculum in Business English was successfully implemented for Thai students both in terms of their writing skill outcomes and the perceptions of stakeholders. This experimental approach appears to set an important direction for the study of Business English in Thai Rajabhats. There is adequate evidence of the benefit of computer use to teach Business English writing for educational leaders to investigate how the required investment can be made to provide this opportunity for all such students. There appears to be synergy in the combination of developing Business English written language competence along with computer use skills. When this is done within the context of a curriculum based on authentic learning activities developed collaboratively with prospective employers the benefits to local and national Thai economies and communities should be substantial, over and above the personal benefits perceived by the students.

Of particular interest in this study, was the students' attitude to integrating the use of computer into the Business English unit. The students indicated that using computer is prepared them for what they will encounter their future career. As educators our responsibility is to prepare students for the dynamic business environment and all of its challenges. The modern Thai workplace requires not only sufficient knowledge of business but also skill and expertise in the use of computer applications and the English language. It is hoped that this study may provide evidence that will encourage others to consider the use of computers as a tool to enhance the teaching and learning of Business English concepts including techniques and also encourage educational leaders to plan such investments and for teachers to consider such integration of computer use into their curricula and classrooms.

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Appendices

Map of Thailand	167
Executives Questionnaire.....	168
Executives Informal Interviews.....	171
Background Questionnaire.....	172
Computer Attitudes Scale (CAS)	173
Pretest.....	174
Posttest 1	175
Posttest 2	176
Treatment Questionnaire.....	177
Curriculum Questionnaire.....	179
Questions for Student Informal Interviews.....	180
Subject Outline for Business English 2	181
Letter of Appreciation to Executives.....	184
Letter to Executives	185
Agreement Form for Participants	186
Questions for informal interviews of other Rajabhat lecturer.....	187

Appendix A

Map of Thailand



Appendix B

Executives Questionnaire

It takes about 20 minutes to fill out this questionnaire. The purpose of this questionnaire is to aid in the construction of lessons for business English. We would like our lessons to be more effective and suitable for the needs of the workplace. The information that you provide will be kept private. No part of this questionnaire will be shown to any other party.

This is for the executive staff to fill in the blanks.

Position in organisation: _____

Gender: male / female _____

Age of the company: _____ years.

Name of the company / firm: _____

Type of business _____

The main products or services: _____

Countries which your company deal with: _____

Approximate number of employees: _____

Location: _____

1. How long have you been with the company? _____ years.
2. How often does the company make contact with other countries? _____ years.
3. Most frequent means of communication.
 - ___ Face to face
 - ___ Group meeting
 - ___ Telephone
 - ___ E-mail
 - ___ Letter
 - ___ Fax
4. How much does the computer literacy of applicants affect the way you recruit for your organisation?
 - ___ Computer literacy is a major consideration
 - ___ Computer literacy is a small factor
 - ___ Computer literacy is important but can be learned on the job
 - ___ Computer literacy is not that important a consideration in hiring
5. How much does the English proficiency of applicants affect the way you recruit for your organisation?
 - ___ English proficiency is a major consideration.
 - ___ English proficiency is a small factor.
 - ___ English proficiency is important but can be learned on the job

- ___ English proficiency is not that important a consideration in hiring
6. How much does the use of computer help with writing English as required by your company?
- ___ Computer use is essential to our Business English
- ___ Computer use is helpful to our Business English
- ___ Computer use is slightly helpful but not much of a factor to our business
7. What is the main criteria your company use in hiring?
- ___ Level of education
- ___ Specific technical skills required
- ___ Experience
- ___ Other _____
- _____
- _____
8. What is the qualification use in recruiting employees?
- _____
- _____
- _____
9. What are the most important communications skill your company requires?
- _____
- _____
10. Which department does English writing proficiency affect the most in your company? (Please write the department or departments.)
- _____
- _____
11. What level of English writing skill do you feel your staff requires?
- 11.1 fundamental level
- 11.2 intermediate level
- 11.3 advanced level
- 12 How important is English writing proficiency in your company?
- () very important () somewhat important () not important at all

The following questions relate only to the departments that require the use of Business English.

