การพัฒนารายวิชาการอ่านภาษาอังกฤษธุรกิจตามแนวคิดที่ใช้ปัญหาเป็นหลักเพื่อเสริมสร้างผล

การเรียนรู้ภาษาอังกฤษของผู้เรียนในระดับปริญญาตรีของมหาวิทยาลัยหอการค้าไทย

นางตั๊กวา โบว์สุวรรณ์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรดุษฎีบัณฑิต

สาขาวิชาภาษาอังกฤษเป็นภาษานานาชาติ (สหสาขาวิชา)

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ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

A DEVELOPMENT OF THE BUSINESS ENGLISH READING COURSE USING A PROBLEM-BASED LEARNING APPROACH TO ENHANCE ENGLISH LEARNING OUTCOMES OF THE UNIVERSITY OF THE THAI CHAMBER OF COMMERCE UNDERGRADUATE STUDENTS

Mrs. Takwa Bosuwon

A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy Program in English as an International Language
(Interdisciplinary Program)
Graduate School
Chulalongkorn University
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ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

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ตั๊กวา โบว์สุวรรณ์ : การพัฒนารายวิชาการอ่านภาษาอังกฤษธุรกิจตามแนวคิดที่ใช้ปัญหาเป็นหลักเพื่อเสริมสร้างผลการเรียนรู้ภาษาอังกฤษของผู้เรียนในระดับปริญญาตรีของมหาวิทยาลัยหอการค้าไทย (A DEVELOPMENT OF THE BUSINESS ENGLISH READING COURSE USING A PROBLEM-BASED LEARNING APPROACH TO ENHANCE ENGLISH LEARNING OUTCOMES OF THE UNIVERSITY OF THE THAI CHAMBER OF COMMERCE UNDERGRADUATE STUDENTS) อ. ที่ปรึกษาวิทยานิพนธ์หลัก : ผศ. ดร. อาภัสรา ชินวรรโณ, 218 หน้า

งานวิจัยนี้มีวัตถุประสงค์เพื่อพัฒนารายวิชาการอ่านภาษาอังกฤษธุรกิจตามแนวคิดที่ใช้ปัญหาเป็นหลักและเพื่อศึกษาผลของรายวิชานี้ต่อความสามารถในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ ทักษะการแก้ปัญหาและทัศนคติเกี่ยวกับการสอนโดยใช้ปัญหาเป็นหลักของผู้เรียนในระดับปริญญาตรี การดำเนินการวิจัยแบ่งเป็น 2 ขั้นตอนคือ ขั้นตอนแรกเป็นการพัฒนารายวิชาการอ่านภาษาอังกฤษธุรกิจตามแนวคิดที่ใช้ปัญหาเป็นหลัก ขั้นตอนที่สองเป็นการนำรายวิชามาทดลองใช้เพื่อตรวจสอบคุณภาพของรายวิชาที่พัฒนาขึ้น

ผลการวิจัยได้มาซึ่งรายวิชาการอ่านภาษาอังกฤษธุรกิจตามแนวคิดที่ใช้ปัญหาเป็นหลัก ซึ่งประกอบด้วยข้อความแห่งเหตุผล และห้าองค์ประกอบหลัก ได้แก่ วัตถุประสงค์ เนื้อหา สื่อการเรียนการสอน กระบวนการสอน และการวัดและประเมินผล ในการตรวจสอบคุณภาพของรายวิชา กลุ่มตัวอย่างที่ใช้ในการทดลองคือนักศึกษาวิชาเอกภาษาอังกฤษเพื่อการสื่อสารธุรกิจ จำนวน 24 คน ซึ่งได้เข้าร่วมการทดลองเป็นเวลา 16 สัปดาห์ เครื่องมือที่ใช้ในการวิจัยประกอบด้วย 1) แบบทดสอบความสามารถในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ 2) แบบทดสอบทักษะการแก้ปัญหา 3) แบบบันทึกการเรียนด้วยการใช้ปัญหาเป็นหลัก และ 4) แบบสอบถามทัศนคติที่มีต่อการเรียนด้วยการใช้ปัญหาเป็นหลัก วิเคราะห์คะแนนความสามารถในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจและทักษะการแก้ปัญหาก่อนและหลังการทดลองด้วยการใช้สถิติเพื่อหาความแตกต่างของค่าเฉลี่ย วิเคราะห์คะแนนทัศนคติด้วยการหาค่า $\overline{X}$, S.D วิเคราะห์ข้อมูลเชิงคุณภาพจากแบบบันทึกการเรียนด้วยการใช้ปัญหาเป็นหลักด้วยการวิเคราะห์เนื้อหา จากผลการทดลองพบว่าคะแนนเฉลี่ยความสามารถในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของนักศึกษาหลังการเรียนสูงกว่าก่อนการเรียน ($p<0.05$) และพบว่ามีค่าขนาดอิทธิพลสูง คะแนนเฉลี่ยทักษะการ แก้ปัญหาของนักศึกษาหลังการเรียนสูงกว่าก่อนการเรียน ($p<0.05$) เช่นเดียวกัน แต่ค่าขนาดอิทธิพลอยู่ในระดับปานกลาง และผลจากข้อมูลที่ได้จากแบบบันทึกการเรียนด้วยการใช้ปัญหาเป็นหลัก พบว่านักศึกษามากกว่า 50 เปอร์เซ็นต์ได้พัฒนาการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ และทักษะการแก้ปัญหา จากแบบสอบถามทัศนคติเปิดเผยว่านักศึกษาทั้งหมดมีทัศนคติทางบวกที่ดีถึงดีมากต่อการเรียนด้วยการใช้ปัญหาเป็นหลักตามลักษณะทัศนคติที่สำรวจเป็นส่วนใหญ่ ผลการทดลองเหล่านี้ชี้ให้เห็นว่ารายวิชาการอ่านภาษาอังกฤษธุรกิจตามแนวคิดที่ใช้ปัญหาเป็นหลักช่วยเสริมสร้างความสามารถในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ ทักษะการแก้ปัญหาและทัศนคติที่ดีเกี่ยวกับการสอนโดยใช้ปัญหาเป็นหลักของผู้เรียนในระดับปริญญาตรีของมหาวิทยาลัยหอการค้าไทย

สาขาวิชา ภาษาอังกฤษเป็นภาษานานาชาติ ลายมือชื่อนิสิต .....

ปีการศึกษา 2551 ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก .....

478 96940 20: MAJOR ENGLISH AS AN INTERNATIONAL LANGUAGE
KEYWORDS: BUSINESS COMMUNICATION / ENGLISH READING ABILITY / LANGUAGE COURSE DEVELOPMENT / PROBLEM-BASED LEARNING

TAKWA BOSUWON: A DEVELOPMENT OF THE BUSINESS ENGLISH READING COURSE USING A PROBLEM-BASED LEARNING APPROACH TO ENHANCE ENGLISH LEARNING OUTCOMES OF THE UNIVERSITY OF THE THAI CHAMBER OF COMMERCE UNDERGRADUATE STUDENTS. ADVISOR: ASST. PROF. APASARA CHINWONNO, PH.D., 218 pp.

The objectives of this study were to develop a business English reading course using the problem-based learning approach (PBL) and to investigate its effects on undergraduate students' reading English for business communication abilities, problem solving skills and attitudes toward PBL. Research procedure included 2 stages. The first stage was development of the course. The second stage was implementation of the course.

The results of the research derived the business English reading course using a problem-based learning approach. The course was consisted of the rationale and its five major components including objectives, content, instructional process, materials and assessment and evaluation. In investigating the effectiveness of the course, 24 English for business communication-major undergraduate students participated in the study for 16 weeks. The research instruments included the reading English for business communication test (the REBC test), the problem-solving skills inventory (the PSSI), PBL log, and PBL attitude questionnaire. Pre-and post-test scores of both the REBC test and the PSSI were analyzed by Dependent Sample t-test. The attitude scores were analyzed by $\overline{X}$, S.D. The qualitative data from PBL log were analyzed by Content Analysis. It was found that the students' post-test mean score of the REBC test was statistically higher than their pretest mean score ($p<0.05$). The magnitude of the effect size was large. Also, the students' post-test mean score of the PSSI was statistically higher than their pretest mean score ($p<0.05$). The magnitude of the effect size was medium. Data obtained from PBL log demonstrated that more than 50 percent of the students reported that they had improved their reading English for business communication, and problem-solving skills. PBL attitude questionnaire revealed that all students had highly positive PBL attitudes regarding most aspects explored. All these findings indicate that the problem-based business English reading course enhanced the University of the Thai Chamber of Commerce undergraduate students' reading English for business communication abilities, problem solving skills and positive attitudes toward the problem-based learning approach.

จุฬาลงกรณ์มหาวิทยาลัย

Field of Study: English as an International Language Student's Signature...Takwa Bosuwon

Academic Year 2008 Advisor's Signature...Apasara

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CHAPTER I

INTRODUCTION

1.1 Background of the study and statement of the problems

English reading is considered important in a globalized world in which there is worldwide information exchange. Many of the books, journals, and other references which contain up-to-date information are in English. The most used language on the Internet is English. According to the Internet World Statistics (2008), English came first in a list of most used languages on the Internet. The number of English language users numbered about four hundred and thirty million. This amounted to 29.4% of all Internet users. Because reading is a prerequisite for success in schools, in the workplace, and at home (Rayner and Pollatsek, 1989; Glover et al., 1990), skilled readers in English have a better opportunity to become lifelong learners in this information age.

Moreover, reading ability in English is indispensable for ESL and EFL students. Not only does it assist in knowledge transfer (Rayner and Pollatsek, 1989; Glover et al., 1990), but it also facilitates the development of all other English language skills, or English language acquisition as a whole. According to Krashen's input hypothesis, language is acquired via input—what we read and hear (Krashen, 1982). This hypothesis is well supported by research (e.g. Elley et al., 1983; Hafiz and Tudor, 1989; Robb and Susser, 1989; Lituanas et al., 2001). Thus the better ESL/EFL students can read in English, the better their English language acquisition.

The Thai government recognizes the important role of English language reading, and it emphasizes that students should have 'global literacy' (The National Education Act of 1999). However, this objective actually needs immediate support from schools. This is because Thai students do not have good reading habits (Nitsaisook, 1996; Komindr, 2002). Thai students not only have limited contact with the target language communities in EFL environments, but also seem not to rely enough on input from English written forms for their own reading development. As a result, Thai students do not read well in English (Komindr, 2002); the English reading abilities of Thai undergraduate students are considered unsatisfactory (Sukamolson, 1992; Wongsothorn, 1993; Nitsaisook, 2003). On average, they read at a moderate level, which is insufficient to comprehend academic texts. The study by Prapphal and

Opanon-amata (2002) reported that the majority of Thai students who took the Chulalongkorn University Test of English Proficiency (CU-TEP) scored below 500, which corresponds to the Paper-Based TOEFL (PBT score). In comparison, this score was ranked as number eight out of nine Asian countries. In terms of Thai students' reading ability, they scored less than 50 % in the test's reading part.

In an attempt to counter these problems, a problem-based learning approach (PBL) was proposed as an alternative teaching method in EFL reading classrooms. PBL is a teaching method developed as an alternative pedagogical approach for students of medicine at the McMaster Medical School in Canada (Barrows, 1986). PBL challenges students to learn through collaborative group work while seeking solutions to real world problems (Barrows, 1986). The main goals of PBL are to prepare students to be self-directed, lifelong learners, and practical problem solvers (Hung et al., 2003; Bridges and Hallinger, 1995; Wee and Kek, 2002). Empirical research supports the effectiveness of these goals (Donahue, 1999; De Grave et al., 2001; Wood and Head, 2004; Ahlfeldt, 2004; Saengrutsamee, 2000; Chikotas, 2005). Thus, problem-based learning has become popular in fields ranging from medicine to engineering, and architecture to business (Tan, 2003).

Beside its main goals as a means of enhancing students' self-directed learning and problem-solving skills, PBL can situate English language learning in the real world (Abdullah, 1998). Through PBL process, students have to work cooperatively to achieve their English learning outcomes. They need to use English language to obtain and communicate information, express opinions, and negotiate. As a consequence, English communication skills can also be developed by PBL (Allen and Rooney, 1998; Hativa, 2000; Wee, 2004; Clouston, 2005). Based on this view, PBL is not only for learning English generally, but might also be beneficial for ESL/EFL reader students. Problem-based activities create meaningful reading communities for EFL readers through which the students see the value of reading. Research suggests that when teachers overemphasize skills without providing meaningful activities, students find little value in reading and writing (Au, 1997). PBL provides meaningful reading activities because, if students are assigned to solve problem cases or situations, reading activities become meaningful enough to trigger reading motivation and engagement. Moreover, the problem solving process in PBL requires students to read reference materials and constantly relate what they read to what they want to do with the information (Ngeow and Kong, 2001). This enables students to finally

integrate content knowledge with their knowledge of English. As a result, students unintentionally learn and develop reading abilities. The students; in other words, learn English reading while doing something else.

For the reasons above and the fact that PBL is a fairly new approach in English language instruction (Kosel, 2002; Songhori, 2004), it was worth investigating to see if PBL can also be a powerful tool in the field of English reading instruction. However, since PBL requires necessary components to promote its effectiveness (Barrows and Tamblyn, 1980; Hativa, 2000; Ngeow and Kong, 2001; Tan, 2002, as cited in Tan, 2003; Weiss, 2003), a course needed to be developed specifically for PBL implementation. As a result, it was proposed to develop the business English reading course using a problem-based learning approach to enhance English learning outcomes of the University of the Thai Chamber of Commerce undergraduate students. This was an effort to cope with insufficient English reading ability of Thai undergraduate students in the globalized world where information communication is continuous. Also, the results of this research, more or less, will suggest valuable implications toward research of PBL in teaching English across the curriculum.

1.2 Research questions

This study addressed the following research questions:

1. How can the business English reading course using a problem-based learning approach be developed to enhance English learning outcomes of the University of the Thai Chamber of Commerce undergraduate students?
2. What are the effects of the business English reading course using a problem-based learning approach on the University of the Thai Chamber of Commerce undergraduate students' English learning outcomes?
    - 2.1 What are the effects of the business English reading course using a problem-based learning approach on the University of the Thai Chamber of Commerce undergraduate students' reading English for business communication abilities?
    - 2.2 What are the effects of the business English reading course using a problem-based learning approach on the University of the Thai Chamber of Commerce undergraduate students' problem-solving skills?

2.3 What are the University of the Thai Chamber of Commerce undergraduate students' attitudes toward a problem-based learning approach?

1.3 Objectives of the study

The objectives of this study included the following:

1. To develop the business English reading course using a problem-based learning approach to enhance English learning outcomes of the University of the Thai Chamber of Commerce undergraduate students.
2. To investigate the effects of the business English reading course using a problem-based learning approach on the University of the Thai Chamber of Commerce undergraduate students' English learning outcomes.
    2.1 To investigate the effects of the business English reading course using a problem-based learning approach on the University of the Thai Chamber of Commerce undergraduate students' reading English for business communication abilities.
    2.2 To investigate the effects of the business English reading course using a problem-based learning approach on the University of the Thai Chamber of Commerce undergraduate students' problem solving skills.
    2.3 To explore the University of the Thai Chamber of Commerce undergraduate students' attitudes toward the problem-based learning approach.

1.4 Statement of hypotheses

The present study investigated the effects of the problem-based business English reading course on the University of the Thai Chamber of Commerce undergraduate students' reading English for business communication abilities and problem-solving skills, as well as explored their attitudes toward the problem-based learning approach. Prior studies have shown that PBL enhanced literacy (Cartier et al., 2001; Dodd, 2007) and problem-solving skills (Zhao and Alexander, 2004; Uys et al., 2004). In addition, it was found that students experiencing problem-based courses usually had positive attitudes toward PBL (Chikotas, 2005; Hussain et al., 2007).

Based on the previous research studies referred to above, the hypotheses of this study were as follows:

1. The reading English for business communication post-test mean score of the University of the Thai Chamber of Commerce undergraduate students participating in a business English reading course using a problem-based learning approach is significantly higher than their pre-test mean score at the alpha level of ±0.05.
2. The problem solving skills post-test mean score of the University of the Thai Chamber of Commerce undergraduate students participating in a business English reading course using a problem-based learning approach is significantly higher than their pre-test mean score at the alpha level of ±0.05.
3. The University of the Thai Chamber of Commerce undergraduate students participating in the business English reading course using a problem-based learning approach have positive attitudes toward the problem-based learning approach.

1.5 Scope of the study

1. The population of this study was fourth-year EFL undergraduate students of the School of Humanities, the University of the Thai Chamber of Commerce.

2. The variables in the study comprised:

2.1 Independent variable:

2.1.1 the business English reading course using a problem-based learning approach

2.2 Dependent variables:

2.2.1 the University of the Thai Chamber of Commerce undergraduate students' reading English for business communication abilities

2.2.2 the University of the Thai Chamber of Commerce undergraduate students' problem solving skills

2.2.3 the University of the Thai Chamber of Commerce undergraduate students' attitudes toward the problem-based learning approach

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1.6 Definition of terms

Business English reading course using PBL refers to a two-credit, one-semester elective course of the Department of English for Business Communication. Content was reading English for business communication and process skills using a problem-based learning approach. It was offered to fourth-year English for business communication majors of the School of Humanities, University of the Thai Chamber of Commerce, in the first semester of the academic year 2008. The course lasted sixteen weeks. The students met twice a week for one hour and fifteen minutes each time. The course implemented a problem-based learning approach in which problem situations allowed students to engage in purposeful/meaningful reading of English for business communication reference materials, and to discuss possible solutions in collaborative groups.

Problem-based learning approach (PBL) refers to a pedagogical approach that uses problem situations to engage students in seeking solutions to problems. Based on PBL, students study through PBL process consisting of three main stages: (1) Encountering the problem, (2) PBL tasks, and (3) Evaluation. In the first stage, students define the problem. In the second stage, students collaboratively work to solve the problem by analyzing the problem, identifying further learning needs, self-directing themselves to collect additional information, and reviewing what has been learned and proposing solutions. In the third stage, students evaluate the PBL process and what they have learnt.

English learning outcomes refer to undergraduate students' reading English for business communication abilities, problem solving skills, and PBL attitudes.

Reading English for business communication abilities refers to the extent to which undergraduate students can comprehend written problem situations and reading materials in the field of airline, hotel and tourism businesses. To comprehend, students need to possess reading skills used in English for business communication. The reading abilities were reflected in scores obtained from the reading English for business communication test administered at the beginning and at the end of the business English reading course using a problem-based learning approach. The test assessed the students' achievement in thirteen reading skills commonly found in English for business communication textbooks. The thirteen reading skills reflecting the students' reading abilities included identifying the main

idea, identifying detail, making inferences, distinguishing fact from opinion, recognizing cause and effect, comparing and contrasting, identifying sequence, predicting outcomes, finding solutions, drawing conclusions, recognizing business terms and expressions, following instructions or manuals, and analyzing points of view and purpose.

Problem solving skills refer to undergraduate students' skills in problem solving situations relating to airline, hotel and tourism businesses. These skills were interpreted from Weir's (1974) sub-skills of how to solve a problem. They include (1) defining the problem, (2) analyzing the problem, (3) proposing a solution and (4) justifying the results of the solution. These skills were students' scores obtained from the problem solving skills inventory administered at the beginning and at the end of the business English reading course using a problem-based learning approach.

PBL Attitudes refer to undergraduate students' attitudes toward a problem-based learning approach while taking the business English reading course using a problem-based learning approach. Attitudes were measured by students' mean scores obtained from the Thai version of the PBL attitude questionnaire administered at the end of the business English reading course using a problem-based learning approach.

Undergraduate students refer to fourth-year students majoring in English for business communication of the School of Humanities, University of the Thai Chamber of Commerce.

1.7 Significance of the study

The results of the study contributed to EFL reading instruction on the performance of the students so that they are qualified, or at least more qualified to face the challenges of the business world. Also, the study provided implications for further reading course development research and paved the way for problem-based learning research concerning other skills in English as a second or foreign language instruction.

1.8 An overview of the study

This chapter presents the background of the study and statement of the problems in the field of EFL reading instruction. Research questions, objectives of

the study, and hypotheses to address the problems are introduced. The scope of the study, definition of terms, and significance of the study are also described and explained.

Chapter 2 reviews the literature related to a problem-based learning approach, course development, and learning outcomes, including reading English for business communication abilities, problem-solving skills, and attitudes toward the problem-based learning approach.

Chapter 3 elaborates on research methodology consisting of 2 phases: the development and implementation of the business English reading course using a problem-based learning approach. In the first phase, the needs analysis and the integration of the needs analysis findings into determining the components of the problem-based business English reading course are described. The second phase explains the population and sample, research instruments, data collection, and data analysis.

Chapter 4 reports the findings of the study in accordance with the research questions.

Chapter 5 presents the discussion and conclusion of the study. It starts with a summary of the study, then findings are discussed followed by pedagogical implications for EFL reading students and instructors. The chapter ends with recommendations for future research.

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CHAPTER II

LITERATURE REVIEW

This chapter reviews literature related to the study. The major contents of the review involve three parts—problem-based learning approach (PBL), course development, and learning outcomes. First, the problem-based learning approach is explored in terms of its definition, components, and research. Also, similarities of PBL to second language instruction approaches are compared and discussed. Then, PBL course development, language course development, and English for business communication course development are reviewed, followed by a summary of research in the fields. Finally, the three learning outcomes of the study which include reading English for business communication abilities, problem-solving skills, and PBL attitudes are elaborated on and discussed based on empirical study and research.

2.1 Problem-based learning (PBL)

This part of the review covers four PBL perspectives. They include definition and theoretical principles, components, PBL in language instruction, and research.

2.1.1 Definition and theoretical principles of problem-based learning

2.1.1.1 Definition of PBL

Barrows and Tamblyn (1980) define PBL as a method of learning in which learners are first exposed to a problem, which is followed by a systematic, student-centered inquiry process. PBL is an approach to learning by means of which many students have been enabled to understand their own situations and frameworks so that they are able to perceive how they learn, and how they see themselves as future professionals (Savin-Baden, 2003). PBL is a pedagogical approach that uses complex scenarios or situations to engage students in seeking solutions to problems (Edens, 2000). PBL is the application of several rules to a problem not encountered before by the learner. It involves selecting the correct rules and applying them in combination (Joyce et al., 2004). PBL is an approach which not only helps students to apply knowledge in real-world situations, but also facilitates knowledge transfer (Jonassen, 1997). It enhances the students' metacognitive

knowledge. PBL is a method providing a road map or a framework to guide and coach students into an active, engaged, and inquiring role that requires real-life problem solving processes (Knowlton, 2003, Milbury and Silva, 1998).

In conclusion, PBL is an approach which facilitates the process of linking instructional activities to individual learning based on problem situations. Students collaboratively work to effectively manage the situation for possible solutions.

2.1.1.2 Theoretical principles of PBL

Problem-based learning is based on constructivism—both cognitive and social constructivism (Barrows, 1992; Schmidt, 1993; Brooks and Brooks, 1993, and Greeno et al., 1996). Before the theoretical basis of PBL is clarified, cognitive constructivism and social constructivism is briefly defined as follows.

Cognitive constructivism refers to learning theories which assume that learning is an individual developmental process involving change, self-generation, and construction, each building on prior learning experiences (Kaufman, 1998).

Social constructivism refers to the cognitive learning theories above plus the assumption that learning is not separate from a social context. That is "Students' thinking and meaning-making is socially constructed and emerges from their social interactions with their environment, and is shaped by the skills and abilities valued in a particular culture." (Vygotsky, 1978).

Given a complete agreement that PBL is based on a constructivist view, PBL experts discuss theoretical principles of PBL in various ways. Schmidt (1993) discusses them in terms of cognitive theories which help develop a PBL course. These theories propose that learning can best occur (1) when it is linked to the learner's prior knowledge, (2) when it is situationally based, (3) when it draws on the intrinsic interests of the learner, and (4) when the focus of learning can be elaborated in a social context.

On the other hand, Savery and Duffy (1995) characterize the theoretical principles of PBL in terms of three primary propositions including that (1) understanding is in our interactions with the environment. (2) cognitive conflict or "puzzlement" is the stimulus for learning and determines the organization and nature of what is learned and (3) knowledge evolves through social negotiation and through

the evaluation of the viability of individual understandings. However, all the concepts presented are compatible with what Schmidt (1993) expresses. That is, the first theoretical principle identified by Savery and Duffy is equivalent to the first two principles presented by Schmidt.

Schmidt (1993), Savery and Duffy (1995), Greeno et al (1996) all identify the same concepts of PBL theoretical principles, but they are variously discussed in terms of cognitive constructionist and sociocultural theories. Cognitive constructionist theories of PBL put the emphasis on the function of problems. That is, a problem which motivates epistemic curiosity will trigger the cognitive process of (1) accessing prior knowledge, (2) establishing a problem space, searching for new information, and (3) reconstructing information into knowledge that both fits into and shapes new mental models, while sociocultural theories of PBL put the emphasis on the function of the social system within a larger cultural context. That is to say, that learning is a transformation of the individual who is moving towards full membership in the professional community.

Based on this review, it can be concluded that PBL is based on three theoretical principles. First, understanding is derived from the students' interactions with the environment, based on their existing knowledge and experience. Second, collaborative learning helps construct new knowledge, and third, cognitive conflict is the stimulus and organizer for learning.

2.1.2 Components of problem-based learning

Reviewed components of PBL include its goals, content, process and assessment. Details concerning these issues are as follows.

2.1.2.1 PBL Goals

Major PBL goals, according to Barrows (1983, as cited in Schmidt (1998) are (1) to develop students' reasoning and problem-solving skills, (2) to promote interpersonal skills and an ability to work as team members, and (3) to develop self-directed learning.

Bridges and Hallinger's (1995) PBL goals include (1) to familiarize prospective principles with the problems they are likely to face in the future, (2) to acquaint students with knowledge that is relevant to these high-impact problems, (3) to foster skills in applying this knowledge, (4) to develop problem-

solving skills, (5) to develop skills in implementing solutions, (6) to develop leadership skills that facilitate collaboration, (7) to develop an array of affective capacities, and (8) to develop self-directed learning skills.

With reference to teaching for effective learning in higher education, Hativa (2000) considers that PBL goals are to promote students' problem-solving skills, to help them think critically, to learn how to learn, and to acquire communication skills.

Wee and Kek's (2002) PBL goals are to acquire an integrated body of knowledge that can be recalled, adapted and applied when needed, and to develop problem solving, self-directed learning and team skills that allow students to effectively deal with new and complex problems that they are likely to encounter in their work place or personal lives.

Tan (2003), based on its characteristics, summarizes PBL goals as including content learning, acquisition of process skills, problem-solving skills, and lifewide learning. The term "lifewide learning" was introduced to emphasize skills such as self-directed learning, independent information mining, collaborative learning and reflective thinking.

Clouston (2005) concluded that PBL has two main educational objectives. One is to create a need to explore the knowledge related to the problem. The other is the development and application of critical reasoning and problem-solving skills. It was also pointed out that since PBL tends to take place in small groups in which students have to work cooperatively to achieve their learning outcomes, other skills including communication skills, collaborative skills, and reflective/self evaluation skills can also be developed.

Based on the above review, it can be concluded that PBL goals mainly consist of acquisition of the content knowledge and development of process skills such as problem solving, teamwork and self-directed learning. Apart from those main goals, acquisition of communication skills can also be developed, but as a bi-product of PBL. Based on this fact, the present study aimed to investigate to what extent PBL contributed to EFL skills. Since it was expected that the problem-based activities would create meaningful reading communities for EFL readers, the business English reading course using PBL was developed with three goals. The first goal was

to help develop the undergraduate students' reading English for business communication abilities. It was seen that once reference materials in problem-based classes were changed from the students' mother tongue to their target language, English, students would subconsciously learn English while actively engaged in problem solving. The second goal was to develop students' problem-solving skills. It was also worth investigating if PBL, when implemented with EFL students, remained as powerful a means to enhance students' problem-solving skills. The third goal of the course was to enhance undergraduate students' positive attitudes toward PBL. This was the first time PBL was implemented with fourth-year English for business communication majors of the Faculty of Humanities, University of the Thai Chamber of Commerce. It was therefore important to explore their attitudes after ten weeks of PBL instruction. To achieve these goals, learning objectives of the problem-based business English reading course were determined based on the pre-course needs analysis.

The goals and the learning objectives of the business English reading course using PBL were different from other Business English courses in three main aspects. First, general Business English or English for Business Communication courses mainly focus on productive skills. Based on document analysis of business English and English for business communication textbooks (Appendix J, page 173), most of the textbooks main concerns are speaking and writing. Some listening activities are included, but almost no reading skills. From this it can be inferred that Business English or English for Business Communication courses in general do not have a focus on, or almost ignore, students' reading skills.

In contrast, the business English reading course using PBL was an integrated skills course focusing on reading skills. Since key stages in the communication cycle involved roles of both sender and recipient, reading skill was considered necessary for decoding and interpreting the message (Taylor, 2005). Thus, reading skills should not be ignored in any English course for business purposes. Second, unlike other Business English or English for Business Communication courses, the business English reading course implemented PBL as its instructional process throughout the course. Third, the problem-based business English reading course had goals beyond language skills, including problem-solving skills, and positive attitudes toward PBL.

2.1.2.2 PBL Content

The content of PBL ranges from medicine to many other professional and vocational disciplines, especially such as engineering and business curricula (Donahue, 1999; Tan, 2003; Wee, 2004). PBL content is organized around problems relating to each field of study. Problems are the motivation for learning (Tan, 2003). Thus, problems have to be well designed to meet learning objectives. A well-chosen problem for business communication classes of ESL students, for example, provides the best foundation while scope, relevance, and interest are issues eventually affecting all business communication outcomes (Rooney, 1998). To conclude, PBL content varies according to the field of study. Problems are always presented first as a starting point for learning.

In the present study, the content of the business English reading course using PBL was developed based on the pre-course needs analysis. It concerned the top-five business communication topics found in business textbooks. Five problem situations concerning these topics were then designed and aligned to the objectives of the course. These five problem situations initiated each unit, and were the starting points for learning. Based on the document analysis of the present study, other business English or English for business communication courses, in contrast, have content concerning a variety of business communication topics.

2.1.2.3 PBL Process

PBL process varies, but all address at least three main theoretical principles, as reviewed earlier. They include the fact that (1) understanding is derived from students' interactions with the environment, (2) collaborative learning helps construct new knowledge and (3) cognitive conflict is the stimulus and organizer for learning.

The PBL instructional process in this study is based on the exploration of the PBL process as proposed by Savery and Duffy (1995), Fogarty (1997), Donahue (1999), Schwartz et al (2001), and Wee and Kek (2003, as cited in Wee et al, 2003).

Savery and Duffy's (1995) model of the PBL process comprises three main steps: (1) facilitator identifies or designs an ill-structured problem or task relevant to the learners, (2) facilitator presents the problem to the learners, (3) in their own groups learners collaboratively generate working ideas or

possible solutions, identify learning issues (things they need to find out), identify resources to look up or consult, assign tasks to various group members, gather information, and propose solutions. Some of the steps in 3 may be revisited. Moreover, since solutions may differ among groups, the class can discuss the viability of each proposed solution.

Fogarty (1997) proposed eight steps of PBL: (1) meeting the problem, (2) defining the problem, (3) gathering the facts, (4) hypothesizing, (5) researching, (6) rephrasing the problem**,** (7) generating alternative solutions, and (8) advocating solutions.

Donahue (1999), investigating PBL in a reading specialist program with Evensen as his advisor, revealed that the program's PBL framework included the following four steps.

1. Students are asked to isolate relevant facts from a case.

2. Facts are combined in ways that allow for initial hypotheses to be made. These hypotheses are based on previously studied theories of literacy, learning and development.

3. Further questions are raised concerning the case and students are asked to identify assessment means through which further data can be obtained.

4. What are known as "learning objectives" are articulated. Students determine what underlying knowledge is necessary in order to understand and make decisions about the case. They become aware of gaps in their knowledge.

Schwartz et al (2001) indicates that during student small group work, with a faculty tutor acting as facilitator of discussion and learning, they get involved in the following process.

1. Students first encounter a problem "cold," without doing any preparatory study in the area of the problem.

2. Students interact with each other to explore their existing knowledge as it relates to the problem.

3. Students form and test hypotheses about the underlying mechanisms that might account for the problem.

4. Students identify further learning needs for making progress with the problem.

5. Students undertake self-study between group meetings to satisfy the identified learning needs.

6. Students return to the group to integrate the newly gained knowledge and apply it to the problem.

7. Students repeat steps three to six as necessary.

8. Students reflect on the process and on the content that has been learnt.

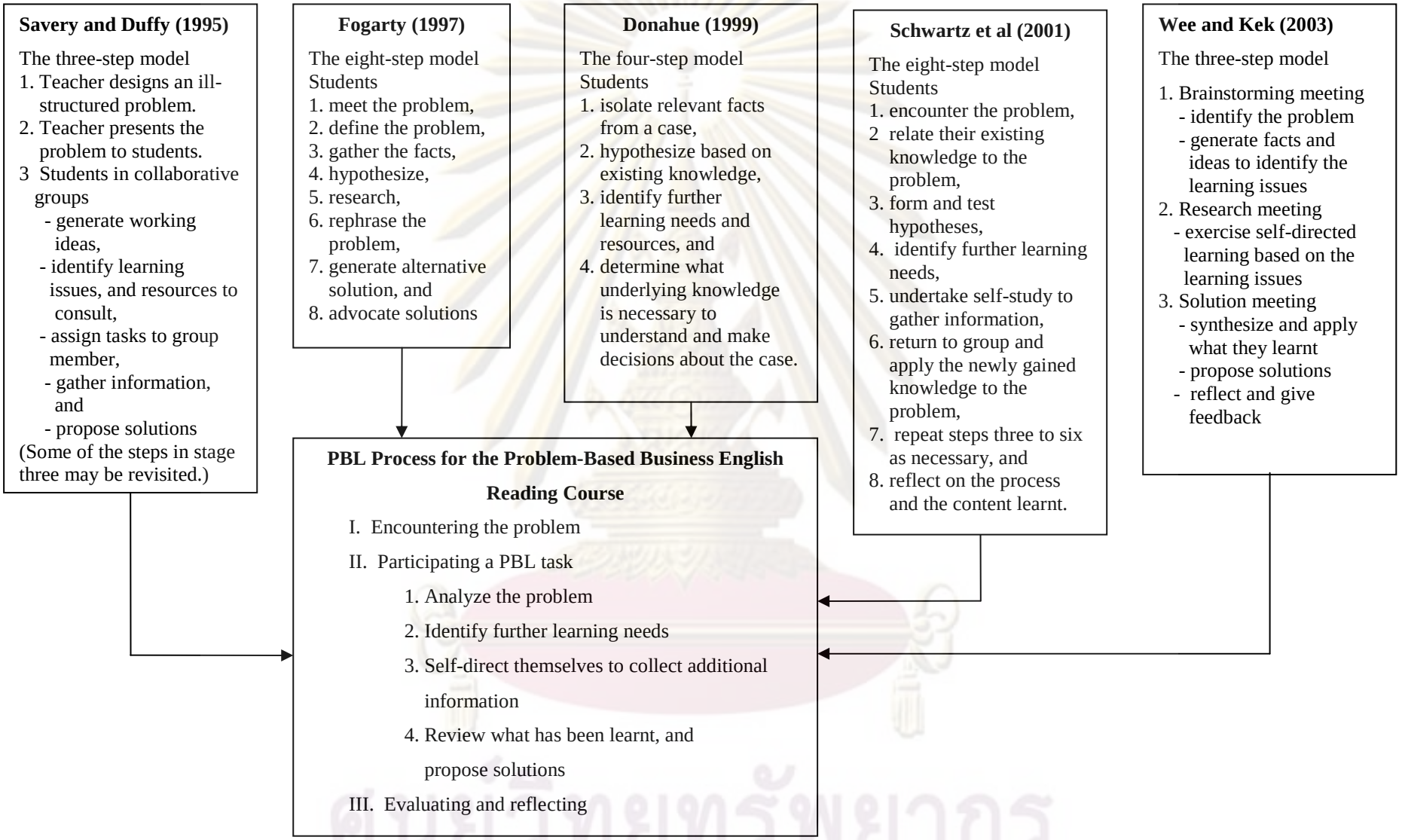
Wee and Kek (2003, as cited in Wee et al., 2003) propose a three-step PBL process model. It is a comprise of three meetings—a brainstorming meeting, research meeting, and solution meeting. In the brainstorming meeting, students identify the problem, and generate facts and ideas to identify the learning issues. In the research meeting, the students exercise self-directed learning based on the learning issues. In the solution meeting, the students synthesize and apply what they learnt, propose their solutions, reflect, and give feedback.

Based on the review of the PBL process, it can be concluded that the PBL model consists of three main stages: (1) Encountering the problem, (2) Participating PBL tasks, and (3) Evaluating and reflecting. In encountering the problem, students define the problem. In participating a PBL task, students collaboratively work to solve the problem by analyzing the problem, identifying further learning needs, self directing themselves to collect additional information, and reviewing what has been learned and proposing solutions. In evaluating and reflecting, students evaluate the PBL process and what they have learned.

Figure 2.1 on the next page illustrates the present study's PBL process and its derivation.

To implement PBL in the business English reading course, the PBL process illustrated in Figure 2.1 was the course's only instructional process, and through which students proceeded for the completion of each problem-based project in each unit. Thus, this course differed from other business English or English for business communication courses, in which instructional processes vary.

Figure 2.1: PBL process and its derivation.



2.1.2.4 PBL Assessment

Assessment of a problem-based course depends on its stated goals. These goals usually involve content knowledge and some process skills. It has been emphasized that evaluation should be an integral part of the learning process (Barrows and Tamblyn, 1980). Similarly, Wee (2004) asserts that assessment of only content knowledge is not sufficient. There should also be the assessment of education outcomes such as skills in reasoning, problem solving, communication, collaboration and self-directed learning. When the assessment goes beyond testing content or subject knowledge, it offers students the ability to show what they have learned and how they can apply the acquired knowledge in a context and form that is most meaningful in professional practice (Wiers et al., 2002). This helps motivate learning (Wee and Kek, 2002). Moreover, the assessment becomes powerful when including both informal and formal methods. Informal assessment methods include observation and feedback sessions. Formal methods refer to any summative assessments. These might include presentations, reports, tests and examinations (Wee and Kek, 2002). In conclusion, PBL assessment usually covers both subject knowledge and process skills. To increase the power of PBL assessment, both informal and formal assessment methods should be included.

The problem-based business English reading course in the present study assessed reading English for business communication abilities in place of assessment of students' knowledge of business communication. This is because acquisition of business content knowledge was not included in the course learning objectives. Assessment of process skills was based on problem-solving skills, which are a major focus of PBL (Swanson et al., 1997). Both informal and formal assessment methods were included. Assessment for grading students of the proposed course combined both informal and formal methods. Informal methods included items such as learning logs and feedback sessions. Formal methods included presentations, examinations on reading English for business communication abilities and problem-solving skills. Unlike business English and English for business communication courses in general, the content knowledge of the problem-based business English reading course was not included for grading. That is, the students were not tested on their knowledge concerning the course content. Thus, the students did not have to memorize the content of the course, including five business communication topics presented in the form of five problem situations, for the exams.

The students' possible gains in the content knowledge were considered a bi-product of the course, since the content was primarily a means for students to learn language and metacognitive skills. Apart from the PBL course assessment, evaluation of the course was based on its effectiveness in developing students' reading English for business communication abilities, problem-solving skills, and PBL attitudes. Both quantitative and qualitative data were collected.

2.1.3 Research in problem-based learning

This part reviews research in PBL across disciplines, both in Thailand and abroad, from three perspectives. They concern the effects of PBL on process skills, communication, and PBL attitudes.

2.1.3.1 Research in PBL on process skills

PBL has been proven effective as a means to enhance students' process skills. These process skills generally included the development of problem-solving, self-directed learning, and critical thinking. The following summaries are from recent research supportive to the effectiveness of PBL. Problem solving is a major goal of PBL, and most research reflects this achievement.

Camthana (1995) studied the effects of PBL on nursing students' ability to solve problems. The findings were that the problem-solving ability increased among nursing students who received problem-based instruction. Moreover, their problem-solving ability was found to be higher than that of the group receiving instruction by traditional methods.

Klaimongkol (2002) developed an instructional process by applying a PBL approach to enhance the mathematical competencies of Prathom Suksa Five mathematically gifted students. The research found that this problem-based instructional process could develop problem solving skills of the gifted students.

Pedersen and Liu (2002) examined students' transfer of strategies modeled during a PBL unit to a novel problem situation. Participants were in three intact sixth grade science classes taught by the same teacher. Classes were randomly assigned to three treatment conditions: the modeling condition, the didactic condition, and the help condition. The results suggested that the modeling condition provided

the most effective support, and that the modeling of cognitive processes during PBL led to improved performance on a transfer task.

Uys et al (2004) conducted a qualitative research to evaluate the outcomes of PBL programs in nursing schools in South Africa in terms of the competence of graduates to solve problems in actual clinical settings. The findings showed that the PBL group fared better than the non-problem-based group with regard to their problem-solving ability. Moreover, PBL helped in the transfer of problem-solving skills to new problem situations.

Apart from problem-solving skills, PBL can also enhance students' self-directed learning and critical thinking skills. For example, Saengrutsamee (2000) studied the effects of PBL on self-directed learning, environmental science achievement and satisfaction towards instruction of Mathayom Suksa Four students. The research found that (1) students learning using the PBL method had higher post-test mean scores on self-directed learning than those of the pre-test at the 0.01 level of significance, (2) students learning using the PBL method had higher post-test mean scores on environmental science achievement than those of the pre-test at the 0.01 level of significance, but the post-test mean scores of the students learning using the PBL method was not different from mean scores of the students learning using a convention method, and (3) students learning using the PBL method were highly satisfied with PBL. Tiwari et al (2006) compared the effects of PBL and lecturing on the development of students' critical thinking. Participants were seventy-nine first-year undergraduate nursing students. It was found that PBL students showed significantly greater improvement in their critical thinking based on the California Critical Thinking Disposition Inventory.

2.1.3.2 Research in PBL on communication skills

The effects of PBL on communication skills have also been studied across disciplines. It was found that a PBL environment could be effectively created for ESL students in business communication. Allen and Rooney (1998) designed a PBL environment for ESL students in business communication. They blended aspects of both cooperative learning and PBL to focus on problem solving, critical thinking, and team skills. This environment resulted in better products than in their traditionally taught classes. The products were, for example, the most thorough

and well-developed reports, more focused purpose statements, and more evident criteria to solve problems. Moreover some observations revealed progressive communication skills.

In the field of medicine, PBL played an important role toward effective group discussion on text comprehension. De Grave, Schmidt and Boshuizen (2001) studied the effects of problem-based group discussion of a medical problem on the subsequent problem-relevant comprehension of a text for first year medical students. Results showed positive effects for problem-based group discussion on text comprehension.

PBL also enhanced information behavior and literacy. Dodd (2007) conducted a research on the impact of PBL on the information seeking and literacy of veterinary students. Results showed that PBL had a significant impact on how students found and used information. Cartier et al (2001) examined and described how third-year medical students read and learn in a PBL context. It was found that PBL provided opportunities for medical students to read and learn purposefully. Reading strategies applied ranged from encoding/retrieval strategies to metacognitive.

In addition, research proved that PBL enhanced speaking skills. Ahlfeldt (2004) examined the use of PBL in a public speaking class. Results of the data showed that PBL was an effective method of instruction in the Public Speaking fundamental course. Students in PBL classes did as well on exams as students in traditional classrooms. Students in PBL classes did better on speeches than students in traditional classes. Students in PBL classes were more engaged in the course material and experience a greater decrease in speaking anxiety than students in traditional classes.

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2.1.3.3 Research in PBL on PBL attitudes

To also examine the effectiveness of PBL, many researchers measured students' PBL attitudes. Findings in general showed both positive and negative PBL attitudes. Dean (1999) examined the effectiveness of PBL in a foundational teacher education course. All undergraduate students were asked to complete a "Student Attitude and Activities Assessment Survey" at the beginning and at the end of the course. Results indicated that students in the foundation course noted

difficulties with using PBL strategies effectively in large classes. The faculty found the course frustrating, but invigorating. This was because PBL strategies challenged students' thinking and problem-solving skills. Overall, it was found that PBL could be used effectively with a large class to make information come alive and have meaning beyond the textbook.

Morales-Mann and Kaitell (2001) evaluated a second-year problem-based course in the new curriculum at the University of Ottawa School of Nursing's Generic Program based on students and facilitators' perception of PBL. Students reported that PBL produced clear benefits for them, such as self-directed learning, critical thinking, problem solving, and communication. For facilitators, it was reported that PBL was liberating from the traditional role of 'content expert' and 'super consultant'. However, students found that positive attitude and group effort were factors that influenced performance and learning. Facilitators found that factors that affected their performance were large group size, and insufficient facilitator skills and PBL preparation.

Chikotas (2005) examined how nurse practitioners (NPs) made meaning of their PBL educational experience in their current clinical practice, and how the experience of the PBL approach did or did not contribute to their development as NPs. This qualitative research used in-depth interviews to gather information from thirteen currently employed NPs. The analysis provided evidence that the participants found satisfaction in their current clinical practice relative to the skills obtained during their PBL experience: being resourceful, independent and self-directed. It was also found that information obtained in the PBL classroom could be directly applied to their professional practice and provided the NPs with the skills needed to practice clinical decision-making with a holistic viewpoint.

Hussain et al (2007) reported teacher and student experiences of PBL in three Asian countries. Student and tutor experiences were positive and PBL was seen to work extremely well, despite the typical problems that students can experience working in groups.

When comparing a problem-based course with a traditional one, content knowledge gained by the students in both groups was usually the same, and students were satisfied with PBL. Saengrutsamee (2000) studied the effects of PBL on self-directed learning, environmental science achievement and satisfaction towards instruction of Mathayom Suksa Four students. While the achievement in

content knowledge by students in both groups was not statistically significantly different, students learning by the PBL method were highly satisfied with PBL.

However, when comparing the level of satisfaction of students learning with and without PBL, no statistically significant difference was found. Miller (2003) researched if there would be a difference in students' performance and level of satisfaction when taught pharmacology in a PBL format as compared to a traditional lecture format. Findings were that there was no statistically significant difference between the control group's and the experimental group's content knowledge and satisfaction. This implied that PBL and a traditional lecture format may be equally effective course delivery methods.

Based on the review of related research, it can be concluded that PBL research has mostly been done in the fields of nursing, medical education and sciences. PBL research in the field of language learning was found in EAP such as text comprehension/reading and speaking for medical education. In addition, PBL has been applied to a business communication course for ESL students. The findings of most PBL research showed the positive effects of the PBL method over conventional lecture methods. PBL could be implemented in place of a traditional method with an improvement in content knowledge, or at minimum equal content knowledge to that gained from traditional teaching methods. Moreover, students using PBL experienced more benefits in terms of life-long learning skills such as problem solving, self-directed learning, critical thinking, and communication skills. As a result, despite some negative attitudes toward PBL, students in general were satisfied with PBL and had a good experience in their problem-based course. Based on the fact that PBL was found effective across disciplines, especially in terms of process skills, and that students usually had positive attitudes toward PBL, the present study was proposed to investigate the power of PBL in the field of English language instruction. The findings might reveal that PBL in the twenty-first century can expand beyond the educational zone in which PBL has so far been proven effective.

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2.1.4 PBL and second language instruction approaches

PBL shares similarities with widely used second language instruction approaches such as collaborative learning, task-based learning, content-based learning, and extensive reading. These are further explored below:

PBL and Task-Based Learning: According to Kosel (2002) and Songhori (2004), PBL is similar to task-based learning because both approaches introduce the concept of problems and problem solving. To put it simply, the students use language to communicate in order to complete a task in a task-based classroom or to solve a problem situation in a problem-based classroom. To solve a certain problem, students need to use the target language. Students have to think independently, link old and new knowledge, develop a set of problem solving criteria, find a solution to a case from real life, and function well in a group (Kosel, 2002). Similar to other task-based learning, a problem-based task ensures that students have opportunities to communicate and to learn language through communication. However, according to Tan (2003), education in this 21st century is about developing intelligences and developing intelligence is about learning to solve problems, making PBL worth adopting as an alternative teaching method.

PBL and Content-Based Learning: The concept of content-based learning is already embedded in a problem-based syllabus. Barron (2003) asserts that PBL suggests a process in which language and knowledge are inextricably interwoven. Thus, if the content or the subject area studied in a PBL class is introduced by means of English, rather than the students' mother tongue, this content is used as a vehicle for prompting language learning. This feature of PBL with reference to language instruction reflects content-driven approaches of content-based instruction. Content-based instruction has been adopted worldwide because it enhances language learning (Brinton et al., 1989). According to Byram (2000), the success of content-based instruction for ESL/EFL students may be because of the following reasons. First, more time is spent in the target language. Also, students are more motivated to learn because of meaningful communicative language use due to topics related to their personal interests. In addition, students pay more attention to tasks that are cognitively engaging and demanding. Last but not least, students learn more due to the link between knowledge acquired in other disciplines and its connections to tasks in the language classroom.

PBL and Extensive Reading: PBL provides more opportunities for EFL students to engage in purposeful extensive reading. This is because in a problem-based task, after students analyze the problem and identify further learning needs, they need to collect additional data through self-directed learning (Savery and Duffy, 1995; Schwartz et al., 2001). Extensive reading is an approach which is based on the theory that we learn to read by reading (Eskey, 1987; Krashen, 1988). It is rapid reading of large quantities of material or longer readings for general understanding, with the focus generally on the meaning of what is being read rather than on the language (Carrell and Carson, 1997). The power of extensive reading as a means to enhance second language reading development has been well supported by research (Elley and Mangubhai, 1983; Hafiz and Tudor, 1989; Robb and Susser, 1989; Lituanas et al., 2001). Moreover, it was found that the power of extensive reading to boost second language acquisition was increased when it was combined with peer interaction (Manning and Manning, 1984; Jacobs and Gallo, 2002). PBL supports students' interaction with peers while they are collaborating in groups to solve a problem situation.

PBL and Collaborative Learning: Since PBL offers discussion and reflection within collaborative groups (Savery and Duffy, 1995), this collaboration encourages a meaningful learning community in which students assisted each other to comprehend the text by processing higher level thinking skills. Moreover, it enables the students to take more and more responsibility for their own learning. As the students listen to other opinions, their own thinking about a text might be expanded, clarified, or enhanced. Research has shown that reading comprehension can be enhanced by collaborative learning (Palincsar, 1987; Brown, 1987; Mejang, 2004; Snyders, 2005).

To sum up, PBL shares similarities with four well-known second language instruction approaches including task-based learning, content-based learning, extensive reading, and collaborative learning. However, PBL is different from these teaching approaches for two major reasons. First, PBL allows the power of each of these language instruction approaches to be in effect simultaneously when students engage in problem-based activities. PBL provides problem-based tasks with content area reading. Also, it provides more opportunities for EFL students to engage in purposeful extensive reading. Last, but not least, it offers discussion and reflection within collaborative groups. Second, PBL meets the 21st century need in education:

the developing of intelligences. Tan (2003) emphasizes that *"PBL approaches involve harnessing intelligences from within individuals, from groups of people and from the environment to solve problems that are meaningful, relevant and contextualized."* Because of these two reasons, it was worth investigating if PBL could be effectively implemented in the present study as a means to enhance undergraduate students' reading English for business communication abilities, problem-solving skills, and positive attitudes toward PBL.

2.2 Course development

This part covers the review on PBL curriculum development as proposed by Wee (2004), language course development as proposed by Graves (2000), and English for business communication course development

2.2.1 PBL course development

The present study developed the problem-based business English reading course based on the process adapted from Wee's (2004) APBL (authentic problem-based learning) curriculum-design process. Wee (2004) uses the term APBL to differentiate from other PBL models. It is claimed that APBL is a generic process which is applicable to any discipline, profession or field (Wee and Kek, 2002). Below is the review on the issue.

The design of an APBL curriculum requires an orderly, logical approach (Wee and Kek, 2002). First of all, the outcome objectives for the learners should be decided. These may include the students' development in any selected process skills such as problem-solving, self-directed learning, teamwork skills, and so on. The students' acquisition of content knowledge relevant to the problems presented is an optional outcome objective. Once the outcome objectives are set, they help determine how the PBL process is to be designed and how the students are to be assessed. Next, the main and most frequent problems that the students will encounter after graduation should be determined. It is recommended that the problems should be designed to approximate real world problems and be as realistic as possible to facilitate inquiry. In 2004, Wee provided the following process to guide the design of APBL curricula. It includes (1) appointing a curriculum planning committee or task force, (2) determining the curriculum rationale, (3) formulating exit outcomes, (4) determining the curriculum organization, (5) crafting and aligning problems to the

exit outcomes, (6) designing and aligning the learning process to the exit outcomes, (7) designing and aligning the assessment plan to the exit outcomes, and (8) evaluating and revising the curriculum. Although Wee's (2004) APBL curriculum-design process was adopted for an APBL curriculum in the marketing program at Temasek Polytechnic, Singapore, the present study did not adopt this process for the development of a problem-based business English reading course, but rather adapted it to best suit the field of English language instruction.

2.2.2 Language course development

Modification based on a general curriculum development framework, especially that of Taba's (1962), Graves (2000) proposed a framework for a language course development process with no hierarchy in the process and no sequence in its accomplishment. It was pointed out that a course designer can begin anywhere in the framework, as long as it makes sense to him/her to begin where he/she does. Graves' framework was designed for language teachers based on teacher's voices, frameworks and investigations. The foundation of course development process includes articulating beliefs and defining one's context (the teacher's beliefs about the language, the social context of language, learning and learners, and teaching). Then the course design process can begin wherever the teacher problematizes his/her situation. In other words, Graves (2000) suggests a *systems* approach to course design. That is course design is a system in the sense that planning for one component will contribute to others; changes to one component will influence all the others. The core process includes assessing needs, formulating goals and objectives, conceptualizing content, developing materials, organizing the course, and designing an assessment plan. The following are important details concerning Graves' (2000) course development process, which provide contributions to the present study. First, it was asserted that needs assessment has been an important feature of English for Specific Purposes (ESP). She recommended that to meet students' needs, information to collect should first include both the current state of students in terms of their language ability and learning preferences, and the desired goals or change. Second, formulating goals and objectives provides a basis for making choices about what to teach and how. Objectives play an important role because they serve as a bridge between needs and goals. Third, conceptualizing content involves thinking about what a teacher wants his/her students to learn to both meet their needs and the purpose

of the course. Moreover, it requires making decisions about what to include and emphasize and what to drop. Conceptualizing content should be done in a way that will help a teacher see the relationship among various elements of the course development. Fourth, developing materials is the next step to accomplish the goals and objectives of the course. Material development means creating, choosing or adapting, and organizing materials and activities so that students can achieve interim objectives that will help them reach the course goals. Fifth, organizing the course helps pull together the content and material in accordance with the goals and objectives. This shapes and structures the course. Sixth, an assessment plan plays three interrelated and overlapping roles in course design. The first role is assessing needs, the second assessing students' learning, and the third evaluating the course. The assessment can be both formative and summative. Formative assessment occurs while the course is in progress. It provides information about what students have achieved, what they need to work on, and how well the course is meeting their needs. Summative assessment takes place at the end of the course to provide information about students' overall achievement as well as the overall success of the course. The assessment plans assist the teacher in making both ongoing and final decisions about the course. The course can, therefore, be appropriately and timely modified to promote learning.

Based on the review of both PBL and language course development, it was seen that Wee's (2004) process lacks needs analysis and conceptualizing content while Graves' (2000) process doesn't have crafting and aligning problems, learning process, and an assessment plan for the exit outcomes. Since to effectively develop a problem-based business English reading course, course development process should best suit both PBL and ESP course design at the same time. As a result, Wee's (2004) APBL curriculum-design process was selected and adapted for the present study. The process of the problem-based business English reading course development included (1) reviewing the literature and analyzing needs, (2) determining the organization of the course, (3) writing the course rationale, (4) formulating learning objectives, (5) conceptualizing content and crafting and aligning problems to meet the learning objectives, (6) designing and aligning the learning process with the learning objectives, (7) designing and aligning the assessment plan with the learning objectives, (8) developing materials, and (9) evaluating and revising the course.