- 13 Which of the following Business English writing does your company require employees to do?
- 13.1 correspondence (memo, agenda, minutes)
- 13.2 business letter (complaint, acknowledgment, order, inquiry letters)
- 13.3 message taking
- 13.4 Note-taking
- 13.5 Giving instruction in English writing
- 13.6 Annual reports
- 13.7 Documentation (invoice, statement, written receipt)
- 13.8 Others _____
- _____

14 Estimate the proportion of time your employees use handwriting compared with using a computer.

Handwriting _____ %. Computer _____ %

15 Do you prefer your employees to write by handwriting or computer?

16 What are the main types of software programs your company uses?

() word processor

() spreadsheet

() database

() web browser

() statistics package

() e-mail

() graphing package

() others _____

17 Which departments does the use of computers affects (of those that require English)?

18 How much does the use of computers improve English writing in your company?

() a lot () average () a little () not at all

19 What problems do your employees have with Business English?

20 Please write any questions, comments or reflections you feel would help me.

Thank you very much for your cooperation and your great help.

Appendix C

Executives Informal Interviews

1. Would you mind sharing me about the qualities of employees you have recruited?
2. Would you please express your ideas about the English curriculum of Rajabhat you expected?
3. Would you please express your ideas about the computer curriculum of Rajabhat you expected?
4. Do you have any of general problems you would like to advise us in order that we may introduce our students?
5. Do you have any problems about written document from the staff?
6. I would be grateful if you have anything to advice us, which will be beneficial to develop our material to suit the work in the company.
7. I would be grateful if you could suggest/ commend/ reflect any of your ideas for improvement the developed materials will be used for our students in this study.

Appendix D

Background Questionnaire

This is for the students to fill in before they start their business English class.

Years of college:

Major: () Accounting () Marketing

Gender () Male () Female

Age: years.

1. Do you have a computer at home?

() Yes () No

2. Have you used computer before?

() Yes () No

3. Approximately how many words per minutes do you type?.....words.

4. How long have you been using a computer?.....years.

5. How long did you take to learn the basic skills on the computer?years

6. How long did you practice computer before you felt comfortable?years.

7. How often do you use these types of software on computer. (Mark √ in the block.)

Type of software	Never	Sometimes	Often
7.1 Data base			
7.2 Word processing			
7.3 Spreadsheets			
7.4 E-mail			
7.5 Internet			
7.6 Microsoft Excel			
7.7 Power point			

8. How long have you been studying English?.....years.

9. Do you want to learn English on the computer? () Yes () No

10. Is there anything you dislike or find frustrating about using computer? (explain)

.....

.....

Thank you very much for your help.

Appendix E

Computer Attitudes Scale (CAS)

Name.....Date.....

Please answer the following by putting a cross mark (x) in either “strongly agree”, “agree”, “disagree”, or “strongly disagree” column.

	Strongly agree	agree	disagree	Strongly disagree
1. Computer do not scare me at all.				
2. I'm no good with computer.				
3. I would like working with computer.				
4. Working with a computer would make me nervous.				
5. Generally I would feel OK about trying a new problem on the computer.				
6. The challenge of solving problem with computers does not appeal to me.				
7. It does not worry me when other talked about computers.				
8. I don't think I would do advanced computing work.				
9. I think working with computers would be enjoyable and stimulating.				
10. I feel angry and hostile towards computers.				
11. I am sure I could do work with computers.				
12. Figuring out computers problem des not appeal to me.				
13. It would bother me at all to take computers courses.				
14. I'm not the type to do well with computers.				
15. When there is a problem with a computer that I can't immediately solve, I would stick with it until I have the answer.				
16. Computers make me feel uncomfortable.				
17. I am sure I could learn a computer language.				
18. I don't understand how some people can spend so much time working with computers and seem to enjoy it.				
19. I would feel at ease in a computer courses.				
20. I think using a computer would be very hard for me.				
21. Once I start to work with think the computer, I would find it hard to stop.				
22. I get a sinking feeling with I think of trying to use a computer.				
23. I could get good grades in computer courses.				
24. I will do as little work with computer as possible.				
25. I would feel comfortable working with a computer.				
26. I don't think I could handle a computer course.				
27. If a problem is left unsolved using a computer, I would continue to think about it afterwards.				
28. Computer make me feel uneasy and confused.				
29. I have a lot of confidence when it comes to working with computers.				
30. I do not enjoy talking with others about computers.				