2.2.3 English for business communication (EBC) course development and business communication (BC) course development for ESL students

Needs analysis is an important feature of any English for Specific Purposes course (Graves, 2000). Both EBC and BC courses for ESL students are considered ESP. Thus, developing either EBC or BC courses for ESL students requires needs analysis as its basis (Bretag, 2001; Kankaanranta and Louhiala-Salminen, 2007). According to Graves (2000), to meet students' needs information to collect should include both the current state of students in terms of their language ability, learning preferences, and the desired goals or change. Goals of an EBC course are to enhance the students' EBC skills. Based on EBC textbook analyses (e.g. "English for Business Communication" (Sweeney, 2003) and "Further Ahead" (Jones-Macziola and White, 1998), it was found that EBC textbooks were mainly skills-based. The skills included various business communication skills such as socializing, telephoning, presenting and negotiating. These skills were presented under some selected current important business issues concerning business communication effectiveness. Business communication issues or topics included cross-cultural awareness, business ethics, business etiquette, and communication technology.

While EBC courses are usually skills-based in nature, content-based language instruction has been introduced into BC courses for ESL students. In accordance with "Language Across the Curriculum and Language for Specific Purposes" movements, Bretag (2001) has used content-based language instruction for the ongoing development of her business communication courses involving international undergraduate and graduate students of the School of International Business at the University of South Australia. She found that using core business subject content is the means of developing both the students' language competencies and their business communication skills. Westerfield et al (1985), Wallace (1986), and Worley and Dyrud (2007) also support the use of content-based language instruction in BC courses for ESL students. In content-based classes, nonnative business communication students read, listen, discuss, and write about a current topic in the business world (Wallace, 1986).

Making content-based instruction more specific for L2 BC students, Allen and Rooney (1998) proposed the use of a PBL environment. Business communication topics were introduced to the students in the form of real-world

problem situations. This motivated more learning responsibility. It also enhanced essential process skills for international business communication. The process skills included problem solving, critical thinking, and team skills. Zhao and Alexander (2004) reported that these process skills reinforced the students' short term and long term performances in business communication.

Based on the above review, it can be concluded that both EBC and BC courses for ESL students are English for Specific purposes (ESP) courses. Both courses require needs analysis as their basis. The results from a needs analysis determine the course objectives and content. While EBC courses are usually skills-based, BC courses for ESL students are content-based. The aim for using content-based language instruction with BC courses for ESL students is to simultaneously enhance students' business communication learning and second language acquisition. To make content-based language instruction more specific and more powerful for ESL students, PBL was introduced to their BC courses.

2.2.4 Research in English for business communication (EBC) course development and business communication (BC) course development for ESL students.

Below are one example of EBC course development and two examples of BC course development for ESL students. They provided guidance and implications for the development of the business English reading course using PBL.

Sunthornwatanasiri (2000) developed an English writing for business communication course based on outcome-based education principles for bachelor's degree students in Business Administration majoring in Business English. There were two stages in the course development. One was the construction, and the other the evaluation of the course. The first stage included the study of fundamental information based on a literature review and needs analysis. Then the course components were constructed. The second stage included expert validation of the course components. After that the course was taught experimentally. Participants were a purposively sampled group of thirty-six undergraduate students in Business Adminstration majoring in Business English at Rajamangala Institute of Technology, Borpitpimuk Mahamek Campus. It was found that the experimental group's posttest mean scores in English writing for business communication, communicating in the English language, critical thinking and self-directed learning were significantly higher

than the pretest mean scores at the .05 level. However, the experimental group's posttest mean scores in cooperative working and responsibility for work were not different from the pretest mean scores.

Allen and Rooney (1998) developed a business communication course for ESL students at Western Michigan University, Kalamazoo, by using PBL. The PBL environment focused on the students' use of problem solving, critical thinking and team skills during their group work. The course lasted twelve weeks. Data collection included self-assessment reports, group analysis on a short case study, written and oral reports on two business problems, and some observations. Findings showed that a PBL environment enhanced students' written products and business communication skills. It was reported that this was due to the students' motivation to work on problems that were realistic and related to their business interests.

Bretag (2001) developed a content-based BC course in the School of International Business at the University of South Australia, based on the content-based model of teaching ESL (Brinton et al., 1989). The content modules were based on students' needs. A key element in developing the course was the collaborative relationship between content specialist and ESL practitioner. The course was proven to provide quality, integrated academic and language skills to the university's international students.

Based on the above review, it can be concluded that needs analysis, specifically pre-course, is regarded as a necessary element for the effective development of both EBC courses and BC courses for ESL students.

Based on EBC textbook analysis, it was found that EBC courses were usually skill-based, while BC courses for ESL students were content-based. Content-based language instruction in business communication courses for ESL students enabled the students to simultaneously acquire English as a second language skills and business communication skills. To enforce the full potential of content-based instruction of BC classrooms for ESL students, the use of PBL was recommended. PBL made content-based language instruction more motivating due to real-world problem situations relating to ESL students' business interests. Moreover, it resulted in content-based language instruction being well organized based on its PBL process. This review helped determined the overall content-based structure of the business English reading course using PBL. That is, the course syllabus was based on problem situations relating to business communication topics best suited to the students' needs

in terms of content knowledge. This made the students' reading meaningful while the PBL process enhanced both EBC reading abilities and problem-solving skills.

2.3 Learning outcomes

The business English reading course using PBL was developed to enhance three learning outcomes for undergraduate students at the University of the Thai Chamber of Commerce. These outcomes were reading English for business communication abilities, problem-solving skills, and positive attitudes toward PBL. The first learning outcome was their reading English for business communication abilities. In this information age, reading skill is important for students to become life-long learners. Research by Pradubpongse and Thatsanathep (2001) found that reading skill was perceived by IT managers as the most important skill, followed by listening, speaking, and writing, respectively. The second learning outcome was problem-solving skills. PBL was implemented to provide not only meaningful reading communities for students, but also to enhance their problem-solving skills to meet the 21st century needs in education by developing their intelligences. The third learning outcome was positive attitudes toward PBL. Since student attitudes toward a teaching method can have an effect on their learning, the business English reading course using PBL also aimed to enhance their positive attitudes toward PBL. The following section reviews the three learning outcomes of reading English for business communication abilities, problem-solving skills, and positive attitudes toward PBL.

2.3.1 Reading English for business communication abilities

2.3.1.1 Reading ability

According to Alderson (2000), reading ability refers to the ability to understand the text. This ability relates to how one reads. Throughout the reading process, numerous reading skills are required. These skills range from word recognition to metacognitive knowledge and monitoring. They are considered factors that affect the student's reading ability. According to Nasello and Berrent (2006), fourteen essential skills for reading success include (1) recalling facts and details, (2) identifying the main idea, (3) identifying sequence, (4) analyzing language and vocabulary, (5) analyzing character, plot, and setting, (6) recognizing cause and effect, (7) comparing and contrasting, (8) distinguishing fact from opinion, (9) predicting outcomes, (10) drawing conclusions, (11) making inferences,

(12) analyzing point of view and purpose, (13) identifying literacy forms and sources of information, and (14) applying prior knowledge. However, in terms of reading ability assessment, the student's ability to apply his/her prior knowledge to the reading passages is controlled rather than assessed (Alderson, 2000). In practical terms, a reading test should comprise passages which do not require special prior knowledge, for some students in particular, to comprehend the text.

2.3.1.2 Reading English for business communication abilities

Reading English for business communication includes the ability to understand and interpret various office documents. According to Alderson (2000), reading skills ranging from word recognition to metacognitive knowledge and monitoring are factors that affect the students' reading ability. Thus, the skills developed to read English in the field of business communication affect their ability in reading English for business communication.

English for business purposes are divided into English for general business purposes (EGBP) and English for specific business purposes (ESBP). EGBP courses teach pre-experience students four skills as in general EFL courses, but with materials set in business contexts, whereas ESBP courses teach job-experienced students, and focus on one or two language skills (Dudley-Evans and St. John, 1998). The business English reading course using PBL was developed to be in the EGBP stream. Unlike EGBP courses in general, though, the course was developed as an integrated skills course with a focus on reading skills. The reading materials provided were business communication-oriented.

Reading skills taught in any English for business purposes (EBP) course can be called workplace reading skills or job-related reading skills (Schmidt, 1982). They are reading skills required for employees to complete their reading tasks. According to Ross (1977), three unique reading skills office workers use are proofreading, verifying, and comprehending detail. Since precise comprehension of the text is a primary factor for employees' success in business communication (Abrar-Ul-Hassan, 2009), and students generally have difficulties in comprehending details (Schmidt, 1982), requiring mastery of various reading sub skills, the problem-based business English reading course focused on reading skills that enabled students to comprehend job-related materials, including office materials

and any business-oriented texts, thus helping to expand their understanding and knowledge regarding business communication.

Based on English for business communication textbook analyses in the present study, English reading skills required for business communication are quite similar to those for general reading success, as proposed by Nasello and Berrent (2006). Reading skills that differ are minimal. For example, instead of analyzing character, plot and setting and identifying literacy forms and sources of information, English for business communication textbooks in general emphasize other reading skills, such as recognizing business terms and expressions, and following instructions or manuals. As a result, thirteen commonly found reading skills in English for business communication textbooks were used to assess reading English for business communication abilities in this study. The thirteen reading skills were identifying the main idea, identifying detail, making inferences, distinguishing fact from opinion, recognizing cause and effect, comparing and contrasting, identifying sequence, predicting outcomes, finding solutions, drawing conclusions, recognizing business terms and expressions, following instructions or manuals, and analyzing point of view and purpose. This assessment determined the extent to which undergraduate students improve in reading English for business communication after completing the course using PBL. In other words, the students' improvement in these English for business communication reading skills was an indicator of the students' increase in their English for business communication reading abilities.

2.3.1.3 Research in reading English for business communication

Research in reading English for business communication concerns the studies of Crompton and Head (2003) and Chaisuriya (2006). The participants in each research were, however, not ESL/EFL students, but Business Faculty students and graduate students of Business respectively.

Crompton and Head (2003) reported on the content and methodology employed in a recent English course for business faculty students. The course aimed to promote the reading of discipline-based texts and authentic web-based business texts. Students developed a market research instrument and presented a business plan to an audience of potential "investors." Readings about successful contemporary entrepreneurs were used to stimulate both student motivation and

awareness of issues relating to SME development. The tasks chosen gave the students the opportunity to develop and demonstrate their English language skills while applying the content of their business and management related courses. Course evaluations indicated that the theme of entrepreneurship was considered both motivating and relevant to the students' future careers.

Chaisuriya (2006) examined types of English reading skills that graduate students of Business need as well as identifying their English reading problems. The researcher used questionnaires to collect the data from one hundred and fifty-four subjects who were graduate students in the Department of Business Administration, Faculty of Humanities and Social Sciences, Burapha University. The research found that the graduate students of Business graded themselves "C" for their English language ability. Types of materials they read most often were e-mails, website contents, short notes, product details, academic texts, manuals, and reports, respectively. Students with executive positions read English documents significantly more often than students with supervisory and operation positions. Students' English reading problems ranked from a moderate level to high. The high level resulted from a limited vocabulary. They had a moderate level of problems in inability to interpret idioms and expressions, slow reading, finding main ideas and supporting details, understanding the author's viewpoints, and understanding the English structure.

These research studies imply that reading motivation plays an important role in promoting reading English for business communication abilities. Reading texts to stimulate the students' motivation to read should be authentic and concern issues relating to business knowledge that interest the students. Types of reading materials selected for the business English reading course should be those that will most likely be read most often by the students after graduation.

2.3.2 Problem-solving skills

Problem solving is considered the most complex of all intellectual functions. It has been defined as a higher-order cognitive process that requires the modulation and control of more routine or fundamental skills (Goldstein and Levin, 1987). Basically, problem solving is the process of reasoning to find solutions using more than simple application of previously learned procedures (Keller and Concannon, 1998). It is a systematic process in which concerns are identified and defined, actions taken, and solutions evaluated (Miller and Nunn, 2001). According

to Bahous (2001), problem solving skills are necessary process skills for EBC students because these skills are required to achieve a particular work or task, based on predetermined steps, from the beginning to the end according to the planned objectives. To summarize, problem solving skills are used to solve a problem situation or task, based on problem solving steps, from the beginning to the end according to the planned objectives.

There are four problem solving sub-skills. According to Weir (1974), the four sub-skills are defining the problem, analyzing the problem, proposing solution(s), and justifying the results of the solution. Britz (2006) used the term 'problem-solving processes,' rather than 'problem-solving sub-skills', which include identifying the problem, brainstorming a variety of solutions, choosing one solution and trying it out, and evaluating what has happened.

Problem-solving skills can be promoted in classrooms. It is recommended using TIPS (Wee, 2004) to hone problem-solving sub-skills. TIPS include the following:

'***T****rigger student learning by perceiving the problem from their angle and engaging their prior knowledge to make sense of the problem.*
I*nquire to clarify and identify the problem.*
P*ropose ideas to mange the problem.*
S*eek and synthesize new knowledge to manage the problem.'*

Moreover, problem-solving skills can be enhanced by instructional methods such as PBL (Bridges and Hallinger, 1995; Camthana, 1995; Klaimongkol, 2002; Wee and Kek, 2002; Uys et al., 2004; Clouston, 2005).

In terms of problem-solving skills assessment, it has been shown that problem solving skills can be assessed by using either product-oriented or process-oriented instruments (Wee, 2004). Furthermore, all problem solving sub-skills should be assessed at the same time. To put it simply, the students' problem solving skills should be assessed while they are working on a problem solving task (Quellmalz, 1985).

To conclude, problem-solving skills are essential process skills. They consist of four sub-skills—defining the problem, analyzing the problem, proposing solution(s), and justifying the results of the solution. The student's practice and use of these problem solving skills can be promoted in classrooms by means of PBL. A PBL environment offers students opportunities to 'problem-solve' real-world problem

situations, and the four problem solving sub-skills can be simultaneously assessed. In the present study, problem solving skills were assessed by using the problem solving skills inventory. This assessment inventory was constructed as proposed by Weir (1974).

2.3.2.1 Research in problem-solving skills

Research on problem solving skills include studies conducted by Camthana (1995), Saengrutsamee (2000), Klaimongkol (2002), Zhao and Alexander (2004), and Uys et al (2004) as follows.

Camthana (1995) studied the effects of PBL on nursing students' ability to solve problems related to nursing of the aged in nursing colleges under the jurisdiction of the Ministry of Public Health. The findings were that nursing students' ability to solve problems related to nursing of the aged after receiving the problem-based instruction was significantly higher than before, and significantly higher than those of students receiving traditional instruction at the significant level of .05.

Saengrutsamee (2000) investigated the effects of PBL on self-directed learning, environmental science achievement, and satisfaction toward instruction. The test to assess the students' environmental science knowledge consisted of two parts with sixty multiple-choice questions. The first part with forty questions assessed the students' memorization and comprehension of environmental science. The second part assessed the students' application of environmental science knowledge based on their problem-solving skills. Based on Weir (1974), this second part of the test covered five situations. Each situation was followed by four multiple-choice questions. These questions required four sub-skills in problem solving which included defining the problem, analyzing the problem, proposing solution(s), and justifying the results of the solution. The four questions asked about the problem, the cause of the problem, a possible solution, and the results of the solution. The finding was that students learning by PBL had higher post-test mean score on environmental science achievement than that of the pretest at the .01 level of significance, but the post-test mean score of the students learning by PBL was not different from mean score of the students learning by a convention method.

Klaimongkol (2002) developed an instructional process by applying PBL to enhance the mathematical competencies of Prathom Suksa Five

gifted students in mathematics. The mathematical competencies test with its rubrics was used to assess problem solving skills, reasoning skills, connection skills, communication skills, and representation skills. The test was set around five problem situations relating to calculation in mathematics. Each problem situation comprised five questions. One of these five questions was for assessing the students' problem solving. Thus, there were altogether five problem solving questions throughout the test. In terms of problem-solving skills, the finding was that the PBL instructional process was effective in developing the students' problem-solving skills.

Zhao and Alexander (2004) conducted a longitudinal study to identify the short-and long-term impact of business communication education on students' skill development and performance outcomes. Nearly four hundred students participated in the study during their sophomore and senior years. Data concerning problem solving skills were collected via questionnaires. The findings were positive.

Uys et al (2004) conducted a qualitative research to evaluate the outcomes of PBL programs in nursing schools in South Africa in terms of the competence of graduates to solve problems in actual clinical settings. The findings showed that the PBL group fared better than the non-problem-based group in the level of their problem-solving ability. Moreover, PBL helped in the transferring of problem-solving skills to new problem situations.

Based on the review above, it can be concluded that PBL-based instruction enhances problem solving skills. These problem solving skills are assessed by providing problem situations followed by problem solving questions. These questions assess the four sub-skills of problem solving, and could be multiple-choice or open-ended. If an open-ended type is selected, a rubric to establish criteria is needed. The present study assessed the students' problem-solving skills by using a problem solving skills inventory. The inventory was set around five problem situations relating to the content of the course. Each problem situation consisted of four multiple-choice questions designed to assess the four sub-skills in problem solving.

2.3.3 PBL attitudes

Attitude is a state of mind (Allport, 1935). It comprises three components—cognitive, affective, and psychomotor (McGuire, 1969). Attitude, especially the students' learning perspective on teaching and learning, plays an important role in education. It enables teachers to reflect on more effective teaching and learning conditions that can thus improve students' achievement (Khalid, nd).

Since student induction into PBL is an important factor in the success of PBL implementation (Little, 1997; Peterson, 2004), students' PBL attitudes reflect the weaknesses and strengths of problem-based classes, especially in terms of teacher and student roles. This allows the teacher to see how his/her problem-based classes become successively more successful.

Moreover, students' attitudes about PBL are related to the success of PBL implementation. Attitudes are one of three factors (certain values, attitudes and behaviors) which help sustain the PBL learning process (Udani, n.d.). PBL is student centered; students need to take an active role in the PBL environment. They are required to employ active learning strategies and adopt a self-directed learning disposition (Ngeow and Kong, 2001). In other words, they should take initiative and responsibility to direct and manage their own learning in a collaborative way (Gwee and Eng, 2005). If students have too many negative attitudes toward PBL from the beginning of their problem-based classes, because perhaps of a bad PBL experience, these negative attitudes will automatically obstruct their active learning and negate their learning responsibility. This will cause PBL to absolutely fail. On the contrary, if students have positive attitudes toward PBL, students will be challenged by PBL to learn and PBL implementation will have a greater opportunity for success. This is a reason why PBL researchers have explored positive attitudes of students participating in the problem-based environment (Morales-Mann and Kaitell, 2001; Chikotas, 2005; Hussain et al., 2007; Alper, 2008).

Attitude can only be indirectly assessed based on the test takers' indication of the magnitude of their positive or negative attitude (Scott, 1969). As a result, a questionnaire is a widely used instrument to assess attitude. Questionnaires allow informants' to self-report. Researchers can infer information from data obtained from the questionnaires.

Since PBL attitudes play an important role in the students' retention of the learning process, and the improvement of any newly developed PBL courses, the

present study also collected and analyzed the students' PBL attitudes by using an end-of-course PBL attitude questionnaire.

2.3.3.1 Research in PBL attitudes

Research has shown that students experiencing problem-based courses in various fields of study usually had positive PBL attitudes (Morales-Mann and Kaitell, 2001; Chikotas, 2005; Hussain et al., 2007). Students reported that PBL made their learning alive and it promoted process and communication skills. However, their level of satisfaction with problem-based classrooms was not different from that of the traditional classrooms (Miller, 2003). (More details concerning this issue can be seen on pages 21-23 under topic: Research in PBL on PBL attitudes).

2.4 Chapter summary

The review of the literature has illustrated issues relating to problem-based learning (PBL), course development, and learning outcomes of the current study. PBL is an instructional method in which problem situations are starting points for learning the content. The main goals of PBL are to promote process skills and subject knowledge. Among process skills, problem-solving skills are in general the focus of any problem-based courses. Research strongly supports that PBL produces effective problem solvers. Students who have experienced PBL usually report positive attitudes toward PBL. Moreover, PBL has been found to be beneficial for ESL students because PBL process also enhance communication skills. Research has shown that in problem-based business communication classrooms, students were encouraged to use both receptive and productive skills. This enabled students to simultaneously improve communication skills and subject knowledge. In terms of reading, students were further motivated to read a number of materials for problem solving. PBL thus provided meaningful reading communities. This fact might enable EFL students of the present study to improve their reading ability by doing something else or by solving the problems.

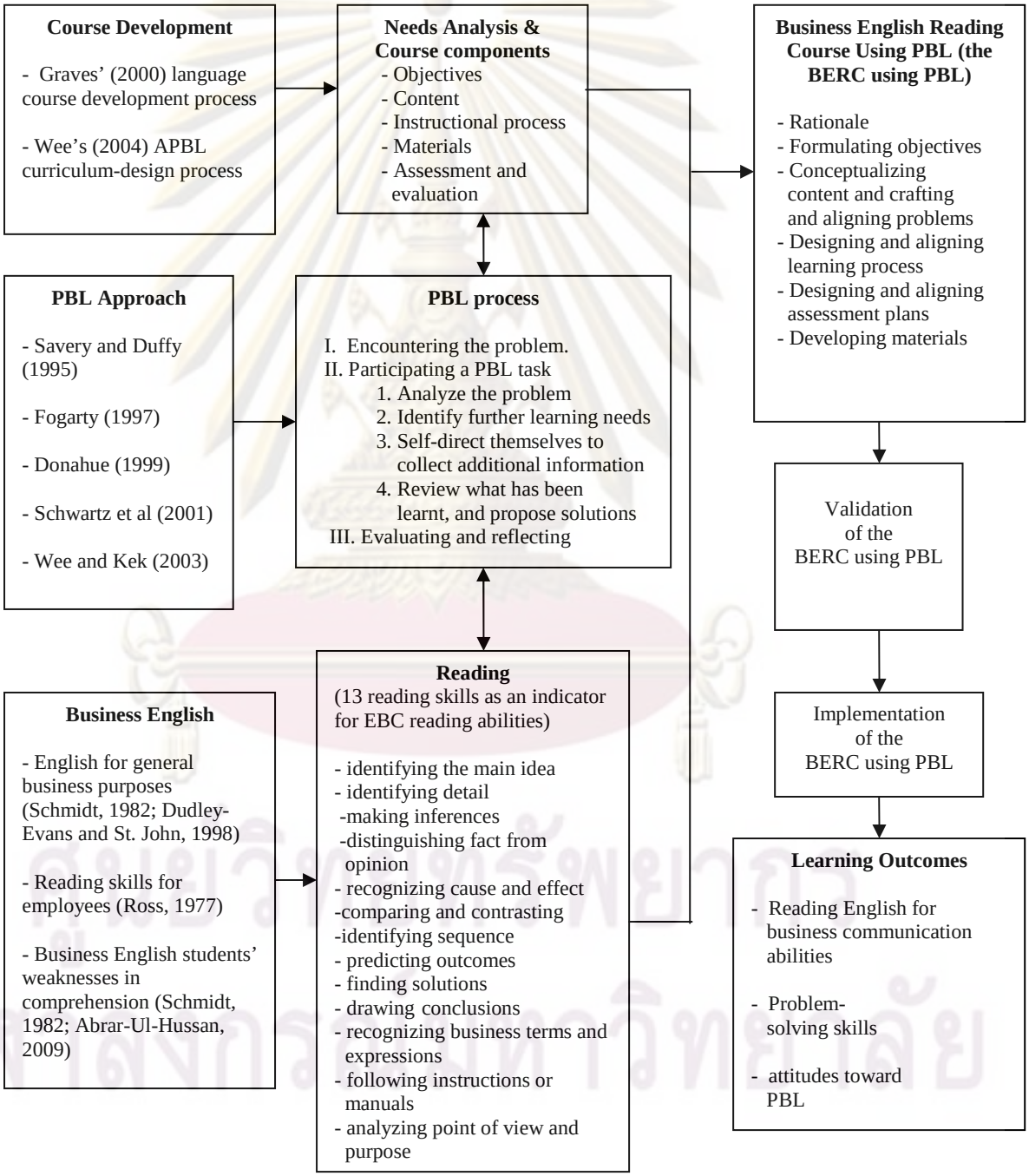
The literature review on course development provides information concerning PBL course development, language course development, English for business communication course development, and business communication course development for ESL students. PBL course development and language course

development were compared. It was found that adapted Wee's (2004) APBL curriculum-design process best suited ESP students of the current study.

The last topic of the literature review covers the three learning outcomes of the present study. They include reading English for business communication abilities, problem-solving skills, and PBL attitudes. The review shows that students' reading skills affect their abilities in reading. Thus, to assess the students' reading English for business communication abilities, English reading skills in the field of business communication are assessed. Based on analyses of English for business communication textbooks, thirteen reading skills are commonly represented. They include identifying the main idea, identifying detail, making inferences, distinguishing fact from opinion, recognizing cause and effect, comparing and contrasting, identifying sequence, predicting outcomes, finding solutions, drawing conclusions, recognizing business terms and expressions, following instructions or manuals, and analyzing point of view and purpose. The present study, then, assessed these commonly found reading skills to determine the extent of students' abilities to read English for business communication subsequent to a problem-based business English reading course. The second learning outcome of the present study was the students' problem-solving skills. Research found that problem-solving skills could be promoted by PBL. Problem-solving skills consist of four sub-skills. They are defining the problem, analyzing the problem, proposing solution(s), and justifying the results of the solution. To assess problem-solving skills, these four sub-skills are assessed at the same time. In the present study, problem solving skills were assessed by providing problem situations followed by problem solving questions based on the four sub-skills. The last learning outcome of the present study was the students' PBL attitudes. Research has shown that students in general were satisfied or highly satisfied with PBL. However, their satisfaction of problem-based classrooms was not different from that of the traditional ones. Attitude can only be indirectly assessed based on the magnitude of students' positive or negative expressions. Based on this fact, a five-point Likert scale questionnaire asking both positive and negative questions was implemented at the end of the business English reading course using PBL. Moreover, PBL logs were twice distributed to students, once after unit two and at the end of the course.

Theories and research on PBL scaffolded the teaching-learning processes of the current study. The review of literature on course development formed the research framework. The review on learning outcomes helped shape the research design and provided guidelines for data collection. Figure 2.2 illustrates diagram of the research framework. In the next chapter, the research methodology will be presented.

Figure 2.2: Diagram of the research framework



CHAPTER III

RESEARCH METHODOLOGY

This chapter starts with a development of the problem-based business English reading course. Then, it describes the implementation of the course.

3.1 Development of the business English reading course using PBL

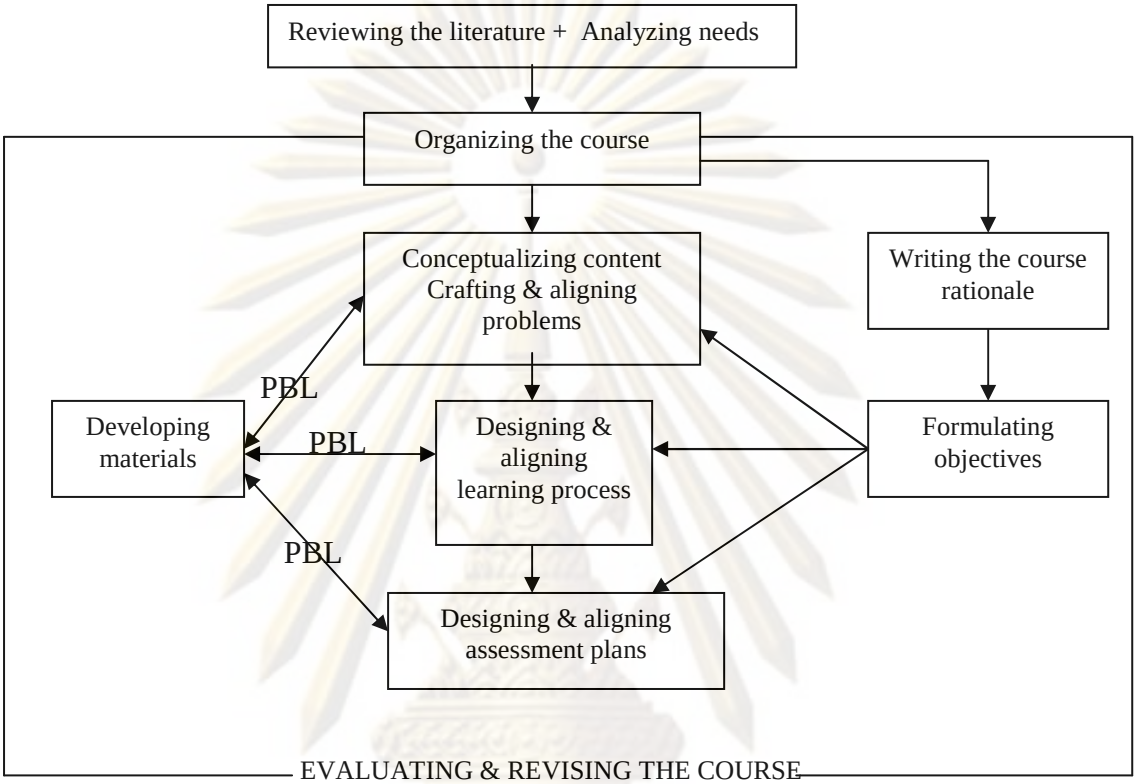
This part reveals how the business English reading course using PBL was developed. It concerns (1) processes for the course development, (2) needs analysis, (3) results of the needs analysis, (4) incorporation of the needs analysis findings into formulating the course objectives and conceptualizing content, (5) determination on the course organization, (6) development of problem situations, design of the learning process and assessment plans, (7) validation of the course components, (8) developments of the course materials, and (9) pilot-testing of the materials.

3.1.1 Process for the problem-based business English reading course development

Graves's (2000) language course development process and Wee's (2004) APBL curriculum-design process were studied in order to find an appropriate course development process for the problem-based business English reading course, as can be seen in Figure 2.2. Since Graves's (2000) language course development process is not specifically for the implementation of PBL, while Wee's (2004) APBL curriculum-design process is for PBL implementation but not for language instruction, Wee's (2004) APBL curriculum-design process was adapted for the development of the business English reading course using PBL. Graves's (2000) language course development process and Wee's (2004) APBL curriculum-design process are reviewed on pages 26-27.) Figure 3.1 illustrates the problem-based business English reading course development process. The process begins with a review of literature and analysis of student needs. After determining the organization of the course and writing the course rationale, the course objectives were then formulated and the content conceptualized based on the needs analysis findings. Next, problem situations, learning process and assessment plans were crafted in line with PBL principles and aligned to meet the course objectives. After that, also based

on PBL principles, the course materials were developed for the problem situations, learning process and assessment plans. Finally, the course was evaluated and revised**.**

Figure 3.1: Process for the problem-based business English reading course development



3.1.2 Needs analysis

A needs analysis for the present study was conducted to determine students' needs in order to provide a basis for the course's learning objectives, content and materials.

3.1.2.1 Population and samples

The population of the needs analysis included three groups. The first group were former English for Business Communication-major students of the Faculty of Humanities, University of the Thai Chamber of Commerce (UTCC), who graduated in the academic years 2004, 2005, and 2006. The second group comprised English for Business Communication instructors of the Faculty of Humanities, UTCC. The last group included employers and employees who work in airline, hotel, and tourism businesses in Bangkok.

These three groups were selected as population for the needs analysis of the present study because of the following reasons. The responses from the employers/employees could reveal information about the target situation needs. A target situation analysis is professional information about the learners; the tasks and activities in which learners will be using English (Dudley-Evans and St. John, 1998). The target situation needs of the present study refer to the purposes for reading English for business communication and business communication topics which employers and employees think graduates majoring in English for business communication should be aware of so that they can work efficiently in the service industry field—airline, hotel and tourism businesses. The answers of recent graduates majoring in English for business communication of the School of Humanities, UTCC could provide information about what purposes for reading English for business communication and business communication topics they think graduates majoring in English for business communication should be aware of when working. These graduates have work experience in diverse careers (airline, hotel, tourism, banking, etc.). Thus, the findings from this group did not reflect the target situation needs in particular, but more specifically English for business communication majors' learning needs and wants. According to Dudley-Evans and St. John (1998), wants are subjective needs which concern personal information about the learners. This information gained from the students' perspectives may concern what will be interesting and valuable lessons for English majors. Answers of the English for Business Communication instructors could reflect teaching and learning needs in the view of Department of English for Business Communication instructors, School of Humanities, UTCC. Their thoughts on important business communication topics and purposes for reading for their English-major students can affect the teaching-learning process. That is, if their ideas are different from the target situation needs of the employers/employees and the learning needs/wants of the students, a lesson designed solely based on their opinions might not be as valuable for the students as it should be. On the contrary, it can be misleading and will not represent the students' needs. Consequently, the aim of an ESP course—to answer the students' needs—would not be achieved.

Samples of the needs analysis comprised 102 graduates majoring in English for business communication, School of Humanities, UTCC, 16 instructors of the Department of English for Business Communication, School of

Humanities, UTCC, and 245 employers and employees working in airline, hotel, and tourism businesses in Bangkok. Table 3.1 presents the samples of the needs analysis

Table: 3.1: Samples of the needs analysis

Informant groups	Number of questionnaires analyzed
EBC-major Graduates	102
EBC Instructors	16
Employers/employees working in airline, hotel, and tourism businesses	245 (airline : hotel :tourism = 112 : 97 : 36)
Total	363

***Purposive sampling to obtain participants for employer-employee sub-sample group*:** Purposive sampling was done to obtain at least 100 employers and employees working in the field of airline, hotel, and tourism businesses for the questionnaire survey. This is the minimum number suggested for descriptive studies (Fraenkel and Wallen, 2000). The ratio needed for airline, hotel, and tourism business staff was 50 : 35 : 15. This ratio was determined based on the percent of UTCC English-major graduates working in airline, hotel, and tourism businesses during the academic year 2005. Informants for each business area were limited to heads of working units and those in higher positions.

For the airline business area, informants were drawn from four departments of Bangkok Airways, Northwest Airlines, and Thai Airways, all well-known companies in the airline industry. Thai Airways in particular has thousands of working unit heads and people in senior positions. The four departments were the Flight Operations Department, the Marketing and Sales Department, the Catering Department, and the Ground Customer Services Department.

In the hotel business area, informants were from five departments of six five-star hotels in Bangkok. They were Dusit Thani, Four Seasons, Grand Hyatt Erawan, Intercontinental, Royal Orchid Sheraton, and Shangri-la Hotel. These hotels were ranked by the Thai Hotels Associations. The five departments included Food and Beverage, Purchasing, Sales and Public Relations, House Keeping, and the Front Office.

Tourism business informants were from four departments of five inbound tour agents in Bangkok. They were Destination Asia, Dietham Travel, Pacific World, Tour East, and World Travel Service. These tour agents were authorized by the Tourism Authority of Thailand. The four departments included Marketing, Sales, Production, and Tour Departments.

3.1.2.2 Instrument for needs analysis

A questionnaire was selected as the instrument for the needs analysis in the present study because the use of questionnaires can produce a large amount of information about many different issues (Richards, 2001). This instrument will be discussed in four sections: construction, description, validation, and reliability process as follows.

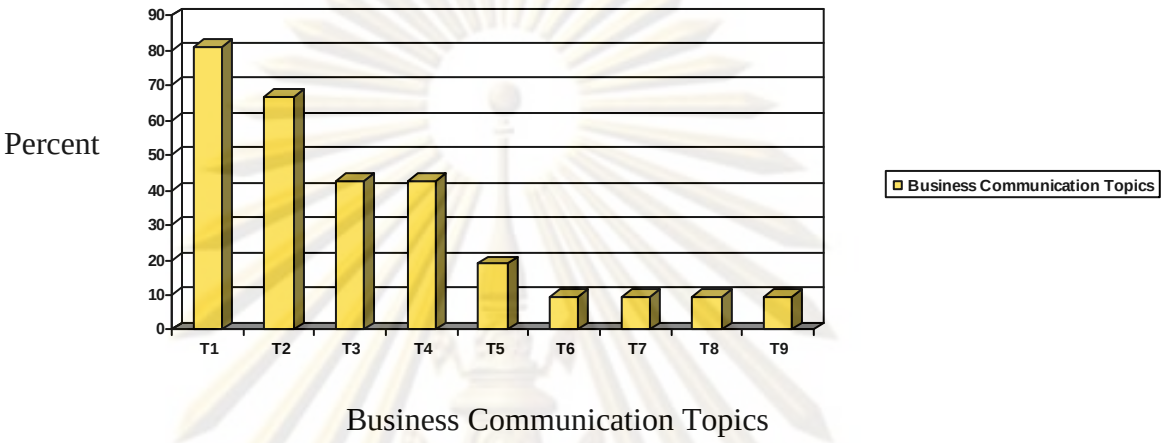
Construction of the needs questionnaire

The needs questionnaire was constructed to find the needs of undergraduate students majoring in English for business communication in terms of purposes for reading English for business communication and fundamental business communication knowledge needed when working in airline, hotel, and tourism businesses in Bangkok. The findings helped formulate the objectives and the content of the business English reading course using PBL. The construction of the needs questionnaire was as follows.

The content of the questionnaire was determined based on document analysis--the analysis of business communication, English for business communication and business English textbooks. This document analysis was conducted with thirteen business communication textbooks, five English for business communication textbooks, and three business English textbooks (Appendix J, page 173). The document analysis was based on the analysis of each textbook's contents pages, map of the book (if available), and activities provided throughout the book. It aimed at finding what English reading skills and what business communication topics were targeted in those textbooks. The results show that the textbooks contain nine business communication topics and ten purposes for reading English for business communication. Figure 3.2 shows the nine business communication topics: (a) Cross-cultural communication, (b) Business etiquette, (c) Business ethics,

(d) Communication technology, (e) Market research, (f) Management style, (g) Working motive, (h) Product analysis, and (i) Customer satisfaction.

Figure 3.2: Nine business communication topics found in the textbooks in percentages.



T1 = Cross-cultural communication
T2 = Business etiquette
T3 = Business ethics
T4 = Communication technology
T5 = Market research
T6 = Management style
T7 = Working motive
T8 = Product analysis
T9 = Customer satisfaction

Ten purposes for reading English for business communication were not calculated in percentages because these purposes were not directly stated in the textbooks. Therefore the calculation could not be clear-cut. The textbooks mostly included English reading activities indirectly when providing writing English for business communication. These ten purposes for reading English for business communication included (1) reading for meetings, (2) reading for presentations, (3) reading for negotiations, (4) reading for collaboration and socialization, (5) reading for promotion, (6) reading for business decisions and management, (7) reading for proposing ideas and opinions, (8) reading for information management, (9) reading for effective business communication, and (10) reading for multiple business perspectives and planning.

Description of the needs questionnaire

The questionnaire comprised two sections. The first section included the informant's personal information and experience. The second section comprised three parts: purposes for reading English for business communication, business communication topics, and problems found while working in business areas. The first two parts were in the form of Likert scales asking five degrees of agreement—strongly agree to strongly disagree. The last part asked open-ended questions. To maintain the validity considering informants' varying levels of English proficiency and their unfamiliarity with terms, a Thai version of the questionnaire was also constructed for actual administration of the questionnaire. (Appendix A, page 147)

Validation of the needs questionnaire

The needs questionnaire was validated by three experts in the field of English language instruction, business English instruction, and educational psychology (Appendix Q, page 194). They evaluated the needs questionnaire in terms of its format, length, content, English, and Thai translation. Each item was rated on a five-point scale, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree. Any item that scored below 4 was revised. Table 3.2 presents $\overline{X}$ of experts' overall evaluation of the needs questionnaire

Table 3.2: $\overline{X}$ of experts' overall evaluation of the needs questionnaire

Item	Questions	$\overline{X}$
1	The format of the needs questionnaire is appropriate (two rating- scale parts and one open-ended part)	3.66
2	Length of the needs questionnaire is appropriate.	4.66
3	Content of the needs questionnaire is appropriate.	4.66
4	English language of the needs questionnaire is appropriate.	4.33
5	Thai translation of the needs questionnaire is appropriate.	3.66

4.50-5.00 = strongly agree, 3.50 – 4.49 = agree, 2.50 – 3.49 = undecided, 1.50 – 2.49 = disagree, 1 – 1.49 = strongly disagree

Table 3.2 shows that all aspects of the needs questionnaire scored more than 3.49 and were considered appropriate. However, for better quality, format and Thai

translation of the needs questionnaire were revised according to the experts' comments.

Reliability process of the needs questionnaire

The needs questionnaire was piloted with thirty-three informants—six graduates majoring in English for business communication, six Business English instructors, and twenty-one employers and employees working in airline, hotel, and tourism businesses in Bangkok. Both graduate and instructor groups were from the Faculty of Humanities, University of the Thai Chamber of Commerce. Table 3.3 presents the numbers of informants participating in the needs questionnaire pilot study.

Table 3.3: Numbers of pilot-study informants of the needs questionnaire

EBC-major Graduates	BE Instructors	Employers/Employees		
6	6	airline 9 Malaysia Airlines	21 hotel 8 Royal Princess	tourism 4 English speaking freelance guides

After data were collected, SPSS was used to calculate the reliability of the needs questionnaire. It was found that the reliability of the needs questionnaire was .897 (Cronbach's Alpha) and it was reliable to adopt for the needs analysis of the present study.

In summary, the questionnaire was constructed as the needs analysis instrument for the present study. It was designed based on document analysis of various textbooks in the field of business communication, business English, and English for business communication. Apart from the informant's personal information section, the questionnaire had three main sections. The first section asked about purposes for reading English for business communication. The findings from this section would help determine the course's learning objectives. The second section asked about business communication topics. The findings from this section

would help determine the content of the course as well as materials to be used. The last section was about problems found while working in business areas. The findings from this section would help design problem situations.

3.1.3 Results of the needs analysis

Following are the results of the needs analysis relative to the three parts of the needs questionnaire. The first two parts aimed to determine the course objectives and the course content, while the third part aimed to guide selection of materials for the course.

These three parts asked the following questions. (1) Reading purposes for communication in your business area include …[five-point Likert scale], (2) Business communication topics you think English-major graduates should possess in order to be better qualified are ...[five-point Likert scale], and (3) 'Based on your direct or indirect working experience, please give a short example of a problem situation which occurred due to the lack of, or insufficient knowledge of the business communication topics listed in Part Two [open-ended question]. Below are the findings according to the three parts as presented under the following sub-headings: Purposes for reading English for business communication, Business communication topics, and Problems found while working.

3.1.3.1 Purposes of reading English for business communication

The findings of this part are illustrated in Table 3.4. It shows $\overline{X}$ and S.D for reported purposes of reading English for business communication. There were 363 informants.

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Table 3.4: $\overline{X}$ and S.D for reported purposes of reading English for business communication (Purposes of REBC)

Purposes of REBC	$\overline{X}$	S.D
Reading for Effective Business Communication	4.41	.76
Reading for Proposing Ideas and Opinions	4.23	.78
Reading for Collaboration and Socialization	4.20	.79
Reading for Multiple Business Perspectives and Planning	4.18	.86
Reading for Business Decisions	4.17	.81
Reading for Information Management	4.11	.81
Reading for Presentations	4.01	.97
Reading for Negotiations	3.95	1.1
Reading for Meetings	3.74	1.0
Reading for Promotion	3.51	1.0

4.50-5.00 = strongly agree, 3.50 – 4.49 = agree, 2.50 – 3.49 = undecided, 1.50 – 2.49 = disagree, 1 – 1.49 = strongly disagree

As can be seen in Table 3.4 above, the top-five purposes for reading English for business communication included reading for effective business communication ($\overline{X}$ = 4.41), reading for proposing ideas and opinions ($\overline{X}$ = 4.23), reading for collaboration ($\overline{X}$ = 4.20), reading for multiple business perspectives and planning ($\overline{X}$ = 4.18), and reading for business decisions ($\overline{X}$ = 4.17).

3.1.3.2 Business communication topics

The findings of this part are illustrated in Table 3.5 on the next page. It shows $\overline{X}$ and S.D for reported business communication topics. There were 363 informants.

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Table 3.5: $\overline{X}$ and S.D for reported business communication topics

Business communication topic	$\overline{X}$	S.D
Customer Satisfaction	4.56	.61
Communication Technology	4.39	.62
Business Etiquette	4.31	.70
Business Ethics	4.21	.74
Intercultural communication	4.21	.76
Product Analysis	4.12	.82
Working Motive	4.09	.80
Management Style	4.04	.78
Market Research	4.04	.82

4.50-5.00 = strongly agree, 3.50 – 4.49 = agree, 2.50 – 3.49 = undecided, 1.50 – 2.49 = disagree, 1 – 1.49 = strongly disagree

As can be seen in Table 3.5 above, the top-five business communication topics were customer satisfaction ($\overline{X}$ = 4.56), communication technology ($\overline{X}$ = 4.39), business etiquette ($\overline{X}$ = 4.31), business ethics ($\overline{X}$ = 4.21), and intercultural communication ($\overline{X}$ = 4.21).

3.1.3.3 Problems found while working

The third part of the questionnaire asked about problems informants found while working in their business. The majority of informants did not complete this part, possibly because it was open-ended. Consequently, since the findings were insufficient, they did not contribute to the development of the course materials as intended. Thus the development of the materials was based only on the formulated course objectives and the conceptualized content, which will be described in the following section.

3.1.4 Incorporation of the needs analysis findings into formulating the course objectives and conceptualizing content

This section presents the incorporation of the needs analysis findings into developing the course. The findings in terms of purposes for reading English for

business communication helped formulate the course objectives. The findings in terms of business communication topics helped conceptualize the course content.

3.1.4.1 Objectives of the business English reading course using PBL

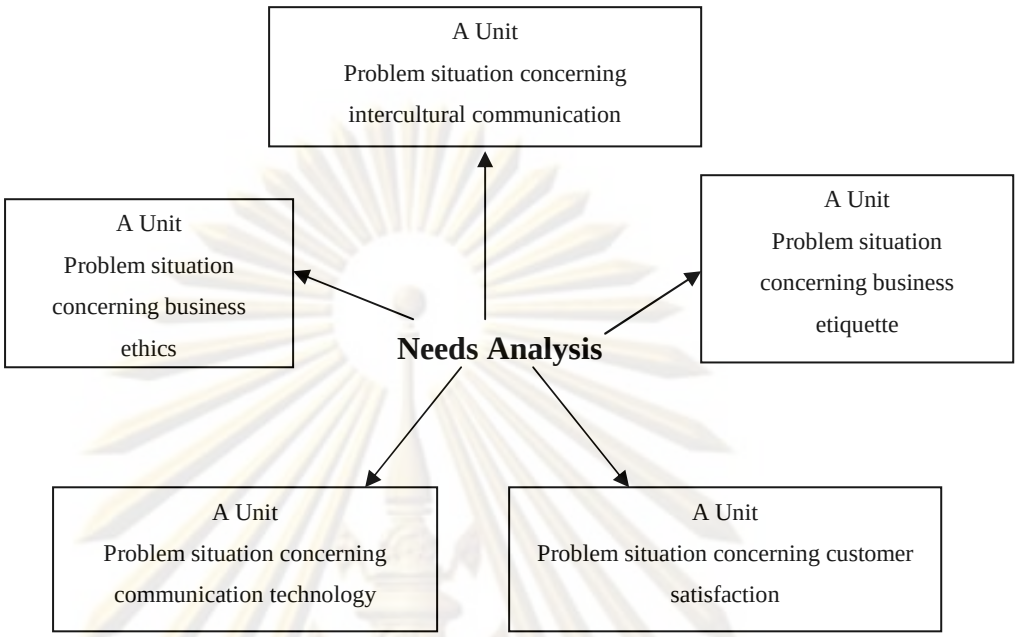
The objectives of the business English reading course using PBL were formulated based on the top-five purposes for reading English for business communication found. These reading purposes included reading for effective business communication, reading for collaboration, reading for multiple business perspectives and planning, reading for business decisions, and reading for proposing ideas and opinions. Based on these reading purposes, the following areas were built into the course objectives. That is, at the end of the course, the students should be able to (1) communicate effectively about business, (2) collaborate, (3) discuss and plan with multiple business perspectives, (4) make business decisions, and (5) propose ideas and opinions.

3.1.4.2 Content of the business English reading course using PBL

The content of the course was conceptualized based on top-five business communication topics found. These topics included customer satisfaction, communication technology, business etiquette, business ethics, and intercultural communication. These findings helped establish these top five business communication topics as the content of the business English reading course using PBL. That is one-unit of instruction covered one business communication topic. Thus, the course content had five units covering these five business communication topics.

Based on the PBL design, the content of the course was introduced in the form of problem situations. Figure 3.3 on the next page presents the course syllabus arranged by five problem situations according to five business communication topics. This figure illustrates that the course syllabus was set around five problem situations based on the top-five business communication topics from the survey. The five units included intercultural communication, business etiquette, customer satisfaction, communication technology, and business ethics. These units were not linear so any unit could be started first.

Figure 3.3: The problem-based course syllabus using five business communication topics



3.1.5 Determination on organization of the course

The business English reading course using PBL was a two-credit elective course lasting one semester, or sixteen weeks, with at least ten weeks of PBL implementation. Prerequisites were “Effective Reading” and “Analytical Reading” courses. It aimed to cover five units of airline, hotel, and tourism businesses-oriented instruction. Each unit introduced a problem situation according to five business communication topics, including intercultural communication, business etiquette, customer satisfaction, communication technology, and business ethics. A unit lasted at least four classroom periods. To complete a unit, students had to collaboratively solve each problem situation by participating actively the PBL process. Good teamwork skills were a major requirement for completing each problem-based project. Each student received a resource file for self-study. At the end of each unit, each group presented their solution to the class using a Power Point Program.

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3.1.6 Development of problem situations and design of the learning process and assessment plans for the problem-based business English reading course

This part first describes how five problem situations were developed Second, it reveals how the course learning process was designed. And finally, it presents how the assessment plans of the course were determined.

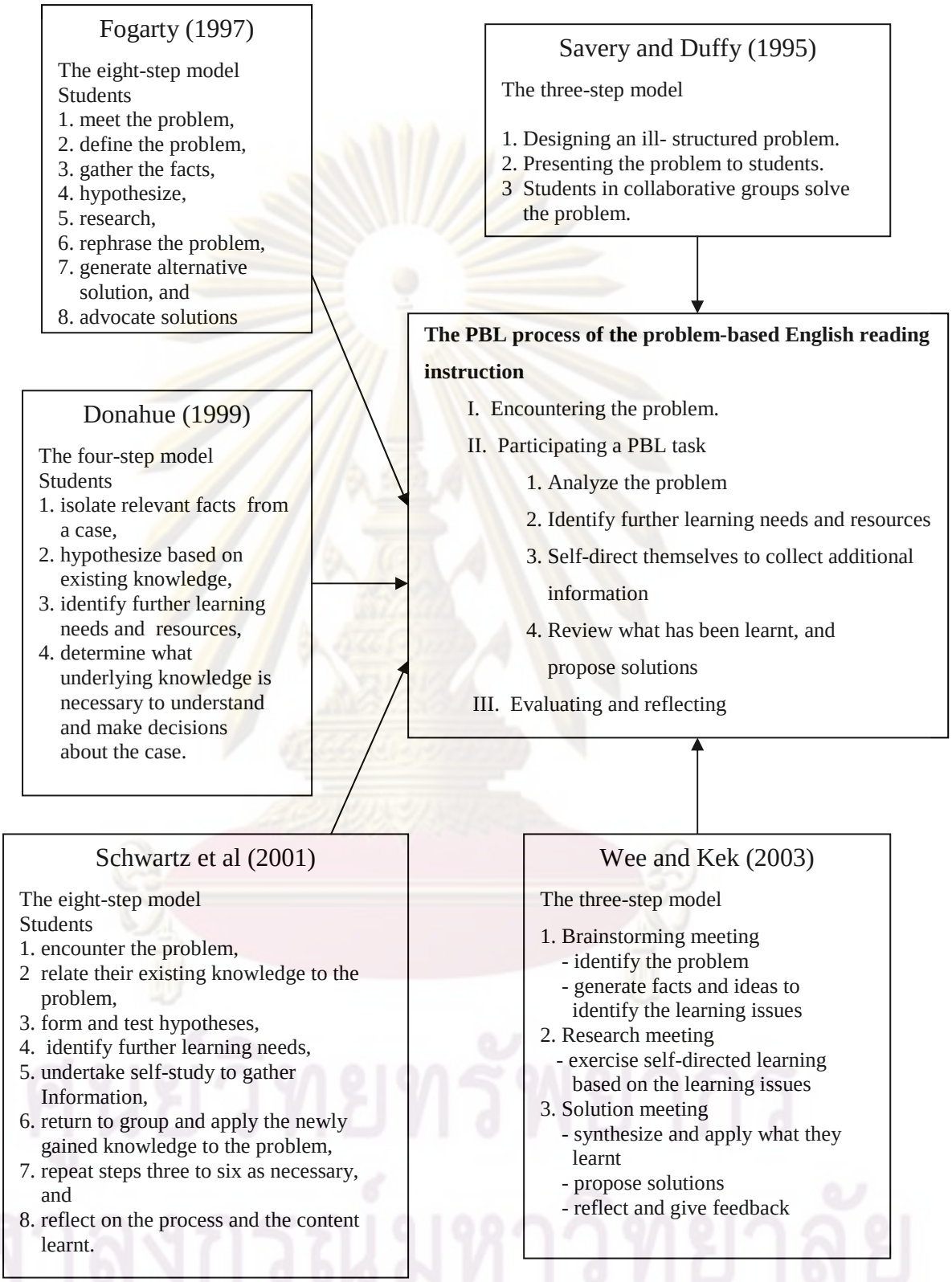
3.1.6.1 Problem crafting and alignment

Based on PBL principles, five problem situations were crafted and aligned with the course objectives and the course content. These situations were adapted from business-oriented case studies found in business/business communication journals and textbooks. A problem situation was written in the form of an office document such as a memorandum, letter, etc. The students assumed the role of the businessperson who received the document. Each problem was designed to be in a business setting representing airline, hotel, or tourism situations. They were also crafted and aligned to meet the course objectives; problem situations were designed in such a way that students were required to read English extensively for information to solve the problem. Moreover, these five problem situations were designed based on PBL principles. That is to say, they were designed to be as motivating as possible so that students would be challenged to solve the problem successfully. Table 3.6 presents an overview of a unit description with an abbreviated version of a problem situation. A detailed sample problem situation is provided in Appendix L, page 183.

3.1.6.2 Design and alignment of the learning process

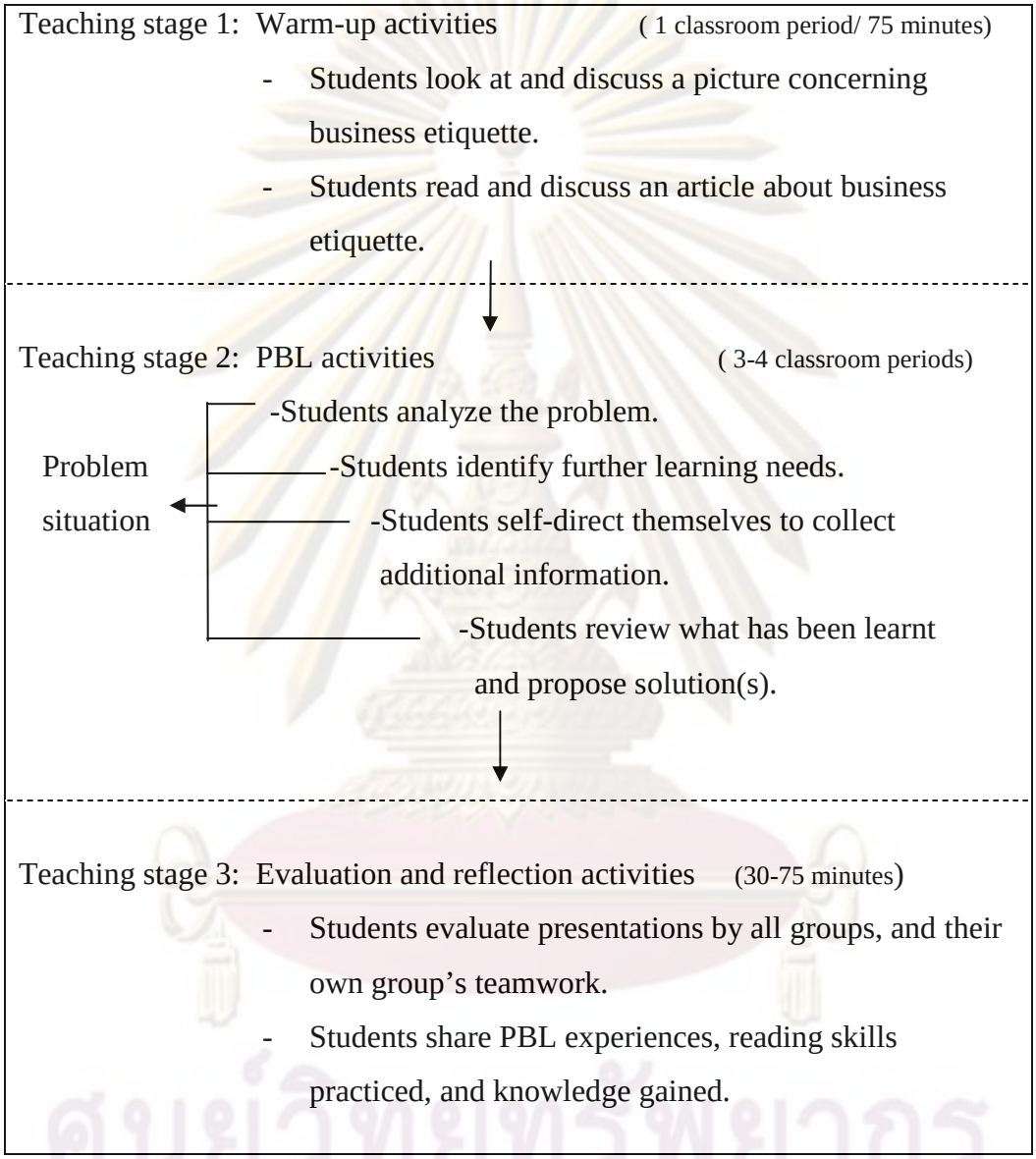
Based on PBL concepts, the learning process was designed and aligned with the course objectives. Figure 3.4 on the next page presents the PBL process adopted in the problem-based business English reading course. As can be seen in Figure 3.4, the PBL process adopted included three main stages: encountering the problem, participating in a PBL task, and evaluating and reflecting. It was adapted from the PBL process proposed by Savery and Duffy (1995), Fogarty (1997), Donahue (1999), Schwartz et al (2001), and Wee and Kek (2003, as cited in Wee et al., 2003).