Appendix F

Pretest

You are Prapatsorn Limprapat of Rajabhat Institute Rajanagarindra, Chachoengsao, Thailand. You live at [REDACTED]

You have applied to the International Language Centre of Edith Cowan University to enroll in two units as an international student. The units and starting date are:

ESL 1011 (University English) 1/4/2001

ENG 1118 (Language and Culture) 1/5/2001

You would like to confirm your attendance at Edith Cowan University for both of these extra units.

Your flight details are as follows:

Sunday 31st March arrival at Perth Airport on flight TG 997 at 02.00 a.m. from Donmuang Airport.

You'd like the university to arrange transportation to and from the airport and also accommodation for the time you are studying the units. Finally you would like the university to send via ax: confirmation of registration, course price, accommodation price and payment procedure.

Write a letter to the International Language Centre that includes all of this information. After you have finish writing, fold the letter in the envelop and address it to mail.

The address for Edith Cowan University is:

Edith Cowan University

2 Bradford Street, Mount Lawley

Western Australia 6050

Telephone: (08) 9370 6111

Appendix G

Posttest 1

You are Prapatsorn Limprapat of Rajabhat Institute Rajanagarindra, Chachoengsao, Thailand. You live at 47/17 Srisothorn Road, A. Muang Chachoengsao 24000

You have applied to the International Language Centre of Edith Cowan University to enroll in two units as an international student. The units and starting date are:

ESL 1011 (University English) 1/4/2001

ENG 1118 (Language and Culture) 1/5/2001

You would like to confirm your attendance at Edith Cowan University for both of these extra units.

Your flight details are as follows:

Sunday 31st March arrival at Perth Airport on flight TG 997 at 02.00 a.m. from Donmuang Airport.

You'd like the university to arrange transportation to and from the airport and also accommodation for the time you are studying the units. Finally you would like the university to send via ax: confirmation of registration, course price, accommodation price and payment procedure.

Write a letter to the International Language Centre that includes all of this information. After you have finish writing, fold the letter in the envelop and address it to mail.

The address for Edith Cowan University is:

Edith Cowan University

2 Bradford Street, Mount Lawley

Western Australia 6050

Telephone: (08) 9370 6111

Appendix H

Posttest 2

You are a purchasing manager of Rajabhat Institute Rajanagarindra. 422 Marupong Road A. Muang Chachoengsao 24000

Write a complaint letter to IBM Thailand CO. Ltd. 203 Mu 7 Thambol Si Mahaphot Prachinburi 25310



Situation:

Last Thursday you received 20 computers Model IBM RS/6000 shipped on Fed Express. Unfortunately three of the machines were damaged: some of the keys were bent and a mouse was broken. You would like to replace the new ones as soon as possible.

Appendix I

Treatment Questionnaire

This questionnaire is for the students to fill in after studying business English units. The information will be kept completely confidential. It will not be affected with your study.

Name.....Last name.....

Gender: Male (.....) Female (.....)

Study level Major

Please fill in the number under your preference level:

- 1 = most preference number 1
2 = preference number 2
3 = preference number 3
4 = preference number 4 and respectively

1. Which activity of the new curriculum you like most?

..... Faxes
..... E-mail
..... Memorandum
..... Enquiry letter
..... Complaint letter
..... Acknowledgment letter
..... Resume
..... Application letter
..... Others (Please indicate)

2. If you had some writing to do on your own, how would you choose to write?

(.....) Pen or pencil (.....) Computer (.....)
Typewriter

3. After working with a computer, how does the writing process seem to you?

(.....) Harder (.....) The same (.....) Easier

Please tick (✓) in the blank under your preferable level opinion.

- 5 = Strongly agree4 = Agree
- 3 = Neutral2 = Disagree
- 1 = Strongly disagree

4. Studying business English with word processing, can help:	5	4	3	2	1
4.1 to understand the content easily.					
4.2 to understand the content the same level as provided by the teacher.					
4.3 to maintain your interest.					
4.4 to enjoy studying English using computer.					
4.5 to enjoy each activity.					
4.6 to solve problems by yourself.					
4.7 to create your own ideas.					
4.8 to learn without being controlled by the teacher.					
4.9 to assist in understanding more English.					
4.10 to accept the use of word processing in other subjects.					
4.11 I enjoyed writing less than I used to.					
4.12 I enjoyed writing the same extent as I did without using a computer.					
4.13 I can write more than I used to.					
4.14 I can write more by hand than I use a computer.					
4.15 I can write less by hand than I use a computer.					
4.16 I don't worry about making as many mistakes now.					
4.17 I used to worry about making spelling errors, but not now.					
4.18 I don't think the computer has helped me.					
4.19 I make fewer mistakes than I did when using computer.					
4.20 I felt that computer class made me uncomfortable.					