Figure 3.4: PBL process of the problem-based business English reading course



In order to meet the course objectives, the PBL process was adopted as the learning process for the problem-based business English reading course, as shown in Figure 3.5, which presents the organization structure of a sample unit. (See also Table 3.6: Description of a sample unit, page, 59).

Figure 3.5: Structure of a unit organization



As shown in Figure 3.5, a unit comprises three teaching stages. They include Warm-Up Activities, PBL Activities, and Evaluation and Reflection Activities.

Table 3.6 illustrates the description of a sample unit (Unit One: Business Etiquette). This provides an overview of a unit of instruction representing a problem situation based on unit objectives.

Table 3.6: Description of a sample unit.

Unit Description
Teaching-learning topic: Business Etiquette Learning objectives: At the end of this unit, the students will be able to 1. discuss on business etiquette issues 2. design a business etiquette training program 3. distinguish fact from opinion The unit problem situation: To present a project about business etiquette to promote the company's global marketing. Skills required: - English language skills (integrated skills focus on reading) - problem solving skills - teamwork skills

The sample unit shown in Table 3.6 is about business etiquette. A problem situation was designed based on the topic of business etiquette to fulfill the unit's three learning objectives. At the end of this unit, the students will be able to (1) discuss business etiquette issues, (2) design a business etiquette training program, and (3) distinguish fact from opinion. These unit objectives were designed based on the five course objectives which included (1) communicate effectively about business, (2) collaborate, (3) discuss and plan with multiple business perspectives, (4) make business decisions, and (5) propose ideas and opinions.

The first teaching stage: Warm-Up Activities

The warm-up activities were designed to activate students' background knowledge concerning business etiquette. Students first look at a picture which reflects a 'faux pas,' or an action that causes embarrassment because it is not socially correct. Next, they read an article presenting a situation describing problems caused by the lack of business etiquette, followed by a discussion about the issues learnt from the article, and also share their own experiences regarding business etiquette. This teaching stage lasts one classroom period or 75 minutes.

The second teaching stage: PBL activities

The second stage begins in the period immediately following the first period on the same or next day. In this stage, students consider their own problems relevant to the situation and participate in PBL activities. This teaching stage consist of four steps, including (1) analyzing the problem, (2) identifying further learning needs, (3) self directing themselves to collect additional information, and reviewing what has been learnt and proposing a solution(s). Except step three, students work collaboratively in small groups of about five to six members to complete each step and then move on to the next. In step three, individual students read extensively for information as assigned by the group.

The first step is analyzing the problem. The teacher first provides all students with a written problem situation. Students read the problem situation silently. Then they check their comprehension of the situation with the group. As a class activity, the teacher elicits responses to some comprehension questions. Finally, each group of students analyzes the problem situation by making a list of all important information the problem situation provides in short, simple sentences in Learning log 1 (What We Know).

The second step is identifying further learning needs. In this step, students share and discuss ideas relating to what questions they should ask themselves to arrive at a solution to the problem. They complete Learning log 2 (What We Need to Know) with short, simple questions.

The third step is self directing themselves to collect additional information. They complete Learning log 3.1 (Action Plan for Research), which helps them divide up their reading responsibilities outside of class. This activity is a follow-up to the activity in Step 2, where they compiled a list of questions to which they now have to find answers. In this step, students read extensively on their own for their share of the needed information as assigned them by the group. Each student has to find answers to one or two questions from the list. On completion of the reading assignment, individual students have to summarize their answer(s) in Learning log 3.2 (Summary of What I Learnt from Self Study). Since the third step requires students to read extensively in their free time outside the classroom, they should be given a few days to complete their work. Thus, it is recommended the students should organize their reading work by completing Learning log 3.1 before a weekend.

The fourth step is reviewing what has been learnt and proposing solutions. In this step, students return to class and report their answers to their group. After that, they discuss the solutions and prepare to present their conclusion in the next class, completing Learning log 4 (Action Plan for Group Presentation) in the process. This log enables students to manage their group work for the class presentation.

The third teaching stage: Evaluation and Reflection Activities.

After the presentations, the third teaching stage is when all students evaluate their own group's and other groups' presentations using a checklist provided by the teacher. Consequently, this third teaching stage overlaps with the second stage, since the students should evaluate each presentation immediately on completion, before observing another presentation. After evaluating all presentations, they evaluate their own group's teamwork using a checklist provided. In the end they all share PBL experiences, reading skills gained and knowledge acquired.

3.1.6.3 Design and alignment of the assessment plans

The assessment plans of the business English reading course using PBL were designed and aligned with the course objectives. They provided students with opportunities to show what they had learnt and how they could apply the acquired knowledge in contexts and forms that are most meaningful to their professional practice. Regarding PBL assessment, ordinarily the students' process skills and content knowledge would be assessed (Wee, 2004). However, based on the course objectives, which concern only process skills, content knowledge was excluded from the course assessment. The students' process skills for assessment included their reading English for business communication and problem solving skills. The assessment combined both formative and summative assessment. Formative assessment included informal methods which were learning logs, and feedback sessions. Summative assessment included formal methods, such as class presentations and examinations on reading English for business communication abilities and problem solving skills.

3.1.7 Validation of the components of the business English reading course using PBL

The course components, including the course objectives, content, instructional process, materials, and assessment and evaluation were summarized and validated by three experts in the field of English for business communication problem-based learning and English for specific purposes (Appendix Q, page 194). The three experts validated the course's components concerning each section's appropriateness and relationship with other components. Each item was rated on a three-point scale, 1 = Revision needed, 2 = Undecided, 3 = acceptable. Any component that scored below 2.50 was revised. Table 3.7 presents $\overline{X}$ of experts' evaluation of the course components. Mean scores from the three experts were calculated, and components which did not score between 2.50-3.00 were revised according to their suggestions.

Table 3.7: $\overline{X}$ of experts' evaluation on the course components

Course Components	$\overline{X}$
Objectives	2.00
Content	2.33
Instructional process	3.00
Materials	2.67
Assessment and evaluation	2.67

2.50 - 3 = accepted, 1.00 – 2.49 = revised

According to Figure 3.7, the objectives and the content were two course components whose mean scores were below 2.50. They were then revised according to suggestions from experts as follows. In terms of the course objectives, the experts suggested that they be more specific and achievable. The objectives of a unit (Intercultural Communication) should be clearly spelled out and relevant to the course objectives. It was suggested that they be broken into smaller and achievable objectives. In terms of the course content, explanation of the content was not enough. A summary of all problem situations used in the course should be provided.

3.1.8 Development of the course materials

Based on PBL concepts, the course materials were developed and aligned with problem situations adapted for the course, together with the assessment plans. The course materials included teacher's manual and students' materials.

3.1.8.1 The teacher's manual

The teacher's manual will be discussed in three sections: construction, description, and validation as follows.

Construction of the teacher's manual

Intended to facilitate PBL implementation of the problem-based business English reading course, the teacher's manual was constructed section by section following the completion of materials for each unit. The steps in constructing the teacher's manual were as follows: First, literature on PBL was reviewed carefully, especially about PBL process, teaching guidelines, and how to assess problem-based activities. Second, a number of teacher's manuals for ESL textbooks were explored in terms of their layouts, notes for the teacher, explanations for classroom activities, and monitoring and assessment tips. Third, the layout of the teacher's manual was drafted with two main parts—make the most of PBL, and unit-by-unit lesson plans. Fourth, each unit's lesson plans were drafted and organized according to the organization of each unit course materials. Fifth, the overall organization of the teacher's manual was adjusted. Finally, the whole manual was proofread and edited by an English language instructor who is a native speaker of English.

Description of the teacher's manual

The teacher's manual comprised two main parts—(1) Making the Most of PBL (Appendix N, page 190) and (2) Unit-by-Unit Lesson Plans (Appendix K, page 175). The first section aimed to provide necessary fundamental information for the PBL practitioner. It included information regarding PBL, together with guidance and resources for the PBL practitioner. The second section aimed to provide unit-by-unit teaching guidelines, lesson explanations, instructional materials, activities, the teacher's role, the students' role, assessment and evaluation, and resource file for additional/supplementary activities. This teacher's manual was

designed for the researcher who taught a problem-based business English reading course in the Department of English for Business Communication, Faculty of Humanities, UTCC. This manual was to be used in conjunction with the students' reading materials. Reading materials in the resource file were to be kept up-to-date so that internet resources were still accessible.

Validation of the teacher's manual

The teacher's manual was validated by three experts in the field of English for business communication, problem-based learning, and English for specific purposes (Appendix Q, page 194). The three experts reviewed the teacher's manual concerning its general layout, components, instructional activities, and resource file for the teacher. Each item was rated on a five-point scale, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree. Any item that scored below 4 was revised. Table 3.8 presents $\overline{X}$ of experts' evaluation on the teacher's manual's overall appropriateness.

Table 3.8: $\overline{X}$ of Experts' evaluation on the teacher's manual's overall appropriateness.

Item	Questions	$\overline{X}$
1	General layout of the teacher's manual enhances readability.	3.00
2	General layout of the teacher's manual promotes easy access to information.	3.33
3	The teacher's manual covers all useful information required.	3.66
4	The teacher's manual is adequately effective in promoting understanding in PBL implementation.	3.33
5	Unit-by-unit notes for planning classroom activities are clear.	2.66
6	Unit-by-unit notes are adequate for planning classroom activities.	3.00
7	The resource file for teachers enables them to be well-prepared to monitor and facilitate students/ learning effectively.	4.33
8	The resource file for teachers is sufficient.	4.66

4.50-5.00 = strongly agree, 3.50 – 4.49 = agree, 2.50 – 3.49 = undecided, 1.50 – 2.49 = disagree, 1 – 1.49 = strongly disagree

Table 3.8 shows that the three experts agreed with the appropriateness of the instructional manual in terms of the resource file for the teacher only (items 7, 8). The other five items received mean evaluation scores from the three experts, which were less than 3.50. Many aspects of the instructional manual were then revised according to the experts' comments. It was suggested that the layout be revised by using consistent formatting, font sizes and styles for more accessibility (items 1, 2). Additionally, there should be more teachers' notes for every part of the lesson plans (item 3, 4). A sample PBL lesson should also be introduced as a separate lesson prior to Unit one (item 4). It was further suggested that there should be a list of clearly stated learning objectives for each unit (items 5, 6).

3.1.8.2 The students' materials

The student's materials will be discussed in three sections: construction, description, and validation, as follows.

Construction of the students' materials

The students' materials were constructed to provide English reading materials and learning logs to facilitate their move along the PBL process, and evaluation forms. Apart from five problem situations constructed earlier, the reading materials were reading passages used during warm-up activities of each unit and a resource file for students' self-study, which included textbook readings, authentic readings and resources for students' online reading. While the five problem situations of the course were developed based on the course objectives and content, other materials were constructed primarily based on the problem situations, instructional process and the assessment plans of the course, with a secondary consideration based on all the rest of course components. The process of the construction of these materials were as follows: First, a number of EBC students' textbooks, together with APBL learning modules (Wee and Kek, 2002), were explored. This helped design the general layout of the students' materials. Second, the general layout of the materials was outlined. Third, classroom activities were designed to meet each unit's learning objectives based on the PBL process. Fourth, learning logs were constructed to facilitate students' moving along PBL process. Fifth, reading materials were prepared to suit each classroom activity. A unit comprised (1) warm-up activities, (2) PBL activities, and (3) evaluation and reflection activities. The materials constructed for

warm-up activities were to activate students' prior knowledge about the unit topic and its value. The materials constructed for PBL activities were to facilitate the students' use and practice of their reading skills in the field of business communication, problem solving skills, and teamwork skills. The materials constructed for evaluation and reflection activities were evaluation forms, which aimed to facilitate students' self- and peer-evaluation.

Description of the students' materials

The materials were designed for the problem-based business English reading course of the Department of English for Business Communication, Faculty of Humanities, University of The Thai Chamber of Commerce (UTCC). The students taking this course were fourth-year English for business communication majors. They had different English language proficiencies, ranging from intermediate to upper intermediate level. The purpose of the materials was to provide the students with a large selection of readings and activities to facilitate their problem-based reading English for business communication both in and outside of class. Also, it was expected that the materials could promote, to some degree, their problem solving skills as well as their awareness of important business communication issues, especially for airline, hotel and tourism businesses in Bangkok, Thailand. These students' materials consisted of reading materials, learning logs, and evaluation forms. They are described as follows.

The reading materials (Appendix L, page 183) concerned the five unit topics—business etiquette, intercultural communication, customer satisfaction, business ethics, and communication technology. Reading materials for each unit consisted of a problem situation, reading materials used during warm-up activities and a students' resource file for self-study. Problem situations were about one and a half pages long. Reading materials used during warm-up activities included pictures and one or two short reading passages relevant to that unit's topic. The resource file for students' self-study in each unit consisted of textbook and authentic readings. Students' textbook readings were well-structured reading passages and follow-up activities for self-assessment of their reading comprehension. Authentic readings were various reading passages such as business communication articles, letters, business reports and internet resources.

Five learning logs were used in each unit. The five learning logs included Learning Log 1 (What We Know), Learning Log 2 (What We Need To Know), Learning Log 3.1 (Action Plan for Research), Learning Log 3.2 (Summary of What I learned from Self Study), and Learning Log 4 (Action plan for Group Presentation).

In addition, there were two evaluation forms for students self and peer assessment at the end of each unit. They included "Classroom Presentation Rubric" and "Teamwork Evaluation Form."

Table 3.9 on the next page illustrates scope and sequences of the students' materials.

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Table 3.9: Scope and sequences of the students' materials

Unit	Problem Situation	Reading Texts	Skills Required	Main Purposes of Reading English for Business Communication
1 Business Etiquette (4-5 classroom periods)	To present a project about business etiquette to promote the company's global marketing	***Textbook readings***: -various reading passages under four business etiquette topics ***Authentic readings:*** -four articles -internet resources for business etiquette issues, business English and reading expert	-language skills (integrated skills with a focus on reading—especially distinguishing fact from opinion and predicting outcomes) -problem solving skills -teamwork skills	-reading for effective business communication -reading for collaboration -reading for business decisions and management
2 Intercultural Communication (4-5 classroom periods)	To present a project about cross-cultural awareness to promote the company's sales	***Textbook readings:*** - four intercultural business cases - three cross-cultural business dialogues ***Authentic readings:*** - two article extracts - internet resources for inter-cultural issues and reading expert	-language skills (integrated skills with a focus on reading—especially identifying process, recognizing cause and effect, and comparing and contrasting) -problem solving skills -teamwork skills	-reading for meetings -reading for collaboration -reading for proposing ideas and opinions -reading for presentations
3 Customer Satisfaction (4-5 classroom periods)	To present an approach for handling complaints and to design a training program for airline customer service managers and frontline staff.	***Textbook readings***: -various reading passages under five customer satisfaction topics ***Authentic readings:*** -two articles -some hotel complaint letters -internet resources for customer satisfaction issues and reading expert	-language skills (integrated skills focus on reading—especially distinguishing fact from opinion, recognizing cause and effect, and analyzing point of view and purpose.) -problem solving skills -teamwork skills	-reading for collaboration -reading for business decisions and management -reading for multiple business perspectives and planning

Remark: a classroom period = 75 minutes

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Table 3.9 (Cont.): Scope and sequences of the students' materials

Unit	Problem Situation	Reading Texts	Skills Required	Main Purposes of Reading English for Business Communication
4 Information and Communication Technology (4-5 classroom periods)	To present a project about Information and Communication Technology—design an ICT training package for hotel staff development.	***Textbook readings:*** - five issues concerning ICT ***Authentic readings:*** - five articles - internet resources for ICT issues and reading expert	-language skills (integrated skills focus on reading—especially making inferences of textual and graphic data and identifying fundamental ICT terms) -problem solving skills -teamwork skills	-reading for proposing ideas and opinions -reading for multiple business perspectives and planning
5 Business Ethics (4-5 classroom periods)	As an executive team candidate, the students present a business ethics-administrative vision: '*Business ethics has an effect on business success. Good business ethics causes life-long business success.*'	***Textbook readings:*** - seven issues concerning business ethics ***Authentic readings:*** - three news releases - four journal articles - two remarks (one keynote and one interview) - internet resources for business ethics issues and reading expert	-language skills (integrated skills focus on reading—especially recognizing cause and effect and identifying process) -problem solving skills -teamwork skills	-reading for proposing ideas and opinions -reading for business decisions and management - reading for business presentations

Remark: a classroom period = 75 minutes

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Validation of the students' materials

The students' materials were validated by three experts in the field of English for business communication, problem-based learning, and English for specific purposes (Appendix Q, page 194). The three experts reviewed the materials concerning their general layout, components, instructions, content, problem situations, and the resource file for students. Each item was rated on a five-point scale, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree. Any item that scored below 4 was revised. Table 3.10 presents $\overline{X}$ of experts' evaluation on the students' materials overall appropriateness.

Table 3.10: $\overline{X}$ of experts' evaluation on the students' materials' overall appropriateness.

Item	Questions	$\overline{X}$
1	General layout of the students' materials enhances readability (for 4th year English majors).	3.33
2	General layout of the students' materials promotes easy access to information.	3.33
3	The students' materials cover all useful information required.	4.00
4	The students' materials are adequately effective in promoting understanding in PBL implementation.	3.66
5	Instructions provided in the students' materials are clear.	3.00
6	The students' materials are free of ethnic and gender bias.	4.00
7	The students' materials offer sufficient resources for students to complete their project work.	4.66
8	The students' materials provide appropriate content according to the objectives of each unit (stated at the beginning of each unit).	4.66
9	The problem situations for student project work are achievable by 4th year English for business communication majors.	3.66
10	The problem situations for student project work appear challenging.	3.66
11	The problem situations for student project work promote ownership.	4.33

4.50-5.00 = strongly agree, 3.50 – 4.49 = agree, 2.50 – 3.49 = undecided, 1.50 – 2.49 = disagree, 1 – 1.49 = strongly disagree

Table 3.10 shows that the highest mean scores of the three experts' evaluation were on the appropriateness of the students' resource file (item 7) and the content (item 8). The lowest mean score was on the instructions (item 5). There were three items whose mean scores were lower than 3.50. As a result, they were revised according to the experts' comments. They suggested revising the layout by using a consistent format, font size and styles for more accessibility (items 1, 2). In addition, instructions for each activity needed to be clearly stated by using simpler language (item 5). For better quality, a map of the students' materials and problem situations were also revised according to the experts' comments.

In summary, the needs analysis was conducted for the purpose of developing the business English reading course using PBL, and to help determine the course's objectives, content, and materials. Accordingly, objectives of the course were created based on the top-five purposes found for reading English for business communication. The top-five purposes were (1) reading for effective business communication, (2) reading for collaboration, (3) reading for multiple business perspectives and planning, (4) reading for business decisions, and (5) reading for proposing ideas and opinions. The materials for the course, including the teacher's manual and the students' reading materials were constructed in line with the problem situations, instructional process, and assessment plans. The problem situations for the course were designed based totally on adapted business-oriented cased studies due to the lack of response by contributors.

3.1.9 Piloting the materials

A unit teacher's manual, and a unit students' materials were piloted twice in order to find the practicality of them. A unit required at least four-period instruction (a period = 75 minutes) or four lesson plans if a student already got used to PBL. First, they were piloted with thirty-four third-year English majors at Bansomdejchaopraya Rajabhat University in February 2008 for five hours. Second, they were piloted with twelve third-year English for business communication majors at UTCC in April 2008 for ten hours. Inasmuch as the researcher was a new PBL practitioner and would experience it for the first time, it was decided to conduct two pilot studies. The reasoning was that the findings from the first study would contribute to revisions in the second pilot study. Finally, the findings from the second

pilot study would reinforce revisions for the implementation of the actual business English reading course using PBL.

Pilot study I

The first pilot study was carried out for five hours (two 2.5 hour classes) in February 2008. Participants were thirty-four third-year English majors of Bansomdejchaopraya Rajabhat University. The instructor's observation notes and the students' feedback notes on the PBL project provided data for the improvement of both the teacher's manual and the students' materials.

It was found that students participated well in the project from the beginning to the end. Group discussions were lively. However, they needed more time to become familiar with PBL. Consequently, students didn't have time for class presentations of their group solution. In addition, during the second step of PBL—identifying further learning needs, the students also needed more time to create questions in English. With more time provided, they produced useful questions on the project. Some of the useful questions were beyond what was planned by the teacher. These useful questions were then recorded as other possible questions for the project in the second pilot study. The researcher had to prepare more reading resources for the students, especially in terms of online resources. At the end of the PBL project, the students gave feedback about their PBL experiences. Most of the students reported that they had a good experience with PBL. For example, they could speak, read, listen, and write more than usual. The problem situation provided was interesting. Group discussions supported their reading comprehension of the written problem situation and reading resources. Some students reported, however, that PBL was complicated and they needed more time to get used to it. Based on data obtained from this pilot study, more time would be provided for the introduction of PBL in the second pilot study. Moreover, a sample problem situation would be introduced with more explanations at every PBL step. Time spent for the whole PBL project would be increased and become more flexible.

Pilot study II

The second pilot study of the teacher's manual and the students' materials was carried out for ten hours (five two-hour classes) during the twelve-hour PBL project organized in March and April, 2008. Participants were

twelve third-year English for business communication majors at UTCC. The instructor/researcher's observation notes and the students' feedback notes on the PBL project were collected. Table 3.11 illustrates the PBL project outline for the second pilot study of instructional instruments.

Table 3.11: The twelve-hour PBL project for the second pilot study of the teacher's manual and the students' materials

Day	Content	Activities
1	-Introduction to PBL	-Individual reading -Pair/group discussion
2	-Sample problem situation - Sample PBL processes (teacher-directed)	-Individual reading -Pair/group discussion - Presentation
3	*Day 1: problem-based business etiquette project* -Introduction to business etiquette - PBL step 1: analyzing the problem situation - PBL step 2: identifying further learning needs	-Individual reading -Pair/group discussion
4	*Day 2: problem-based business etiquette project* - PBL step 2: identifying further learning needs (Cont.) - PBL step 3: assigning tasks to group members. - PBL step 4: self-directed reading and writing (at home)	-Pair/group discussion - self-directed reading and writing/summarizing (at home)
5	*Day 3: problem-based business etiquette project* - PBL step 5: reviewing what has been learnt and proposing solution.	-Pair/group discussion - Class presentation
6	Wrap-up session	- Feedback provision/discussion - information presentation of PBL benefits and limitations.

It was found that the results of the second pilot study were more positive than those in the first pilot study. This may be because more time was provided for classroom activities. The students were given enough time to get to know PBL before starting the self-directed PBL process. As a result, they participated actively in the project and they enjoyed group discussions and presentations. This time, the students moved naturally along the PBL process. They completed each step without stress and moved to the next PBL steps when they were ready. Moreover, they felt more confident after receiving feedback/informal assessment from the teacher at the end of each step.

However, there were still some problems. First, there was still a problem in the second step of the PBL process—identifying further learning needs. The students produced more useless than useful questions. This means they produced good critical questions, but these questions cannot be answered based on students' self-study, but only with a reply by the character in the problem situation.

As a result, more explanation was added for the effective completion of the second PBL step in both the students' materials and the teacher's manual. Useful questions were related to possible online or library research being required. Also, a list of sample questions was further simplified. Second, some students seemed not to be responsible enough for their learning, coming late and very late to classes. This slowed the progress of group projects because the whole group had to wait for data researched by these persons in order to continue their group work. To counter this problem, which could also occur in the main study, the researcher added more notes in the teacher's manual that another student should take the same role as a student who is usually irresponsible.

According to students' feedback in regards to their PBL experience, the students on average reported positive experiences with PBL. They had opportunities to apply and practice communication skills, especially reading and writing. As in the first pilot study and in normal classrooms, most of the students preferred to speak in their mother tongue rather than English. They tried to speak in English when the teacher was close to them, but this affected the natural brainstorming and discussion of ideas. As a consequence, the researcher added a note in the teacher's manual that it was good to encourage the students to speak in English, but this should not affect the students' learning preferences in general.

In conclusion, the teacher's manual and the students' reading materials were revised based on the findings from the two pilot studies. More time was provided for the students to get to know PBL and to move along the PBL process. Time spent on a problem-based project was increased and became more flexible. More explanation was given to the students about creating questions in the second step of the PBL process. More notes were added on how to deal with irresponsible students for the teacher. It was also recommended to encourage students to speak in English when this does not hinder their natural brainstorming and discussions. As a result of these revisions, the materials were more practical and ready for the next stage—the experiment.

3.2 Implementation of the business English reading course using PBL

The second phase of the present study was implementation of the business English reading course using PBL. The following are descriptions of the research design, population and samples, research instruments, data collection, and data analysis.

3.2.1 Research design

The study developed a new course for an English for Business Communication curriculum of the Faculty of Humanities, University of the Thai Chamber of Commerce (UTCC). As a result, there was no traditional business English reading course to compare with. Therefore, it was feasible to adopt the pre-experimental study with one group pretest-posttest design, rather than a true experimental study with two sample groups. Table 3.12 illustrates the research design of this study: O represents dependent variables while X represents an independent variable.

Table 3.12 Pretest-posttest pre-experimental design

Pre-test	Treatment	Post-test
O_1	X	O_2

From Table 3.12, O_1 represents two pre-tests: the reading English for business communication pre-test and the problem-solving skills inventory pre-test. X represents the business English reading course using PBL. O_2 represents two post-tests: the reading English for business communication post-test and the problem-solving skills inventory post-test. The pre-tests and the post-tests were identical. The study was conducted with one sample group. There were three steps to collect data. It consisted of pretests, treatment, and posttests. After the students were pre-tested, they participated in the problem-based business English reading course. At the end of the course they took two posttests. Moreover, to triangulate the results obtained from quantitative data, qualitative data were collected twice: one during the course and the other at the end of the course

3.2.2 Population and samples

Population

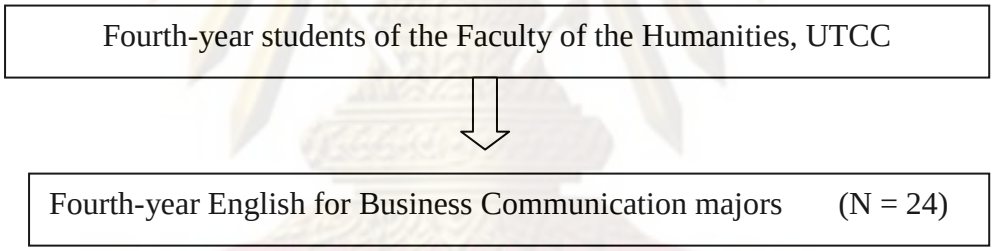
The population of this study was fourth year English for Business Communication majors of the School of Humanities, UTCC. These students were selected as the population of the present study for three reasons. First, the students had the most English learning experience at the Faculty. As a result, it was assumed that in general they had enough English language ability to survive after graduation and thus would be ready for a PBL experience. Since PBL was not originally designed for ESL/EFL students, PBL is not appropriate for a student whose English ability is inadequate to the point that it hinders his/her self-directed learning in a problem-based classroom. According to Tan (2003), it is required that students should have language skills as baselines for PBL. Second, at the time of experiment, the students were not scheduled for any other English reading course. Third, the experiment took place in the first semester of their fourth year, following which most of them were due to graduate. The problem-based business English reading course provided them with more classroom opportunities to practice and apply English reading skills learnt from previous years in a context designed to best suit their needs.

Samples

Since the course was newly developed and only a limited number of students enrolled in the course, twenty-four fourth-year English for business

communication majors in the School of Humanities, UTCC, who enrolled in a 'Seminar in the Use of English as a Foreign Language' course in the first semester of the academic year 2008 were used as the sample. The objective of the Seminar in the Use of English as a Foreign Language course was to offer students the opportunity to use all four English language skills in discussing and solving problems on topics concerning the English language, or other interesting topics. This objective provided an opportunity for the implementation of PBL, mainly because the course objective was not restricted to students' achievement in a particular English language skill or content knowledge. As a result, PBL process could be carried out without negatively affecting the course objective, but rather supporting it. Moreover, all research and instructional materials of the present study could be freely administered. It served as a two-credit course with students meeting twice a week. Figure 3.6 illustrates population and samples of the present study.

Figure 3.6: Population and samples of the present study.



3.2.3 Research instruments

The four research instruments for collecting data in this phase of the study were (1) the reading English for business communication test (the REBC test), (2) the problem solving skills inventory (the PSSI), (3) PBL attitude questionnaire, and (4) PBL log. Table 3.2 illustrates the research instruments matrix. These instruments will then be discussed in four sections: construction, description, validation, and reliability process for the research instruments. Table 3.13 on the next page presents the research instruments matrix.

3.2.3.1 The reading English for business communication test (the REBC test)

This instrument will be discussed in four sections: construction, description, validation, and reliability process as follows.

Construction of the REBC test

The REBC test was constructed to investigate the effects of the business English reading course using PBL on undergraduate students' reading English for business communication abilities.

It was constructed based on Bachman and Palmer's (2000) language test development and guidelines for designing multiple-choice items for classroom-based situations (Brown, 2004). According to Bachman and Palmer's (2000), the three stages of a test development included design, operationalization, and administration stages. The components of the test are described in the design stage of the REBC test. These include purpose of the test, description of the target language use (TLU) domain, characteristics of test takers, definition of construct, a plan for evaluating the qualities of usefulness, inventory of available resources, a plan allocation and management. The design statements of the REBC test components are shown in Table 3.14.

Table 3.13: The research instruments matrix

Objectives	Instruments	Distribution	Data Analysis
To investigate the effects of the business English reading course using PBL on undergraduate students' reading English for business communication abilities	1. The reading English for business communication test (the REBC test)	Before and after the treatment	- $\overline{X}$, S.D -Dependent samples t-test -Cohen's *d*
To investigate the effects of the business English reading course using a problem-based learning approach on undergraduate students' problem solving skills	2. The problem-solving skills inventory (the PSSI)	Before and after the treatment	- $\overline{X}$, S.D -Dependent samples t-test -Cohen's *d*
To explore undergraduate students' attitudes toward the problem- based learning approach	3. The PBL attitude questionnaire	After the treatment	- $\overline{X}$, S.D
To provide qualitative data to triangulate the results of the REBC test and the PSSI	4. PBL log	After Unit 2 and at the end of the course	-Content analysis with inter-rater reliability

Table 3.14: Design statements of the REBC test construction

The REBC test components	Design statements
Purpose of the test	This test will be used as an achievement test to assess 4th year English for business communication majors' abilities in reading English for business communication.
Description of the target language use (TLU) domain	The test provides eight different language use settings according to eight different business situations in the fields of airline, hotel and tourism businesses. Based on these settings, language use tasks involve communicating with a co-worker or a customer (who is a character in each situation) by choosing a response statement from four alternatives and answering comprehension questions about the situation, also by selecting an answer from four alternatives.
Characteristics of test takers	They are Thai undergraduate students majoring in English for business communication. Their ages range from 19-22 years old. Most students are female. All of the students have no PBL experiences. They appear to have homogeneous topical knowledge, especially in terms of service industries.
Definition of construct	Based on English for business communication textbook analysis, construct is defined as ability to identify main idea, identify details, make inferences, distinguish facts from opinions, recognize cause and effect, compare and contrast, identify sequence, predict outcomes, find solutions, draw conclusions, recognize business terms and expressions, following instructions or manuals, and analyze purpose. These are thirteen reading skills commonly found in English for business communication textbooks.
A plan for evaluating the qualities of usefulness	A plan for evaluating the qualities of usefulness will include the pilot testing of the test and an informal interview with some students taking the test.
Inventory of available resources	The researcher is the test developer, the test writer, the test administrator, and the test scorer.
a plan allocation and management	Since the researcher will assume many roles, some test development experts will be consulted during the process.

In the operationalization stage, the blueprint (Appendix G, page 162) describing the test structure and the test specifications for the REBC test were constructed by selecting and specifying the test design as previously stated. Table 3.15 presents a summary of the REBC test structure, Table 3.16 presents the REBC test specifications, and Table 3.17 presents the REBC test items and respective measurements.

Table 3.15: REBC test structure

The REBC test structure
The test had eight parts representing eight situations. These parts were clearly distinct and equal in importance. There were five tasks per part in the form of five multiple-choice questions. The purpose of all parts was to require the test takers to demonstrate their control of English reading skills in tasks that involve communicating with a co-worker or a customer.

Table 3.16: REBC test specifications

The REBC test specifications
The REBC was used as an achievement test in reading English for business communication abilities for the 4th year English for business communication majors enrolled in the problem-based business English reading course. Thirteen reading skills were assessed. They included identifying the main idea (6 items), identifying detail (4 items), making inferences (9 items), distinguishing fact from opinion (4 items), recognizing cause and effect (1 item), comparing and contrasting (2 items), identifying sequence (2 items), predicting outcomes (3 items), finding solutions (1 item), drawing conclusions (4 items), recognizing business terms and expressions (1 item), following instructions or manuals, and analyzing point of view and purpose (3 items). The reading skill 'following instructions or manuals' was not explicitly assessed by any item, but was indirectly assessed. In other words, if the students did not possess this skill, they could not do the test. This is because as a baseline they had to understand the role they were taking in each situation. The test provided eight business-oriented situations with 40 multiple-choice questions. The time allotment was 75 minutes. The students took the test in their class time. It was not necessary to memorize any business communication knowledge studied in the course for the testing. The scoring of the test was objective.

Table 3.17: REBC test items with aspects measured

Aspects Measured	Test Items Number
identifying the main idea	1, 6, 11, 16, 26, 36
identifying detail	21, 22, 28, 38
making inferences	4, 8, 9, 13, 17, 23, 30, 37, 40
distinguishing fact from opinion	14, 19, 24, 29
recognizing cause and effect	7
comparing and contrasting	27, 32
identifying sequence	3, 31
predicting outcomes	5, 20, 39
finding solutions	35
drawing conclusions	10, 15, 25, 34
recognizing business terms and expressions	18
analyzing point of view and purpose	2, 12, 33

Table 3.17 shows that the number of test items to assess each reading skill varied. The business-oriented situations used varied, allowing assessment of some specific reading skills more than others. As a result, each reading skill could not be assessed equally. However, the test was designed to focus on major reading skills including 'Identifying main idea' and 'Identifying details'. Moreover, it emphasized three reading skills which had been found to be critical points in the students' previous reading course on 'Analytical Reading.' Those reading skills included 'Making inferences', 'Distinguishing fact from opinion', and 'Drawing conclusions'.

The process of the REBC test preparation began with a blueprint describing the test structure and then test specifications, followed by writing of the actual test. In this operationalization stage, Brown's (2004) four guidelines for designing multiple-choice items for classroom-based situations were included to support the test's practicality and reliability. The four guidelines were 1) designing each item to measure a specific objective of each multiple-choice question, 2) stating both stem and options as simply and directly as possible, 3) making certain that the intended answer is clearly the only correct one, and 4) using item indices to accept, discard, or revise items. In response to Brown's (2004) last guideline, and to

complete Bachman and Palmer's last stage of developing a language test, the REBC was piloted to get feedback on its reliability and usefulness in terms of item facility and item discrimination. After that the test was revised. The pilot-study of the REBC test is described in more details later in the 'reliability process of the REBC test section.

Description of the REBC test

The REBC test was an achievement test with 40 multiple-choice questions. It aimed to assess the students' reading English for business communication abilities before and after the implementation of PBL. The time allotment was 1.15 hours. The REBC test consisted of eight business situations relating to airline, hotel, and tourism businesses. Each situation showed the communication between two businesspersons. A student took the role of one of these two businesspersons. Each situation was followed by five multiple-choice questions. These five questions assessed the student's reading comprehension of both the details of the situation and the message he/she has received. The first question of a situation asked the student how he/she would respond to the message he/she had received from the other person. The other four questions were to assess the student's general reading comprehension of the situation. (Appendix B, page 149) Table 3.18 presents the summary of REBC test's eight situations.

Table 3.18: Summary of REBC test's eight situations

Situation number	Business-oriented situations
1	Suthep Kraisornpong, sales manager of a tour company has received a fax message from Peter Wong, Customer Service at a hotel. The fax message says that Peter Wong did not receive 140 brochures as ordered and he needed the rest of the brochures. A student takes the role of Suthep Kraisornpong.
2	Kanda Deesawad, Department Director of Marketing and Sales, Eastern Division of Asian Thai Airways, has received a memorandum from Suksee Srisam-ang, the Vice President for Marketing and Sales. The memo complains about Kanda's delay in submitting the first quarter sales report for her division. The writer wants Kanda to complete the report as soon as possible. A student takes the role of Kanda Deesawad .

Table 3.18 (Cont.): Summary of REBC test's eight situations

Situation number	Business-oriented situations
3	Thanongsak Pakdeejit, Manager of the Sales and Public Relations Department, Chokdee Travel and Hotel, has received a letter from Mark Miller, Customer service of Simmons Hardware (Thailand). The letter says that Dave Tedlock will come to see him for some suggestions about Simmons Hardware's new company name. However, Thanongsak is leaving tonight for a meeting in Singapore. Thanongsak then leaves a note for his secretary. A student takes the role of Thanongsak Pakdeejit
4	Manit Sukkasem, a senior employee of the Flight Operations Department of Combo Airlines International, has received an e-mail message from the Head of his Department marked "**Urgent**." Manit is now on holiday for one week in Phuket and only plans to be back for work on **6th** January. The e-mail says that Manit is invited to make a presentation concerning unexpected flight operation to new staff. A student takes the role of Manit Sukkasem.
5	The secretary of James Max, manager of the Purchasing Department at Noppharat Hotel, was given the minutes of a meeting from his/her boss to mark the date of the next meeting in his monthly schedule and keep it on file. The secretary reads these minutes and thinks of something that he/she would like to suggest. A student takes the role of the secretary.
6	Fasai Jaidee, Tour Department Manager, Around the World Co., Ltd., has received a memorandum from the Director of the Personnel Department. There are three job application letters attached. The memo says that Fasai is asked to choose two of the applicants she would like to call for an interview. A student takes the role of Fasai.
7	Project Director of Fly With Us Co., Ltd. (FWU) has received a memorandum from Mrs. Switzer, CEO. The memorandum says that the Project Director is asked to prepare a preliminary code of ethics for the company based on the CEO's suggestions. A student takes the role of Project Director.

Situation number	Table 3.18 (Cont.): Summary of REBC test's eight situations
	Business-oriented situation
8	Somsak works for Global Travel Service (GTS), which is expanding its global marketing. Today he has to write a letter to important customers in Japan and Germany promoting a new tour route. Jaran, Somsak's colleague, knows that Somsak is confused about what style of writing should be used and not good at writing a persuasive letter. Jaran would like to help him by giving him an article from a business communication journal that he had himself found helpful in Somsak's situation. However, Jaran is not able to see him personally, and has to leave him a message instead. A student takes the role of Jaran.

Validation of the REBC test

Content of the REBC test was validated by three experts in the field of English for business communication instruction, business management instruction, and English language evaluation and assessment (Appendix Q, page 194). They evaluated the test based on the relation between each item and its objective. The forty items of the REBC test were rated on a three-point scale, 0 = disagree, 1 = questionable, and 2 = agree. Any item that scored below 1.50 was revised. Table 3.19 presents $\overline{X}$ of experts' evaluation of the REBC test.

Table 3.19: $\overline{X}$ of experts' evaluation of the REBC test

Items	Objectives	$\overline{X}$
Situation 1		
1	Identifying main idea	2.00
2	Analyzing purpose	2.00
3	Identifying sequence	2.00
4	Making inferences	1.66
5	Predicting outcomes	1.66
Situation 2		
6	Identifying main idea	1.66
7	Recognizing cause & effect	1.66
8	Making inferences	1.33
9	Making inferences	2.00
10	Drawing conclusions	2.00
Situation 3		
11	Identifying main idea	1.66
12	Analyzing purpose	2.00
13	Making inferences	1.33
14	Distinguishing fact from opinion	1.66
15	Drawing conclusions	2.00

Table 3.19 (Cont.) : $\overline{X}$ of experts' evaluation of the REBC test

Item	Objectives	$\overline{X}$
Situation 4		
16	Identifying main idea	1.33
17	Making inferences	1.66
18	Recognizing business terms	1.66
19	Distinguishing fact from opinion	1.66
20	Predicting outcomes	1.33
Situation 5		
21	Identifying detail	2.00
22	Making inferences	1.33
23	Distinguishing fact from opinion	0.66
24	Identifying detail	0.66
25	Drawing conclusions	2.00
Situation 6		
26	Identifying main idea	1.33
27	Comparing and contrasting	1.66
28	Identifying detail	2.00
29	Distinguishing fact from opinion	0.66
30	Making inferences	2
Situation 7		
31	Identifying sequence	2.00
32	Analyzing purpose	0.66
33	Comparing and contrasting	2.00
34	Drawing conclusions	1.33
35	Finding solutions	1.33
Situation 8		
36	Identifying main idea	1.33
37	Making inferences	2.00
38	Identifying detail	1.33
39	Predicting outcomes	2.00
40	Making inferences	1.66

2 – 1.50 = Accepted, >1.49 = Revised

As can be seen in Table 3.19, there were fourteen items which scored below 1.50. These items were revised. According to the experts' comments, these problematic items did not have good questions and good alternatives. First, some questions were unclear. For example, item 8 had an unclear question. The question was then changed from 'It can be inferred from the communication that Mr. Suchat is …' to 'It can be inferred from the communication between Ms. Suksee and Ms. Kanda and the communication between Ms. Kanda and Anna that Mr. Suchat is …' The question in item 23 was also not clear enough. The question was changed from 'What statement is a fact?' to 'According to Reading 1, which statement is a FACT?' Second, some items were not good distracters. For example, item 23 did not

have a good distracter. The original read 'Friday should be a good day for negotiation and contract sign'. It was changed to 'Friday 27th April will be a good day for negotiation and contract signing'. Third, alternatives of some items tested the students' world knowledge rather than their reading skills. For example, an alternative of item 23 was 'Smart, light-weight clothing is ideal for doing business in Malaysia.' This alternative was changed to 'Negotiation needs time.' Fourth, some alternatives were too difficult. For example, an alternative in item 29 was considered too difficult. The alternative was, 'There is no proof that Sunee could guide tours.' This alternative was changed to 'There is no proof that Sunee has knowledge of tourism.' Fifth, some items had too obvious an answer, or nullified the distracters. For example, a former alternative, which is the answer to item 13, was, 'is the owner of Tedlock,' but was changed to, 'is a marketing professional.' Sixth, some items had more than one correct answer. For example, item 17 had two possible answers. One of these was changed from 'a senior staff should allow them to ask questions,' to 'a senior staff member should arrange a monthly meeting for them.' Finally, formatting revisions based on the experts' comments were made, for example, distracters should be arranged according to their length, beginning with the shortest.

Reliability process of the REBC test

The REBC test was pilot tested with forty-one fourth year UTCC English for business communication majors in June 2008. These students did not participate in the main study. From the calculation of Kuder-Richardson Formular 20 (KR 20), the reliability value was .799, indicating that the REBC test was reliable and acceptable to be used in the main study. Table 3.20 illustrates the REBC test's reliability.

Table 3.20: REBC test's reliability

$\overline{X}$	Minimum	Maximum	Number of REBC test items	KR 20
.583	.220	.902	40	.799

N = 41

In summary, the REBC test was constructed to assess the undergraduate students' reading English for business communication abilities. It was validated by three experts. After it was revised, it was pilot-tested with forty-one students who were representative of the study's samples. The reliability of the test was .799 (KR 20), showing that the test was sufficiently reliable. For better quality,

the test was revised also according to item facility and item discrimination found after the pilot study of the test (Appendix O, page 192). The revision was accomplished by making the correct answer more explicit for 'too difficult' items and making the correct answer less explicit for 'too easy' items. The REBC test had 40 multiple-choice questions based on the eight business situations provided. Each situation represented communication between two businesspersons and each student had to play one of the roles.

3.2.3.2 The problem solving skills inventory (the PSSI)

This instrument will be discussed in four sections: construction, description, validation, and reliability process as follows.

Construction of the PSSI

The problem-solving skills inventory or the PSSI was constructed to investigate the effects of the business English reading course using PBL on undergraduate students' problem solving skills. Similarly to the REBC test, the PSSI was constructed based on Bachman and Palmer's (2000) language test development and guidelines for designing multiple-choice items for classroom-based situations (Brown, 2004). According to Bachman and Palmer's (2000), the three stages of test development included design, operationalization, and administration. First, in the design stage, the components of the PSSI design were described. Design statements included purpose of the test, description of the target language use (TLU) domain, characteristics of test takers, definition of construct, a plan for evaluating the qualities of usefulness, inventory of available resources, and a plan allocation and management. In the operationalization stage, the blueprint (Appendix H, page 165) describing the test structure and the test specifications was constructed by selecting and specifying the test design as previously stated. After that, the PSSI was written based on the test blueprint. Moreover, in this operationalization stage, Brown's (2004) four guidelines for designing multiple-choice items for classroom-based situations were also followed to support the test's practicality and reliability. The four guidelines were 1) designing each item to measure a specific objective, 2) stating both stem and options as simply and directly as possible, 3) making certain that the intended answer is clearly the only correct one, and 4) using item indices to accept, discard, or revise items. In response to Brown's (2004) last guideline, and to

complete Bachman and Palmer's last stage of a language test development, the PSSI was piloted to get feedback on its usefulness in terms of item facility and item discrimination. After that the test was revised. The pilot-study of the PSSI is described in more detail later in the 'reliability process of the PSSI section.

Description of the PSSI

The PSSI was an achievement test with 44 multiple-choice questions. It aimed to assess the students' problem-solving skills before and after the implementation of the PBL. The time allotment was 1.15 hours. The PSSI had 11 problem situations. Each situation had 4 multiple-choice questions. These four questions asked about 1) the problem in this situation, 2) the cause of the problem, 3) a possible solution; and 4) a possible result to the possible solution. These questions assessed the students' four problem-solving skills including defining the problem, analyzing the problem, proposing solution(s), and justifying the results of the solution, respectively. In fact, there can be more than one possible solution to any of the problem situations provided in the PSSI. However, among the MC alternatives for questions asking a student to propose solutions to a problem situation, only one possible solution is provided. Similarly, among the alternatives to questions asking a student to justify the results of the solution, only one possible correct response is provided. All of the four questions of each situation were inter-dependant, so that, for example, if a student could not define a problem correctly, the problem could not be analyzed correctly, either. However, like other multiple-choice tests in general, there were still opportunities to guess the answers. (Appendix C, page 153)

Validation of the PSSI

Content of the PSSI was validated by three experts in the field of English language instruction, English for business communication instruction and English language evaluation and assessment (Appendix Q, page 194). They evaluated the test on the basis of the relation between each item and its objective The forty-four items of the PSSI were rated on a three-point scale, 0 = disagree, 1 = questionable, and 2 = agree. Any item that scored below 1.50 was revised. Table 3.21 presents $\overline{X}$ of experts' evaluation of the PSSI.

Table 3.21: $\overline{X}$ of experts' evaluation of the problem-solving skills inventory

Items	Objectives	$\overline{X}$
Situation 1		
1	Defining the problem	1.33
2	Identifying the cause	1.33
3	Proposing a solution	2.00
4	Justifying the results of the solution	1.66
Situation 2		
5	Defining the problem	2.00
6	Identifying the cause	2.00
7	Proposing a solution	1.66
8	Justifying the results of the solution	2.00
Situation 3		
9	Defining the problem	1.66
10	Identifying the cause	2.00
11	Proposing a solution	1.66
12	Justifying the results of the solution	1.66
Situation 4		
13	Defining the problem	1.66
14	Identifying the cause	1.66
15	Proposing a solution	2.00
16	Justifying the results of the solution	2.00
Situation 5		
17	Defining the problem	2.00
18	Identifying the cause	2.00
19	Proposing a solution	1.66
20	Justifying the results of the solution	1.66
Situation 6		
21	Defining the problem	1.66
22	Identifying the cause	2.00
23	Proposing a solution	1.66
24	Justifying the results of the solution	1.66
Situation 7		
25	Defining the problem	2.00
26	Identifying the cause	2.00
27	Proposing a solution	1.33
28	Justifying the results of the solution	1.66
Situation 8		
29	Defining the problem	2.00
30	Identifying the cause	2.00
31	Proposing a solution	1.33
32	Justifying the results of the solution	1.33
Situation 9		
33	Defining the problem	2.00
34	Identifying the cause	1.66
35	Proposing a solution	2.00
36	Justifying the results of the solution	1.33
Situation 10		
37	Defining the problem	1.33
38	Identifying the cause	1.33
39	Proposing a solution	1.33
40	Justifying the results of the solution	1.33
Situation 11		
41	Defining the problem	2.00
42	Identifying the cause	1.66
43	Proposing a solution	1.33
44	Justifying the results of the solution	1.33

2 – 1.50 = Accepted, >1.49 = Revised

As can be seen in Table 3.21, twelve items scored below 1.50. These items were revised according to the experts' comments in terms of inappropriate alternatives. First, some alternatives tested the students' English

language skills rather than their problem-solving skills. For example, an alternative for item 1 was revised because it assessed English language skills. That alternative was, 'The PNG is facing seriously with its competitors in Chiengmai and Suratthani.' This alternative was changed to 'The PNG does not have enough customers in Chiengmai and Suratthani.' Second, many items had more than one possible answer. For example, alternative 'a' of item 27 was not the only possible answer. The other possible answer, which was 'discussing the problem with the President of Suwannapoom Airways' was changed to 'asking the President of the company for a new Division Director.' Another example was Item 31. This item also had two possible answers. One alternative was changed from 'asking Suwat more questions about Ploirung.' to 'telling Ploirung that he knows about her cocaine addiction.' Third, situation number 10 of the inventory was inappropriate because its topic was beyond the content of the cause; it was about finance and accountancy rather than general business issues. As a result it was replaced by a new situation and all of the items of the new situation were validated.

Reliability process of the PSSI

The PSSI was pilot tested with thirty-four fourth year UTCC English for business communication majors in June 2008. These students did not participate in the study. From the calculation of Kuder-Richardson Formular 20 (KR 20), the reliability value was .756, indicating that the PSSI was reliable and acceptable to be used in the main study. Table 3.22 illustrates the PSSI's reliability.

Table 3.22: The problem-solving skills inventory's reliability

$\overline{X}$	Minimum	Maximum	Number of PSSI items	KR 20
.578	.029	.912	44	.756

N = 34

In summary, the PSSI was constructed to assess the undergraduate students' problem-solving skills. It was validated by three experts. After it was revised, it was pilot-tested with thirty-four students who were representative of the study's samples. The reliability of the test was .756 (KR 20), showing that the test was reliable. For better quality, the PSSI was revised also according to item facility and item discrimination found after the pilot study

(Appendix P, page 193). The revision made the correct answer more explicit for 'too difficult' items, and made the correct answer less explicit for 'too easy' items. The PSSI had 44 multiple-choice questions based on the 11 business-oriented problem situations provided. Each situation had four multiple-choice questions. These four questions asked about (1) the problem in the situation, (2) the cause of the problem, (3) a possible solution, and (4) a possible result of the possible solution.

3.2.3.3 PBL attitude questionnaire

This instrument will be discussed in four sections: construction, description, validation, and reliability process as follows.

Construction of the PBL attitude questionnaire

The PBL attitude questionnaire aimed to explore undergraduate students' attitudes toward PBL based on their experience in the problem-based business English reading course. It was constructed based on its objectives, the study of APBL program survey form (Wee, 2004), as well as how to assess attitude by a questionnaire from various theses and dissertations in the field of educational psychology and language instruction. After the objectives of the PBL attitude questionnaire were clearly stated, a set of positive statements were constructed according to the course's expectations. Then, another set of negative statements were constructed as an opposite to the positive set. Next, only ten of the most appropriate pair statements were selected. After that, all statements were reorganized so that the negative and positive statements were scattered through the questionnaire. Finally, the questionnaire was translated into Thai.

Description of the PBL attitude questionnaire

PBL attitude questionnaire consisted of two parts. The first part covered twenty rating scale items referring to a five-point Likert scale. The other part asked one open-ended question. The questionnaire was administered at the end of the course. The time provided for the completion of the PBL attitude questionnaire was ten to fifteen minutes. (Appendix E, page 158, Appendix F, page 160)

Validation of the PBL attitude questionnaire

The PBL attitude questionnaire was validated by three experts in the field of English language instruction, English for business communication instruction, and educational psychology (Appendix Q, page 194). They evaluated the PBL attitude questionnaire in terms of its format, length, content, English and Thai translation. Each item was rated on a five-point scale, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree. Any items that scored below 4 were revised. Table 3.23 presents $\overline{X}$ of experts' overall evaluation of the PBL attitude questionnaire.

Table 3.23: $\overline{X}$ of experts' overall evaluation of the PBL attitude questionnaire.

Item	Questions	$\overline{X}$
1	The format of the PBL attitude questionnaire is appropriate (one rating-scale part and one open-ended part)	4.3
2	Length of the PBL attitude questionnaire is appropriate.	4.0
3	Content of the PBL attitude questionnaire is appropriate.	4.0
4	English language of the PBL attitude questionnaire is appropriate.	4.0
5	Thai translation of the PBL attitude questionnaire is appropriate.	3.0

4.50-5.00 = strongly agree, 3.50 – 4.49 = agree, 2.50 – 3.49 = undecided, 1.50 – 2.49 = disagree, 1 – 1.49 = strongly disagree

Table 3.23 shows that the format, length, content, and English language of the PBL attitude questionnaire scored more than 3.49 and was considered appropriate. The Thai translation, in contrast, scored below 3.50 and had to be revised according to the experts' comments.

Reliability of the PBL attitude questionnaire

The PBL attitude questionnaire was piloted twice. The PBL attitude questionnaires were first distributed at the end of the PBL project to thirty third-year English majors of Bansomdejchaopraya Rajabhat University in February 2008. From the calculation of Cronbach's alpha coefficient, which is a measure of the

reliability of a psychometric instrument, the reliability value (α) of the PBL attitude questionnaire was .72. Again, in April, 2008, after the twelve-hour PBL project, the PBL attitude questionnaires were distributed to twelve third-year English for business communication majors at UTCC. It was found that the reliability of the PBL attitude questionnaire was .709 (Cronbach's Alpha), indicating that the PBL attitude questionnaire was reliable and acceptable to be adopted in the study. The PBL attitude questionnaire was piloted twice to ensure that even though there were only twelve informants who were representatives of the students participating the main study, the reliability coefficient was not much different from that of the first pilot study with thirty informants. Table 3.24 shows the PBL attitude questionnaire's reliability.

Table 3.24: The PBL attitude questionnaire (PBL At Q)'s reliability

$\overline{X}$	Varience	S.D	Number of PBL At Q items	Cronbach's Alpha
76.25	31.659	5.627	20	.709

N = 12

In summary, the PBL attitude questionnaire was constructed to investigate the undergraduate students' PBL attitudes. It was validated by three experts. After it was revised, it was pilot-tested with thirty third-year English majors of Bansomdejchaopraya Rajabhat University, and later with twelve third-year English for business communication majors at the University of the Thai Chamber of Commerce (UTCC). The reliability of the PBL attitude questionnaire was .709 (Cronbach's alpha), showing that the questionnaire was reliable. The questionnaire consisted of two parts. The first part covered twenty rating scale items referring to a five-point Likert scale. The other part asked one open-ended question.