Suggestions.

.....

.....

.....

.....

Thank you for your cooperation.

Appendix J

Curriculum Questionnaire

This is for the students to fill in after studying business English lessons. The students should be questioned to learn about their attitude towards new curriculum.

Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1.The lesson activities appealed to me.					
2. I enjoyed studying the lesson activities.					
3. I think studying the lesson activities would be useful for my future career.					
4. I had difficulty with the work on the lesson activities.					
5. I felt comfortable doing the lesson activities.					
6. 140 minutes doing each activity was too long.					
7. The lesson activities made me understand the content easily.					
8. The lesson activities made me feel uneasy and confused.					
9. The lesson activities encouraged me to produce longer written documents.					
10. I was very confident when working on the lesson activities.					

Suggestions for improvement of lesson activities:

Thank you very much for your help.

Appendix K

Questions for Student Informal Interviews

Experimental group students

1. Do you like studying in English?
2. Do you like studying computer?
3. Have you learned English using computer before?
4. Do you satisfy with your product throughout the semester?
5. What did you like while you were studying Business English?
6. What did you dislike while you were studying Business English?
7. Do you have any problems while you were studying Business English?
8. Do you have any problems while you were studying computer?
9. If you have a chance to choose the class between word processor and handwriting, which class would you like to attend?
10. What would you like to study more except the contents offered?
11. Would you please share any ideas about the business English unit this semester?

Control group students

1. Do you like studying in English?
2. What did you like while you were studying Business English?
3. What did you dislike while you were studying Business English?
4. Do you have any problems while you were studying Business English?
5. If you have a chance to choose the class between word processor and handwriting, which class would you like to attend?
6. What would you like to study more except the contents offered?
7. Would you please share any ideas about the business English unit this semester?

Appendix L

Subject Outline for Business English 2

1551606 3 (3-3)

Course description:

A continuation of business English 1 providing a chance to explore business world-wide with concentration on domestic and international trade. Students are encouraged to deal with business transaction in various fields and situations, i.e. import-export, shipping, banking transaction, hotel transaction, meeting agendas and minutes, company report, product description (advertisement), business article (The Internet, ISO 9000), letter of complaint and adjustment, etc.

Objectives:

The students should be able to:

1. understand business correspondence such as e-mail, fax, and memorandum.
2. write variety of business English letters such as complaint letter, adjustment letter, enquiry letter and order letter.
3. write resume and application letter.
4. complete any typed forms such as application form.
5. make a phone call, take and leave the messages with appropriate replies in business areas.
6. understand foreign exchanges.
7. describe graphs.
8. understand socializing.

Text:

Course book and activity book: Compiled by Ladawan Wattanaboot (2001)

Instructors:

Ladawan Wattanaboot
English Programme
Faculty of Humanities and Social Sciences
Rajabhat Institute Rajanagarindra, Chachoengsao.
Tel: [REDACTED]
E-mail: [REDACTED]

Patcharee Sopechoke
English Programme
Faculty of Humanities and Social Sciences
Rajabhat Institute Rajanagarindra, Chachoengsao.
Tel: [REDACTED]
E-mail: [REDACTED]

Tentative schedule:

Week 1	Course agreement and questionnaires
Week 2	Pretest and Module 1 Introduction

Week 3	Module 2 Memorandum
Week 4	Module 3 Business letter
Week 5	Module 4 Faxes
Week 6	Test 1 Module 5 Electronic mail
Week 7	Module 6 Enquiry letter
Week 8	Module 7 Complaint letter
Week 9	Module 8 Adjustment letter
Week 10	Test 2 Module 9 Curriculum vitae
Week 11	Module 10 Application form
Week 12	Module 11 Application letter
Week 13	Module 12 Foreign exchange & Describing graph
Week 14	Test 3 Module 13 Socialising
Week 15	Posttest 1
Week 16	Posttest 2 & questionnaires

Evaluation:

Test 1-3	=	30	points.
Exercises	=	30	points.
Class participation	=	10	points.
Final examination	=	30	points
Total	=	100	points

Regulations:

1. Students have to attend class at least 80 %
2. Students have to be punctual.
3. Students have to submit their work to the due date.
4. Students who cannot attend the class have to inform the lecturer as soon as they come to class the next period.