3.2.3.4 PBL log

PBL log was an instrument providing qualitative data of the present study. The instrument will be discussed in four sections: construction, description, validation, and reliability process as follows.

Construction of the PBL log

The PBL log aimed to collect qualitative data to triangulate the quantitative data obtained from the REBC test and the PSSI. It was constructed based on its objective—to explore the students' PBL experience in terms of their reading English for business communication, problem solving and other process skills. The format of the PBL log was designed, instructions were written, and a list of questions was made.

Description of the PBL log

The PBL log was the student self report of their reading English for business communication, problem-solving skills, and other process skills that they thought had improved after participating in the problem-based business English reading course. The PBL log asked three open-ended questions and two checklist items. The students were to answer these questions by describing in detail and giving examples if possible. The PBL log was administered twice—after Unit two and at the end of the course. (Appendix D, page 156)

Validation of the PBL log

The PBL log was validated by three experts in the field of English language instruction, English for business communication instruction, and educational psychology (Appendix Q, page 194). They evaluated the PBL log in terms of its format, length, content, English language, and ability to collect data. Each item was rated on a five-point scale, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree. Table 3.25 on the next page presents $\overline{X}$ of experts' overall evaluation of the PBL log. It shows that all aspects of the PBL log scored more than 3.49 and were considered appropriate to be used in the main study. However, for better quality, English language of the PBL log was revised and the instructions were made clearer according to the experts' comments.

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Table 3.25: $\overline{X}$ of experts' overall evaluation of the PBL log.

Item	Questions	$\overline{X}$
1	The format of the PBL log is appropriate (three open-ended questions and two rating-scale items)	4.3
2	Length of the PBL log is appropriate.	4.0
3	Content of the PBL log is appropriate.	4.0
4	English language of the PBL log is appropriate for fourth-year English for business communication majors.	4.3
5	The PBL log can reflect the students' reading English for business communication.	4.0
6	The PBL log can reflect the students' problem-solving skills.	4.0
7	The PBL log can reflect other process skills found by the students.	4.0

4.50-5.00 = strongly agree, 3.50 – 4.49 = agree, 2.50 – 3.49 = undecided, 1.50 – 2.49 = disagree, 1 – 1.49 = strongly disagree

Reliability of rating the PBL log

The PBL logs were distributed to twelve third-year English for business communication majors, UTCC at the end of the twelve-hour PBL project organized in April 2008. Based on the content analysis, it was found that the students could follow the instructions and complete the PBL log. However, they needed more time to finish it. As a result, in the main study, time allocation for the PBL log was increased to about twenty minutes. Moreover, students were allowed to complete it in either English or Thai.

In summary, the PBL log was constructed to collect the students' self-reports about their reading English for business communication, problem-solving skills, as well as other process skills the students thought they had improved through the implementation of PBL in the business English reading course. The PBL log was validated by three experts. After it was revised, it was pilot-tested with twelve third-year English for business communication majors at the University of the Thai Chamber of Commerce (UTCC). The PBL log consisted of three open-ended

questions and two checklist items. The students were to answer these questions with detailed descriptions and examples, if possible.

Analysis of the students written answers to questions was done by three scorers who received a checklist of answer keywords for all questions. The inter-rater reliability was calculated by using SPSS for Windows to find the correlation coefficients between the three raters' scoring of the students' PBL logs. The correlation coefficient between Rater A and Rater B was .913. The correlation coefficient between Rater A and Rater C was .770, and the correlation coefficient between Rater B and Rater C was .791. Since the correlation coefficients between the three raters were higher than .75, the correlation between the three raters' scoring was high, and this means the scoring of the students' PBL logs had high inter-rater reliability. Table 3.26 presents the correlation coefficients between the three raters.

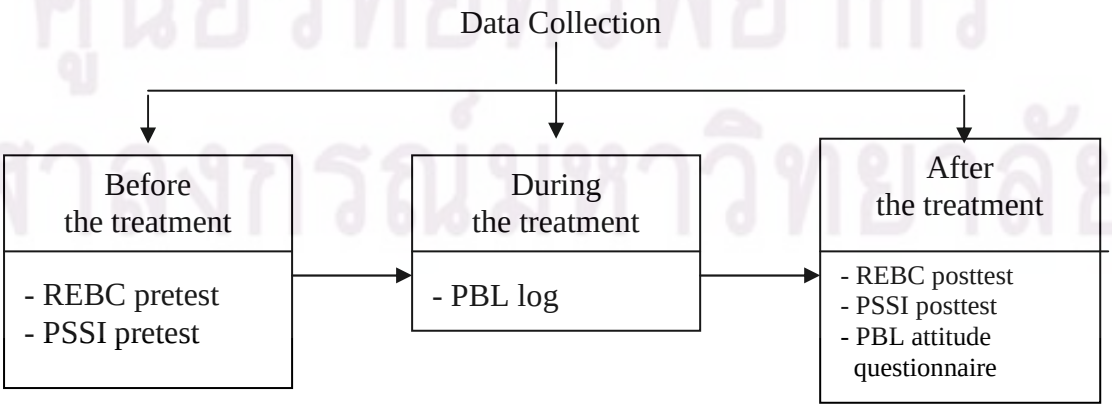
Table 3.26: Correlation coefficients between the three raters

Spearman's rho	Sig. (2-tailed)	Rater B	Rater C
	Rater A	.913	.770
	Rater B		.791

3.2.4 Data collection

Data for the main study were collected in three phrases: before, during, and after the treatment. The time allotted for the treatment was 10 weeks (20 classroom periods; 75 minutes a period). Figure 3.7 presents data collection of the present study.

Figure 3.7: Data collection of the present study



3.2.4.1 Before the treatment

At the beginning of the problem-based business English reading course, the reading English for business communication test (the REBC test) and the problem-solving skills inventory (the PSSI) were administered as the pre-tests to the sample group in June 2008.

3.2.4.2 During the treatment

Table 3.27 on the next page presents the instruction schedule of the problem-based business English reading course from June to September 2008. As illustrated in Table 3.27, the treatment lasted 10 weeks. There were two classroom periods per week. The time allotted for the treatment remained constant, but only three units of instruction could be completed in the time allowed instead of the five units planned. The original five units included (1) business etiquette, (2) intercultural communication, (3) customer satisfaction, (4) communication technology and (5) business ethics. The actual units taught were (1) business etiquette, (2) intercultural communication, and (3) customer satisfaction. Only three-units of instruction could be completed because students required more time to get used to PBL during the induction sessions as well as needing more time to complete each project in one unit. That is it took three weeks (six classroom periods) to complete a unit instead of two weeks (four classroom periods). Consequently, the all five units of instruction could not be completed. During the treatment, PBL logs were distributed to the sample group at the end of Unit two (the 10^{th} week) instead of Unit three as planned, and again at the end of Unit three (the 14^{th} week) instead of Unit five. Students selected the three units that were taught.

3.2.4.3 After the treatment

At the end of the course, all of the students took the REBC post- test and the PSSI post-test. In addition, in the sixteenth week they completed the PBL attitude questionnaire.

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Table 3.27: Instruction schedule of the problem-based business English reading course.

Week		Week	
1	Add-withdraw period	9	Intercultural communication
2	Add-withdraw period	10	Intercultural communication 1st PBL log distribution
3	REBC pre-test PSSI pre-test	11	No class (Mid-term exam week)
4	Introduction to PBL Sample problem situation	12	Customer satisfaction
5	Business etiquette	13	Customer satisfaction
6	Business etiquette	14	Customer satisfaction
7	Business etiquette	15	Wrap-up 2nd PBL log distribution
8	Intercultural communication	16	PBL attitude questionnaire distribution REBC post-test PSSI post-test

3.2.5 Data analysis

Table 3.28 illustrates data analysis of the present study.

Table 3.28: Data analysis of the present study

Instruments	Data Analysis
1. The reading English for business communication test (the REBC test)	- $\overline{X}$, S.D -Dependent samples t-test -Cohen's *d*
2. The problem-solving skills inventory (the PSSI)	- $\overline{X}$, S.D -Dependent samples t-test -Cohen's *d*
3. The PBL attitude questionnaire	- $\overline{X}$, S.D
4. PBL log	-Content analysis

Below are data analyses presented according to the three intended outcomes of the present study.

3.2.5.1 Reading English for business communication abilities

Mean scores from the reading English for business communication pre-and post-tests were used to examine effects of the treatment on the sample group. Their reading English for business communication pre-and post-test mean scores were compared using dependent samples t-test at the alpha level of .05. In addition, the effect size of these two mean scores was calculated by using Cohen's *d*.

Moreover, written answers (self reports) of items one and three of the PBL logs were analyzed based on content analysis with inter-rater reliability to triangulate the findings from the REBC test.

3.2.5.2 Problem solving skills

Mean scores from the problem-solving skills inventory pre-and post-tests were used to examine effects of the treatment on the sample group. Their problem-solving skills inventory pre-and post-test mean scores were compared using dependent samples t-test at the alpha level of .05. In addition, the effect size of these two mean scores was calculated by using Cohen's *d*.

Moreover, written answers (self reports) of item four (4.1) from PBL logs were analyzed based on content analysis with inter-rater reliability to triangulate the findings from the PSSI. The calculation of the content analysis as well as the inter-rater reliability was as previously explained.

3.2.5.3 PBL Attitudes

Mean scores and written answers from the PBL attitude questionnaire were used to explore whether the undergraduate students have positive attitudes toward PBL. Their attitude scores from the attitude questionnaire were analyzed for means and standard deviations by using descriptive statistics.

Moreover, all written answers (self reports) from PBL logs were analyzed based on content analysis with inter-rater reliability to indirectly triangulate the findings from the PBL attitude questionnaire.

3.3 Chapter summary

This study was conducted as a developmental and pre-experimental study with one group pretest-posttest design. Research processes included the development of a business English reading course using PBL and the implementation of the course. The course was developed based on the findings from needs analysis. Five major components of the problem-based business English reading course included the course objectives, content, instructional process, materials, and assessment and evaluation. All the instructional and research instruments were constructed and validated by experts. After that they were pilot tested to verify the practicality and reliability.

The main study covered a ten-week treatment of PBL implementation. Prior to the treatment, participants were pre-tested to assess their reading English for business communication ability and problem-solving skills. During the treatment, they self reported their PBL experience in terms of their reading English for business communication and problem-solving skills. After the treatment, they were post-tested to assess their reading English for business communication ability and problem-solving skills again. Furthermore, they completed the PBL attitude questionnaire at the end of the course.

The next chapter reports the results of this study according to the two research questions. Discussion will involve the results stemming from the development of the business English reading course using PBL and the implementation of the course.

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CHAPTER IV

RESULTS

This chapter presents the answer to the two research questions: “How can the business English reading course using a problem-based learning approach be developed?” and “What are the effects of a business English reading course using a problem-based learning approach on the University of the Thai Chamber of Commerce undergraduate students’ English learning outcomes?” The chapter then describes first the problem-based business English reading course, which followed from the development of the course. After that, the findings from the implementation of the course are revealed.

4.1 Result of the development of the problem-based business English reading course

4.1.1 The problem-based business English reading course

The results of the research derived the problem-based business English reading course which comprised the course rationale and its five major components. The course components included objectives, content, instructional process, materials, and assessment and evaluation. Below are the details of the problem-based business English reading course.

COURSE RATIONALE

The course attempts to enhance reading English for business communication abilities and problem solving skills of English for business communication majors in the Faculty of Humanities, University of the Thai Chamber of Commerce, in order to better qualify them with skills needed by the business sectors, especially airline, hotel, and tourism businesses. Implementation of the problem-based learning approach (PBL) provides the students with opportunities to practice and apply reading skills they have learnt and acquired from their previous English reading courses in a meaningful reading environment in which real-world business-oriented problem situations are the starting points for their learning. To help develop the students’ reading English for business communication abilities, content of the course covers

business etiquette, intercultural communication, customer satisfaction, communication technology, and business ethics which are considered the five most important business communication topics EBC graduates should be aware of when working in airline, hotel, and tourism businesses. Various problem-based projects throughout the course help them develop their problem solving skills as well as other process skills such as self-directed learning and communication skills. In short, the business English reading course using PBL helps develop the skills of EBC majors so that they will become successful in their careers and life-long learning in this information age.

COURSE COMPONENTS

The course components were objectives, content, instructional process, materials, and assessment and evaluation. They are described as follows.

Objectives:

Based on the top-five purposes for reading English for business communication, the objectives were that by the end of the course, the students would be able to (1) communicate effectively about business, (2) collaborate, (3) discuss and plan with multiple business perspectives, (4) make business decisions, and (5) propose ideas and opinions.

Content:

Based on the top-five business communication topics revealed by the needs analysis, the course content included business etiquette, intercultural communication, customer satisfaction, communication technology, and business ethics. Each unit was introduced in the form of a problem situation. Each problem situation represented a single unit. A unit lasted 4-6 classroom periods. Table 4.1 presents the content schedule for the whole course of instruction covering 2 classroom periods a week. A period was 75 minutes. These two periods were not contiguous.

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Table 4.1: Content schedule for the problem-based business English reading course

Week	Unit	Business Communication Topic	Problem Situation	Skills Required
1	-	Add-Withdraw period	-	-
2	-	Pre testing and PBL induction session	-	-
3	1	Business Etiquette	To present a project about business etiquette to promote the company's global marketing	-language skills (integrated skills with a focus on reading—especially distinguishing fact from opinion and predicting outcomes) -problem solving skills -teamwork skills
4	1	Business Etiquette		
5	1	Business Etiquette		
6	2	Intercultural communication	To present a project about cross-cultural awareness to promote the company's sales	-language skills (integrated skills with a focus on reading—especially identifying process, recognizing cause and effect, and comparing and contrasting) -problem solving skills -teamwork skills
7	2	Intercultural communication		
8	2	Intercultural communication		
9	3	Customer satisfaction	To present an approach for handling complaints and to design a training program for airline customer service managers and frontline staff	-language skills (integrated skills focus on reading—especially distinguishing fact from opinion, recognizing cause and effect, and analyzing point of view and purpose.) -problem solving skills -teamwork skills
10	3	Customer satisfaction		
11		No class (Mid-term exam week)		
12	4	Communication technology	To present a project about Information and Communication Technology—design an ICT training package for hotel staff development	-language skills (integrated skills focus on reading—especially making inferences of textual and graphic data and identifying fundamental ICT terms) -problem solving skills -teamwork skills
13	4	Communication technology		
14	5	Business ethics	As an executive team candidate, the students present a business ethics-administrative vision: '*Business ethics has an effect on business success. Good business ethics causes life-long business success.*'	-language skills (integrated skills focus on reading—especially recognizing cause and effect and identifying process) -problem solving skills -teamwork skills
15	5	Business ethics		
16	-	Post testing and course wrap-up	-	-

Instructional process:

The instructional process adopted in the problem-based business English reading course comprised three teaching stages requiring four to six classroom periods to complete. A period lasted 75 minutes. The three teaching stages included Warm-Up Activities (1 period), PBL Activities (3 periods), and Evaluation and Reflection Activities (30 minutes).

1) Warm-Up Activities (to activate the student's prior knowledge about the unit topic and its value)

Activities: The activities consisted of two parts. First, the students brainstormed and discussed the picture provided. Second, the students read a passage and gave answers to the questions. After that, they discussed their answers with other students and shared experiences.

2) PBL Activities (to facilitate the students' use and practice of their reading skills in the field of business communication, problem solving skills, and teamwork skills)

Activities: The activity started with the students reading a problem situation about one and a half page long. They read it silently, following which they checked their comprehension of the situation as a group. As a class activity, the teacher elicited some comprehension responses to make sure that all students understand key terms and concepts and can define the problem. Then, in small groups they moved through the PBL process, guided and monitored by the teacher. The PBL process included four steps—(1) analyzing the problem, (2) identifying further learning needs, (3) self-directing themselves to collect additional information, and (4) reviewing what had been learnt and proposing solutions.

Analyzing the problem: Students in groups analyzed the problem situation by making a list of short and simple sentences about all important information in the problem situation in Learning log 1 (What We Know). They analyzed the problem and listed what they know based on the information provided from the problem situation itself, using their existing knowledge and reasoning skills. The teacher asked questions such as 'what are the most interesting facts about the case?', 'Why is the information you know about the case important?'

Identifying further learning needs: Students identified further learning needs for making process with the problem. They collaboratively discussed and shared ideas about what questions they should ask themselves to arrive at a solution of the problem situation. They completed Learning log 2 (What We Need to Know) with short and simple questions. The teacher asks questions such as 'How might you find out information on cultures?' 'What do you need to know more about?' 'Where can you find that information?'

Self-directing themselves to collect additional information: In this step, individual students were assigned by the group to read extensively for certain information. They completed Learning log 3.1 (Action Plan for Research), which helped them divide their outside class reading responsibilities. The list was based on the questions developed in Step 2. Each student had to find answers to one or two questions from the list and summarized the answer(s) to their questions in Learning log 3.2 (Summary of What I Learnt from Self Study). Since the third step required students to read extensively in their free time outside of class, they were given a few days to complete their work. Thus, the students divided their reading work by completing Learning log 3.1 before a weekend.

Reviewing what has been learnt and proposing solution(s): In this step, students came back to class and reported their answers to their group. After that, they discussed the possible solution(s) and prepared to present the conclusions to all the students in the next class. The students completed Learning log 4 (Action Plan for Group Presentation). This log enabled students to manage their group work for the class presentation.

3) Evaluation and Reflection Activities (To give students opportunities to have peer and self-evaluation and reflection on their study and PBL experience)

Activities: After the presentation by each group, all students evaluated their own and other groups' presentations based on a checklist provided by the teacher. After all presentations had been evaluated, they evaluated their own group's teamwork with another checklist. Then, they all shared PBL experiences, including reading skills practiced and knowledge gained.

Materials:

The course materials consisted of the teacher's manual and the students' materials. They are described as follows.

*Teacher's manual***:** The teacher's manual was designed for a teacher who teaches the problem-based business English reading course in the Department of English for Business Communication, Faculty of Humanities, UTCC. This manual was used in conjunction with the students' materials. The teacher's manual comprised of two main parts—(1) Making the Most of PBL and (2) Unit-by-Unit Lesson Plans. Reading materials in the resource file for the teacher were kept up-to-date so that internet resources were still accessible.

The first section (Making the Most of PBL) provided necessary fundamental information for the PBL practitioner. It included information regarding PBL, together with guidance and resources for the PBL practitioner.

The second section (Unit-by-Unit Lesson Plans) provided unit-by-unit teaching guidelines, lesson explanations, instructional materials, activities, the teacher's role, the students' role, assessment and evaluation, and resource file for additional/supplementary activities.

Students' materials: They included English reading materials, learning logs, and evaluation forms**.** They are described as follows.

1. English reading materials

English reading materials were five prepared problem situations**,** reading passages used during warm-up activities**,** and resource files for students' self-study. The students' resource file comprised textbook readings, authentic readings, and resources for students' online reading.

2. Learning logs

Five learning logs were used to facilitate students' progress along the PBL process. They included (1) Learning Log 1 (What We Know), (2) Learning Log 2 (What We Need To Know), (3) Learning Log 3.1 (Action Plan for Research) and Learning Log 3.2 (Summary of What I learned from Self Study), and Learning Log 4 (Action Plan for Group Presentation). These learning logs were introduced while students were participating in PBL activities, and by means of which students defined the problem, analyzed the problem, self directed themselves to

collect additional information, and reviewed what has been learnt and proposed solutions, respectively.

3. Evaluation forms

There were two student evaluation forms at the end of each unit covering self and peer assessment. They included (1) Classroom Presentation Rubric, and (2) Teamwork Evaluation Form.

Assessment and evaluation:

The assessment and evaluation of the problem-based business English reading course was based on both formative and summative assessment procedures. The formative assessment included informal methods: learning logs and feedback sessions The summative assessment included formal methods: class presentations and examinations on reading English for business communication abilities and problem solving skills. Mark distribution of the course was as shown below.

Mark Distribution:

Attendance	10%
Active participation	10%
Assignments	40%
(individual = 20%, group = 20%)	
Class presentation	20%
Final exam	20%

Validation of the course objectives, content, instructional process, materials, assessment and evaluation by three experts showed that the five course components were inter-related, appropriate and at least acceptable. The objectives and content were not rated 'appropriate', but 'acceptable'. The objectives and content described above were based on the revision on following the experts' comments. These five components made the business English reading course using PBL ready for the implementation.

4.2 Results from the implementation of the problem-based BERC

The results of this phase of study came from the analysis of both quantitative and qualitative data as follows.

4.2.1 Reading English for business communication abilities

The effects of the problem-based business English reading course on the students' reading English for business communication abilities were examined based on the reading English for business communication test scores. Research hypothesis one guides the comparison of the reading English for business communication pre- and post-test mean scores.

Hypothesis 1*: The reading English for business communication posttest mean score of undergraduate students participating in a business English reading course using a problem-based learning approach is significantly higher than their pretest mean score at the alpha level of ± 0.05.*

Table 4.2 illustrates $\overline{X}$, S.D, t, d of reading English for business communication pre- and post-tests from the sample group.

Table 4.2: $\overline{X}$, S.D, t, d of reading English for business communication pre- and post-tests from the sample group

		$\overline{X}$	*S.D*	*t*	*df*	*Sig*	*Mean differences*	*d*
REBC test	Pre-test	16.13	3.882	-3.901	23	.001	-3.875	.85
	Post-test	20.00	4.961					

N = 24

The results in Table 4.2 indicate that the students' post-test mean score was significantly higher than their pre-test mean score, t (23) = -3.875, $p<0.05$. The effect size between these two mean scores was calculated using Cohen's d. It suggested that the difference was large (d = .85). According to Cohen (1992), 0.2 is indicative of a small effect, 0.5 a medium, and 0.8 a large effect. Therefore, the effect size (d = .85) means that the treatment or the problem-based business English reading course had a large effect on the students' reading English for business communication abilities, therefore research hypothesis one was accepted.

This can be supported by the findings from answers the students gave to questions one and three of the PBL logs. Question one was 'How did the problem situations provided enhance your reading English for business communication?' Question three was 'How were those reading English for business communication

skills (the students marked in question 2) improved?' The students gave answers to these two questions by explaining reasons and describing what they did in the course that they thought enabled them to improve their reading English for business communication abilities. Table 4.3 shows percentages of the students' keyword-categorized answers to question 1, 2, and 3 of the PBL logs.

Table 4.3: Percentages of students' keyword-categorized answers to question 1, 2, and 3 of the PBL logs.

Ques-tions	Open-ended questions number 1, 2, 3 and list of keywords scorers of the PBL log used to categorize the students' answers	Frequency N = 24	Percentages of students who answered the question with explanation
1	How did the problem situations provided enhance your reading English for business communication?		
	- stimulating information search	12	47.92
	- stimulating his/her learning of new vocabulary	10	39.59
	- motivating his/her reading.	9	37.50
2	What skills in reading English for business communication (listed below) do you think you have improved?		
	- Analyzing point of view and purpose	24	100
	- Finding solution	21	87.50
	- Identifying main idea	20	83.33
	- Recognizing cause and effect	19	79.16
	- Identifying details	17	70.83
	- Making inference	17	70.83
	- Drawing conclusion	16	66.66
	- Comparing and contrasting	14	58.33
	- Identifying sequence or process	11	45.83
	- Recognizing business terms and expressions	11	45.83
	- Distinguishing fact from opinion	10	41.66
	- Following instructions or manuals	5	20.83
	- Predicting outcomes	2	8.33

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Table 4.3 (Cont.): Percentages of students' keyword-categorized answers to question 1, 2, and 3 of the PBL logs.

Ques-tions	Open-ended questions number 1, 2, 3 and list of keywords scorers of the PBL log used to categorize the students' answers	Frequency N = 24	Percentages of students who answered the question with explanation
3	How were those reading English for business communication skills (the students marked in question 2) improved?		
	- practicing and applying reading skills to understand/analyze problem situations and or other additional information.	22	91.67
	- practicing and applying reading skills to complete their summarizing assignment.	6	25.00
	- following class activities	4	16.67

In terms of the explanation the students gave to question one, 'How did the problem situations provided enhance your reading English for business communication?', their answers varied. The three most explicit answers were that the problem situations stimulated information search (47.92%), the problem situations stimulated their learning of new vocabulary (39.59%), and the problem situations motivated their reading (37.50%).

Below are two examples of students reporting that problem situations provided them with opportunities to learn business-oriented vocabulary and business terms and to use and apply business communication reading skills more than usual.

A student said, *"I read and analyzed the situations provided. I have learned more about formal vocabulary and business terms. This helped improve my English. I learned better than usual. For example, I had to search in depth for information so that the best information was presented."*

Another student pointed out, *"Problem situations enhanced my reading English for business communication a lot because reading the situations helped me know more business vocabulary and terms, and understand more business*

English. To search for information to complete the project, I had to read comprehensively and to communicate with others. So, reading the situations enhanced my learning of many things—what was unknown, unseen became known and understood."

Question two was a checklist item, asking students to mark reading skills that they thought had improved. It was found that all of the students thought that they had improved 'analyzing point of view and purpose,' while most of the students believed that they had improved 'finding solutions' (87.50%), 'identifying the main idea' (83.33%), and 'recognizing cause and effect' (79.16%). More than two thirds of the students thought that they had developed 'identifying details' (70.83%) and 'making inferences' (70.83%). About half of the students thought that they had improved 'drawing conclusions' (66.66%) and 'comparing and contrasting' (58.33%). Other reading skills were selected by less than half of the students.

According to question three, 'How were those reading English for business communication skills (the students marked in question 2) improved?', most of the students (91.67%) reported that they had practiced and applied reading skills to understand/analyze problem situations and or additional information. One fourth of the students (25%) reported that they had practiced and applied reading skills to complete their summarizing assignment. That class activities in general supported their reading improvement was reported by 16.67%. Below are two examples of students reporting what they did in the course that enabled them to improve reading English for business communication abilities.

A student reported that in the process of following the PBL steps she read extensively, tried to comprehend and analyzed information for the completion of their group project work. She revealed, *"The first skills of reading English for business communication I have improved were reading for main ideas and details, and then summarizing in my own words. This helped me do research on the internet according to cases provided by the teacher. After finding information, I had to first understand it myself. This made me see problems and reasons clearly. I had to know what the real objective of the situation was, and what more I had to find out. This made me understand better."*

Another student thought that she had improved her reading English for business communication because of group discussions. She expressed the view that, *"I have improved my reading English for business communication skills because I*

worked in a group, discussing and planning the work together. We discussed about main ideas and details for group understanding and agreement. This was so that we could present the work as planned."

Based on the findings, it can be concluded that the business English reading course significantly enhanced the undergraduate students' reading English for business communication abilities. The students' post-test mean scores of the REBC test were statistically higher than their pretest mean scores. These findings were relevant to the students' explanation of why they thought they had improved the skills as well as their description of what they did in the course that enabled them to do so.

4.2.2 Problem solving skills

The effects of the problem-based business English reading course on the students' problem solving skills were examined based on the problem solving skills inventory test scores. Research hypothesis two guides the comparison of the problem solving skills inventory pre- and post-test mean scores.

Hypothesis 2*: The problem solving skills post-test mean score of undergraduate students participating in a business English reading course using a problem-based learning approach is significantly higher than their pre-test mean score at the alpha level of ± 0.05.*

Table 4.4 illustrates $\overline{X}$, S.D, t, d of the problem-solving skills pre- and post-tests of the sample group.

Table 4.4: $\overline{X}$, S.D, t, d of the problem-solving skills inventory pre- and post-tests of the sample group

		$\overline{X}$	*S.D*	*t*	*df*	*Sig*	*Mean differences*	*d*
PSSI	Pre-test	17.71	4.369	-2.823	23	.01	-3.042	.6
	Post-test	20.75	5.479					

N = 24

The results in Table 4.4 indicate that the students' post-test mean score was significantly higher than their pre-test mean score, t (23) = -2.823, $p<0.05$. The effect size between these two mean scores was calculated using Cohen's d. It suggested that the difference was medium (d = .6). According to Cohen (1992), 0.2 is

indicative of a small effect, 0.5 a medium, and 0.8 a large effect. Therefore, the effect size (d = .6) means that the treatment of the problem-based business English reading course had a medium effect on the students' problem-solving skills, therefore research hypothesis two was accepted.