The tentative schedule might be flexible depending on the situations.

If you have any problems, please don't hesitate to contact us personally.

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Appendix M
Letter of Appreciation to Executives

Rajabhat Institute Rajanagarindra
Faculty of Humanities and Social Sciences
422 Marupong Road
A Muang, Chachoengsao 24000

17 January 2002

Dear Sir/Madam

Thank you very much for your kindly providing information and suggestions on the research project which is on the topic of “The Construction of Undergraduate Business English Lessons, Relevant to the Workplace: Making Use of Word Processing in Place of Handwriting”. Your responses are very great beneficial and are of great value to the research. Those are advantages to develop materials in Business English course at Rajabhat Institute Rajanagarindra, Chachoengsao.

Thank you very much for your assistance and cooperation.

Yours faithfully

Ladawan Wattanaboot
Researcher

Appendix N

Letter to Executives

Rajabhat Institute Rajanagarindra
422 Marupong Road
A. Muang, Chachoengsao

2 October 2000

(Inside address)

Dear Sir/Madam

I would like to inform you that your company has been selected to participate in a Ph.D. research project. It is being conducted by Ladawan Wattanaboot from the Rajabhat Institute Rajanagarindra in Chachoengsoa, Thailand. She is collecting the data for her dissertation at the Edith Cowan University in Perth, Australia. It is part a joint project between the Edith Cowan University and the Rajabhat Institute Rajanagarindra. Her research proposal is on the topic of “ The Construction of Undergraduate Business English Lessons, Relevant to the Workplace: Making Use of Word Processing in Place of Handwriting”.

This research will be of great benefit for business students who want to be better suited for the workplace. The research will be used to develop the curriculum for Business English courses. Part of the research is questionnaire responses. The company executives will be to fill in a questionnaire. It takes about 20 minutes to fill in the questionnaire. The information received will be kept confidential.

If you have any questions please feel free to contact Ladawan Wattanaboot at the faculty of Humanities and Social Sciences at the Rajabhat Institute Rajanagarindra. The phone number is (038) 515827. Or you can contact her on her mobilephone ([REDACTED] [REDACTED])

We thank you for your cooperation. Your participation will be a great help to us.

Yours faithfully

Associate Professor Dr. Supol Wuthisen
President, Rajabhat Institute Rajanagarindra

Appendix O

Agreement Form for Participants

Please read this agreement so that you fully understand the conditions of participating in the study.

The aim of this study is to construct Business English Lessons for undergraduate students which will be suitable for the needs of the workplace by comparing the use of handwriting and word-processing. The executive staff of the company will provide the information by filling in the questionnaire. As well, students will participate in tape-recorded interviews.

The information will be kept completely confidential. The only party that will have access to the information provided is the researcher, Ladawan Wattanaboot and her supervisor, Dr. Christopher. Paul Newhouse. The information will be presented to other interested parties in such a way that no participant will be named specifically. It will be presented as general information from a group of anonymous businesses and anonymous students. As well, all tape-recorded and written information will be destroyed after 5 years.

After you have read this agreement, please sign to show that you agree to participate under this understanding.

Name of person doing questionnaire or interview:

Name: _____

Signature: _____

Date: _____

Name of Researcher:

Name: _____

Signature: _____

Date: _____

Appendix P

Questions for informal interviews of other Rajabhat lecturer

1. Would you mind share me about Business English experience in your Rajabhat?
2. Would you please suggest anything about the Business English unit?
3. What is your expectation for the Business English curriculum?
4. How often do you have Business English seminar?
5. What is the problems with the Business English unit?
6. have you ever taught Business English using word processing to produce the business document?
7. Would you please identify any problems involved in Business English (such as methodology / course book / supplementary exercises)?
8. What problems are the students in your Rajabhat facing in the Business English unit?.
9. I would be grateful if you could express your ideas about the Business English unit?