This can be supported by the findings from answers the students gave to question four which asked 'What process skills (listed below) do you think you have improved?' (Question four provided three checklist items: 4.1 problem-solving skills, 4.2 communication skills, and 4.3 self-directed learning. If a student marked any skill, he/she was supposed to describe in detail what he/she did in the class to support why he/she thought he/she had improved that skill.) Table 4.5 shows percentages of the students' keyword-categorized answers to question four (4.1) of the PBL logs.

Table 4.5: Percentages of students' keyword-categorized answers to question 4.1 of the PBL logs.

Question	Open-ended questions number 4 (4.1) and list of keywords scorers of the PBL log used to categorize the students' answers	Frequency N = 24	Percentages of students who answered the question with explanation
4	What process skills (listed below) do you think you have improved? Please mark ✓in the space provided. (You can tick more than one). Also, describe in detail the process followed in the tasks that you did in class.		
	4.1 ***Problem-solving skills***		
	Describe what you <u>did</u> in the project concerning your practice and use of problem solving skills.		
	- completing in-class and outside class activities and assignments.	13	52.09
	- discussing in the group what additional information needed to find	5	20.83
	- reading problem situations and discussing in the group what they were about.	4	16.67

According to Table 4.5, the students reported that they had improved their problem-solving skills by doing the following: They completed in- and-outside of class activities and assignments (52.09%), discussed in the group what additional information they needed to find (20.83%), and read problem situations and discussed in the group what they were about (16.67%). The combination of all these percentages will exceed the total percentage (100 %) of the students who thought that they had improved problem-solving skills because a student's description generally showed more than one type of activity.

Below are two examples of the students' self report revealing that problem situations and classroom activities including the PBL process encouraged their practice of problem-solving skills. They saw that the problem situations provided were business-oriented and were realistic enough to be possible while working in the future.

One student out of 68.75% of the students who thought they had improved problem-solving skills expressed the view that, *"The problem situations provided were different and could occur when working in the future. They helped me think and analyze systematically and reasonably. This enabled me to understand the problems, solve them reasonably, and then I applied problem-solving steps to improve the project and actual situation on time. For example, when I was given a situation, I had to analyze what I already knew, what more I needed to know, and what had to be solved. The most important thing was that we shared ideas better in a collaborative group."*

Another student in this group offered support by saying, *"Problem situations taught us to know how to solve problems we were facing. It developed our problem solving skill, which could be applied in the future in the business sector after we graduated."*

Based on the findings, it can be concluded that the business English reading course significantly enhanced the undergraduate students' problem-solving skills. The students' post-test mean score of the PSSI was statistically higher than their pre-test mean score. These findings were relevant to the students' explanation of why they thought they had improved their problem-solving skills as well as their description of what they did in the course that enabled them to do so.

4.2.3 PBL Attitudes

The students' PBL attitudes were investigated based on the PBL attitude questionnaire administered at the end of the course.

Hypothesis 3*: Undergraduate students participating in the business English reading course using a problem-based learning approach have positive attitudes toward the problem-based learning approach.*

Table 4.6 illustrates $\overline{X}$ and S.D for reported PBL attitudes.

Table 4.6: $\overline{X}$ and S.D for reported PBL attitudes

PBL Attitudes (extracted from full statements)	$\overline{X}$	S.D
1. Problem situations were interesting.	4.54	.58
2. PBL was stimulating.	4.63	.57
3. PBL was not time-consuming.	2.29	1.12
4. PBL provided useful business communication knowledge.	4.46	.58
5. PBL was not too complicated.	3.25	1.22
6. PBL increased reading responsibility.	4.38	.97
7. Problem situations were related to REBC.	4.04	1.16
8. PBL enhanced purposeful reading.	4.29	.75
9. With PBL, one could better read EBC.	3.42	1.28
10. PBL was supported to be used in learning reading English for business communication (REBC).	4.46	.58
11. PBL did not offer a bad learning experience.	4.33	1.04
12. PBL was not too difficult.	4.13	.61
13. PBL would be suggested to friends.	3.88	.79
14. One preferred PBL to a lecture-based method.	3.29	.99
15. PBL offered a good learning experience.	4.08	.50
16. One did not need to work hard to get used to PBL.	1.79	.77
17. PBL taught some useful process skills.	4.75	.60
18. PBL was important for studying REBC.	4.58	.58
19. PBL enhanced REBC abilities.	4.46	.77
20. PBL was satisfying.	4.67	.56

N = 24

4.50-5.00 = strongly agree, 3.50 – 4.49 = agree, 2.50 – 3.49 = undecided, 1.50 – 2.49 = disagree, 1 – 1.49 = strongly disagree

According to Table 4.6, the students had highly positive attitudes toward PBL in most aspects explored. Important findings were that they strongly agreed that PBL taught some useful process skills ($\overline{X}$ = 4.75), PBL was satisfying ($\overline{X}$ = 4.67), PBL was stimulating ($\overline{X}$ = 4.63), PBL was important for studying REBC ($\overline{X}$ = 4.58), and problem situations were interesting ($\overline{X}$ = 4.54). They agreed that PBL enhanced reading English for business communication abilities ($\overline{X}$ = 4.46), provided useful business communication knowledge ($\overline{X}$ = 4.46), and was supported to be used in learning reading English for business communication ($\overline{X}$ = 4.46). Other positive attitudes were, for example, 'PBL increased reading responsibility ($\overline{X}$ = 4.38), 'PBL offered a good learning experience' ($\overline{X}$ = 4.33), and 'PBL enhanced purposeful reading' ($\overline{X}$ = 4.29).

These positive findings from the PBL questionnaire were indirectly well supported by the qualitative data. The students' PBL logs revealed that PBL was seen to be powerful in many aspects. The students more or less viewed PBL as helping them improve their reading English for business communication and problem-solving skills, as mentioned earlier. Moreover, the students saw that PBL stimulated them to apply self-directed learning and practice many English communication skills. As a result, they believed PBL also helped them improve these skills. Table 4.7 illustrates the percentages of the students' keyword-categorized answers to question four (4.2 and 4.3).

As can be seen in Table 4.7 on the next page, the students found that PBL strengthened their overall English communication skills and not only their reading. This resulted from the following activities: speaking English while participating in group discussions (60.42 %), writing English to complete written activities throughout (58.34 %), reading English written materials to do the group project (54.17 %), and listening to English while participating in group discussions (52.08 %). For example, a student reported, *"I have improved all four English communication skills. Listening: because I listened to problems explained. Speaking: I tried to comprehend the problem. Writing: I wrote to summarize according to what I understood of my teammates' shared ideas."*

Another student said, *"I have greatly improved my English communication skills. Reading: This skill was used a lot because I had to read for*

information. This helped me learn more vocabulary and expressions. Writing: My writing was developed because I had to write. This allowed me to learn that when writing paragraphs there should always be an introduction, body and conclusion. Besides, I have improved my writing of outlines and my use of English structure. Listening skills were developed because I had to listen to the teacher's instructions as well as classmates' presentations. Thus, I had to clearly understand what I was listening to."

Table 4.7: Percentages of students' keyword-categorized answers to question four (4.2 and 4.3).

Question	Open-ended questions number 4.2 and list of keywords scorers of the PBL log used to categorize the students' answers	Frequency N = 24	Percentage of students who answered the question with explanation
4	What process skills (listed below) do you think you have improved? Please mark ✓in the space provided. (You can tick more than one). Also, describe in detail the process followed in the tasks that you did in class.		
	4.2 *English communication skills*		
	Describe what you <u>did</u> in the project concerning your practice and use of English communication skills		
	- speaking English while participating in group discussions	15	60.42
	- writing English to complete written activities throughout	14	58.34
	- reading English written materials to do the group project.	13	54.17
	- listening to English while participating in group discussions.	12	52.08
	4.3 *Self-directed learning*		
	Describe what you <u>did</u> in the project concerning your practice and use of self directed learning		
	- searching for library and or online information.	16	66.67
	- completing assignments	7	29.17
	- reading by himself/herself at home.	5	20.84

Furthermore, as can be seen in Table 4.7, the students agreed that PBL enhanced their self-directed learning. The following are the activities performed by students related to their practice and use of self directed learning. They searched for library and or online information (66.67 %), completed assignments (29.17 %), and read by himself/herself at home (20.84 %). For example, a student revealed, *"Since each project required searching for information rather than comprising lessons provided in class, and had to be completed based mostly on self-directed learning, I have improved this skill from doing projects. This is because I not only learned new information in the files, but also solved problems while doing group work so that we all had the same understanding, group cooperation, and collaboration for the completion of the work. All these required self-directed learning skills."* Another student reported, *"I searched for information for both individual and group work. This included my solving of small problems other than assigned work such as problems in the group. In addition, I had to learn and find information by myself. Available information may or may not be appropriate for the project, so I had to analyze it by myself. This is because there were no fixed rules, but required self-directed learning."*

Even though the students all agreed with the effectiveness of PBL as described, there were three aspects where the students were undecided if PBL possessed certain qualities and two aspects with negative responses to PBL. Based on Table 4.6 (Page 115), the three aspects included 'PBL was not too complicated to learn reading English for business communication' ($\overline{X}$ = 3.25), 'With PBL, one could better read English for business communication' ($\overline{X}$ = 3.42), and 'When I read English for business communication, I preferred PBL to a lecture-based method' ($\overline{X}$ = 3.29).

The two negative aspects toward PBL among the undergraduate students included disagreement with the statement 'PBL was not time-consuming' ($\overline{X}$ = 2.29), and strong disagreement with the statement 'One did not need to work hard to get used to PBL ($\overline{X}$ = 1.79). This shows that the majority of the students found that PBL was time-consuming and hard to get used to.

In conclusion, all of the students had highly positive attitudes regarding most aspects explored. The findings from the PBL attitude questionnaire

were relevant to what the students revealed in the PBL logs, that PBL enabled them to apply and practice many skills besides reading skills. They claimed they had good experiences with PBL and classroom activities. However, it was also found from the findings of the PBL attitude questionnaire that many students thought PBL was time-consuming and hard to get used to.

4.3 Chapter summary

The outcome of the study included the problem-based course produced through the development of the course, and the results from the implementation of the course in the second phase. The course syllabus had six components. They were needs analysis, objectives, content, instructional process, materials, and assessment and evaluation. The results from the implementation of the business English reading course using PBL were as follows:

1. The reading English for business communication post-test mean score of undergraduate students participating in the business English reading course using a problem-based learning approach was significantly higher than their pre-test mean score, t (23) = -3.875, $p<0.05$. The results obtained a large effect size at the level of 0.8.

2. The problem-solving skills post-test mean score of undergraduate students participating in the business English reading course using a problem-based learning approach was significantly higher than their pre-test mean score, , t (23) = -2.823, $p<0.05$. The results obtained a medium effect size at the level of 0.6.

3. Undergraduate students participating in the business English reading course using PBL had both positive and negative attitudes toward PBL. They had highly positive attitudes toward PBL in most aspects explored, three undecided attitudes and two negative attitudes. The three most positive attitudes toward PBL were that PBL taught some useful process skills ($\overline{X}$ = 4.75), PBL was satisfying ($\overline{X}$ = 4.67), and PBL was stimulating ($\overline{X}$ = 4.63). The two negative attitudes were that PBL was time-consuming for teaching reading English for business communication and hard to get used to.

Discussion of findings, pedagogical implications and recommendations for future research will be discussed in the next chapter.

CHAPTER V

CONCLUSION, DISCUSSION, AND RECOMMENDATIONS

This chapter concludes the current study by summarizing the research findings, elaborating on the discussion, highlighting pedagogical implications drawn from the findings, and providing recommendations for future research.

5.1 Summary of the study

This study aimed to develop a business English reading course using PBL and to investigate its effects on undergraduate students' reading English for business communication abilities, problem-solving skills, and attitudes toward PBL. The summary of the study will be described in two phases: development of the business English reading course using PBL and the implementation of the course as follows:

5.1.1 Development of the business English reading course using PBL

The business English reading course using PBL was developed based on the adapted Wee's (2004) APBL curriculum-design process (page 44). Based on this adapted framework, the problem-based business English reading course development process started with a needs analysis.

The population of the needs analysis included (1) former English for Business Communication-major students of the Faculty of Humanities, University of the Thai Chamber of Commerce (UTCC), who graduated in the academic years 2004, 2005, and 2006, (2) English for Business Communication instructors of the Faculty of Humanities, UTCC, and (3) employers and employees who work in airline, hotel, and tourism businesses in Bangkok.

Samples for the needs analysis study comprised (1) 102 English for business communication-major graduates of the School of Humanities, UTCC, 16 instructors of the Department of English for Business Communication, School of Humanities, UTCC, and 245 employers and employees working in airline, hotel, and tourism businesses in Bangkok.

Instrument was a five-point Likert scale questionnaire asking about purposes of reading English for business communication, business communication topics, and problems found while working.

Results of needs analysis were top-five purposes of reading English for business communication including reading for effective business communication, reading for proposing ideas and opinions, reading for collaboration, reading for multiple business perspectives and planning, and reading for business decisions, and top-five business communication topics including customer satisfaction, communication technology, business etiquette, business ethics, and intercultural communication.

Based on needs analysis findings, the course objectives were formulated and the course content was conceptualized. Next, the course organization was determined. After that, based on PBL and the course content, five problem situations were constructed--crafted and aligned with the course objectives. In addition, based on PBL, the learning process and assessment plans were designed and aligned with the course objectives. Also, the assessment plans were determined to fulfill the learning objectives and, finally, the materials of the course were developed, validated by experts, and pilot-tested.

5.1.2 Implementation of the business English reading course using PBL

5.1.2.1 Research design

The problem-based business English reading course was implemented for one semester (16 weeks) on the basis of a one-group pre-test post-test design.

5.1.2.2 Population and samples

The population of this study was fourth year English for Business Communication majors of the School of Humanities, UTCC. The sample comprised twenty-four fourth-year English for business communication majors of the School of Humanities, UTCC in the first semester, academic year 2008.

5.1.2.3 Research instruments

The four research instruments were (1) the reading English for business communication test (the REBC test), (2) the problem solving skills inventory (the PSSI), (3) PBL attitude questionnaire, and (4) PBL log. The REBC test was to investigate the effects of the business English reading course using PBL on

undergraduate students' ability to read English for business communication. The PSSI was to investigate the effects of the business English reading course using PBL on undergraduate students' problem-solving skills. PBL attitude questionnaire was to explore undergraduate students' attitudes toward PBL. PBL log was to provide qualitative data to triangulate the results of the REBC test and the PSSI.

5.1.2.4 Data collection

Data were collected in three phrases: before, during, and after the treatment. At the beginning of the problem-based business English reading course, the Reading English for Business Communication test (the REBC test) and the Problem-solving Skills Inventory (the PSSI) were administered as pre-tests to the sample group. Next, during the treatment, PBL logs were distributed to the sample group at the end of Unit Two (the 10th week) and at the end of Unit Three (the 14th week). Finally, at the end of the course, all of the students took the REBC post-test and the PSSI post-test, as well as completing the PBL attitude questionnaire.

5.1.2.5 Data analysis

The three learning outcomes including reading English for business communication abilities, problem-solving skills, and PBL attitudes were analyzed as follows:

Reading English for business communication abilities: The students' reading English for business communication pre-and post-test scores were compared using dependent samples t-test at the alpha level of .05. In addition, the effect size of these two mean scores was calculated by using Cohen's *d*. Moreover, written answers (self reports) of items one and three of the PBL logs were analyzed based on content analysis.

Problem-solving skills: The students' problem-solving skills pre-and post-test scores were compared using dependent samples t-test at the alpha level of .05. In addition, the effect size of these two mean scores was calculated by using Cohen's *d*. Moreover, written answers (self reports) of items 4.1 of the PBL logs were analyzed based on content analysis.

PBL attitudes: The students' attitude scores from the PBL attitude questionnaire were analyzed for means and standard deviations by using

descriptive statistics. Moreover, all written answers (self reports) from PBL logs were analyzed based on content analysis.

5.1.3 Summary of findings

This part summarizes the findings from the development and the implementation of the problem-based business English reading course

1. Findings from the development of the problem-based business English reading course

Course rationale: This two-credit elective course attempted to enhance reading English for business communication abilities and problem solving skills of English for business communication majors of the Faculty of Humanities, UTCC. Based on PBL, students were given opportunities to become actively involved in meaningful English for business communication reading environments. As a result, they would learn the language skills by solving real-world problem situations developed to best suit their needs. This would better prepare the students to become qualified and needed by business sectors. In addition, this would help develop the students' intelligence, to fulfill the educational needs in the 21st century (Tan, 2003).

The problem-based BERC components included objectives, content, instructional process, materials, and assessment and evaluation. The summary of these components is as follows:

Objectives: At the end of the course, the students would be able to (1) communicate effectively about business, (2) collaborate, (3) discuss and plan with multiple business perspectives, (4) make business decisions, and (5) propose ideas and opinions.

Content: The five-unit content included five problem situations: business etiquette, intercultural communication, customer satisfaction, communication technology, and business ethics.

Instructional process: (about 4 classroom periods: 75 minutes a period) Three teaching stages included Warm-Up Activities (1 period), PBL Activities (3 periods), and Evaluation and Reflection Activities (30 minutes).

Warm-Up Activities aimed to activate the student's prior knowledge about the unit topic and its value. The students looked at a picture and read a passage. Then discussed and shared experiences about the issues.

PBL Activities aimed to facilitate the students' use and practice of their reading skills in the field of business communication, their problem solving skills, and teamwork skills. In this stage, students participated in PBL activities by (1) analyzing the problem, (2) identifying further learning needs, (3) self directing themselves to collect additional information, and (4) reviewing what has been learnt and proposing solutions.

Evaluation and Reflection Activities aimed to give students opportunities to have peer and self-evaluation and reflect on their study and PBL experience. The activities included students' self and peer assessment, and discussions on the learning experience and knowledge gained.

Materials: The course materials included the teacher's manual and students' materials. The teacher's manual included two parts: 'Making the Most of PBL' and 'Unit-by-Unit Lesson Plans.' The students' materials comprised English reading materials, learning logs, and evaluation forms.

Assessment and evaluation: The course included both formative and summative assessment. Methods for formative assessment were the use of learning logs and feedback sessions. Methods for summative assessment were class presentations and examinations on reading English for business communication abilities and problem solving skills.

2. Findings from the implementation of the course

The findings were based on both quantitative and qualitative data analysis. It was found that they were complemented each other. The findings were summarized according to the three hypotheses as follows:

1) The REBC post-test mean score of UTCC undergraduate students participating in the business English reading course using PBL was significantly higher than their pre-test mean score, t (23) = -3.875, $p<0.05$. The results obtained a large effect size of 0.8.

2) The PSSI post-test mean score of undergraduate students participating in the business English reading course using PBL was significantly higher than their pre-test mean score, t (23) = -2.823, $p<0.05$.. The results obtained a medium effect size of 0.6.

3) All undergraduate students participating in the business English reading course using PBL had highly positive attitudes toward PBL regarding most aspects explored. The three most positive attitudes toward PBL were that PBL taught some useful process skills ($\overline{X}$ = 4.75), PBL was satisfying ($\overline{X}$ = 4.67), and PBL was stimulating ($\overline{X}$ = 4.63). However, there were negative attitudes regarding two aspects of PBL—PBL was considered time-consuming for teaching reading English for business communication and hard to get used to.

5.2 Discussion

The discussion will be based on the findings of the study in terms of the problem-based business English reading course and three learning outcomes enhanced by the course. The three learning outcomes include the undergraduate students' reading English for business communication abilities, problem-solving skills, and attitudes toward PBL.

5.2.1 The problem-based business English reading course

Based on the adapted Wee's (2004) APBL curriculum-design process, the business English reading course using PBL was systematically developed. The outcome of the course development reveals the course rationale and five major components of the course. These validated components including objectives, content, instructional process, materials, and assessment and evaluation made the course teachable and effective. All of the components were stated as explicitly as possible. This enabled the researcher to effectively implement the course to investigate its effects on undergraduate students' reading English for business communication abilities, problem-solving skills, and attitudes toward PBL.

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5.2.2 The three learning outcomes

5.2.2.1 Reading English for business communication abilities

The findings from both quantitative and qualitative data show that the students' reading English for business communication abilities improved after participating in the problem-based business English reading course for one semester (10-week treatment). The REBC post-test mean score was significantly higher than the pre-test mean score, t (23) = -3.875, $p<0.05$. The results showed a large effect size of 0.8. Content analyses of the students' PBL logs also strongly supported these findings. The majority of the students reported that business-oriented problem situations and PBL process encouraged them to actively practice and apply reading English for business communication skills. The findings could be discussed as follows.

1. It can be easily seen that when a student is motivated to read, he/she is more engaged in reading activities, which leads to his/her success in reading. The more a student reads in English, the more successful an English reader he/she becomes. This fact is recognized among reading experts. Baker and Wigfield (1999) assert that reading motivation is related to reading comprehension, and reading motivation has a close tie with reading engagement, which is strongly related to reading achievement (Campbell, et al, 1997; Guthrie, 2004). In the problem-based business English reading course where problem situations were used as the focal point of all of reading activities in each unit, students participating in the course were so motivated to read in English that they got actively involve in the reading activities both inside and outside the classroom. The students reported that they read more than usual. Most of them said that problem situations motivated their reading in English because they related to real-world demands in business communication. As a result, the students actively engaged in English reading activities. The findings from the PBL logs strongly support this fact. They read English with a purpose other than for learning English itself, but for finding information to solve assigned problems.

Moreover, all of the students reported that they were satisfied with PBL. They saw that PBL increased their reading responsibility, and that it required that they worked collaboratively. Each step of the PBL process facilitated an attitude of responsibility for their role, especially when they individually had to read and give answers to the questions assigned by the group. The students read

independently at home, and then answered the questions by summarizing what they found. After that they had to prepare to report their summary to the group in the next class. This enabled the students to be more responsible for their English reading because they read not only for themselves, but also for group success.

2. Problem situations designed in the field of business communication based on the students' needs provided the students with opportunities to read English in the field of business communication. The students reported that PBL provided them with useful business communication knowledge. It aroused their interest to actively read English for business communication. Without impetus from PBL, they did not think that they would have read English for business communication, nor read as well.

In conclusion, the problem-based business English reading course significantly enhanced the undergraduate students' reading English for business communication abilities because designing the problem situations based on the students' needs sufficiently motivated them to read English meaningfully and purposefully. Moreover, the PBL process required the students to read reference materials and constantly relate what they read to what they wanted to do with the information (Ngeow and Kong, 2001). Furthermore, t As a result, students unintentionally learned and developed reading English for business communication abilities. Finally, PBL enhanced the students' English reading responsibility. They read not only for themselves, but also for group success. This helped increase the likelihood of extensive English reading throughout the course.

5.2.2.2 Problem-solving skills

The findings from both quantitative and qualitative data show that the students' problem-solving skills improved after participating in the problem-based business English reading course for one semester (10-week treatment). The PSSI post-test mean score was significantly higher than the pre-test mean score, t (23) = -2.823, $p<0.05$. The results showed a medium effect size of 0.6. Content analysis of the students' PBL logs also strongly supported these findings. For example, the students reported that problem-based classroom activities encouraged them to participate in group discussions, which allowed more practice of group problem-

solving. PBL process enabled them to systematically solve problems. Furthermore, reading extensively for information helped them to solve the problems effectively.

That the students significantly improved their problem-solving skills might be because of the implementation of PBL in the business English reading course. PBL is a teaching method which enhances problem-solving skills (e.g.Bridges and Hallinger, 1995; Hativa, 2000; Wee and Kek, 2002; Tan, 2003; Clouston, 2005). This has been well supported by recent research (e.g. Camthana, 1995; Saengrutsamee, 2000; Klaimongkol ,2002; Zhao and Alexander, 2004; and Uys et al., 2004). The followings are at least eight possible reasons why PBL was successfully implemented in the present study. First, the problem situations were designed based on the learning objectives in a way that triggered the students' involvement in the PBL process. The problem situations were not only interesting but also challenging to some degree, in addition to also being understandable and achievable. Second, a student self-study resource file for each unit was prepared for the students. It provided a selection of readings of different levels of difficulty and a variety of interests. They included both textbook and authentic reading materials. Also, a list of recommended websites was given for additional searches. Third, roles were assigned to all group members to foster individual learning responsibility for the achievement of the group project. Fourth, learning logs were used to facilitate the students' move along the PBL process. Fifth, on-going assessment was conducted throughout the PBL process. For example, all of the students' learning logs were either formally or informally scored. Sixth, the learning pace was dependent on the students' readiness to step forward. Seventh, there was no 'Only English' rule for the students' group discussions. They were allowed to speak in Thai if they preferred. Eight, the teacher acted as a monitor and facilitator.

In short, the problem-based business English reading course significantly enhanced the students' problem-solving skills because PBL was effectively implemented throughout the course. Factors affecting the degree of PBL effectiveness in the present study included interesting and challenging problem situations, sufficient self-study resources for all students, assigned roles, the use of learning logs, on-going assessment, a natural learning pace, choice of language for discussion, and teacher's role as monitor and facilitator.

5.2.2.3 Attitudes toward PBL

The finding from the PBL questionnaire indicated that the students participating in the business English reading course using PBL had most positive attitudes toward PBL. Students found that PBL was good in all aspects except that it was time-consuming for teaching reading English for business communication and hard to get used to.

That all students had highly positive PBL attitudes in most aspects explored might be because of the following:

First, they saw the value of learning because problem situations were designed according to the course's learning objectives, which were based on the pre-course needs analysis. Thus the situations could serve their needs. Second, classroom activities were purposeful and motivating. The use of problem situations designed under business communication topics according to the students' needs motivated the students' reading English for business communication both inside and outside classrooms. This reinforced their extensive reading. Also, PBL steps facilitated their problem-solving of the situations provided. This enabled the students to become actively involved in the learning process and consequently subconsciously learned reading English for business communication.

Third, due to meaningful and purposeful activities provided throughout the course, the students had opportunities to practice and apply necessary process skills other than reading English for business communication, such as problem-solving skills, English communication skills, and self-directed learning. As a result, the students themselves thought that due to PBL they had improved their process skills other than reading English for business communication as shown by the comments in PBL logs.

According to the PBL logs, more than half of the students (68.75%) thought that they had improved their problem-solving skills because, for example, they completed in-class and outside class activities and assignments (52.09%) and discussed in the group what additional information needed to be found (20.83%). These findings reflect that a number of students had improved their problem-solving skills and this may result in positive attitudes toward PBL.

According to the PBL logs, more than two thirds of the students (77.08%) disclosed that they thought they had also improved English communication skills in general, including writing, speaking and listening. This is because PBL

projects also enabled more than half of the students to speak English while participating in group discussions (60.42%), to write in English to complete written activities (58.34%), and to listen to English while participating in group discussions (52.08%). Since the students believed that they had also improved communication skills, they viewed PBL positively.

According to the PBL logs, more than two thirds of the students (77.08%) thought that they had also improved self-directed learning. This is because during the PBL process they needed to search for library and or online information (66.67%) and complete assignments (29.17%). That PBL helped students improve their self-directed learning caused PBL to be seen positively.

Fourth, other reasons supporting why the students had positive attitudes toward PBL include the fact that the students exercised self-determination regarding what to do and what to read for the group. Also, they read for solving the problems, not for the tests. Content knowledge was not included in the course assessment and evaluation. As a consequence, they enjoyed reading extensively for information without experiencing reading frustration. In addition, problem-based activities facilitated their practice and application of communication and process skills. Last but not least, assessment for grading were both product and process-oriented.

Two negative aspects of PBL were reported. One negative aspect is that PBL was time-consuming for learning reading English for business communication. The other is that PBL was hard to get used to. This might be because of the following: First, the students experienced PBL for the first time. Second, the PBL process could not be completed within one classroom period, but required at least four classroom periods (75 minutes a period). Third, to solve the problems, many skills were required simultaneously, including reading English for business communication, problem-solving skills, and other process skills such as communication skills and self-directed learning. Fourth, to effectively complete the problem-based projects, each group needed to have good teamwork management.

In conclusion, the students had highly positive PBL attitudes because PBL motivated their learning. It helped increase their learning responsibility, and also provided meaningful reading communities. As a result, the students saw the benefits of PBL while participating in the business English reading course using PBL. They thought that PBL enhanced their reading English for business communication

abilities and problem solving skills, as well as other process skills such as communication skills in general and self-directed learning. However, since the students experienced PBL for the first time, they needed time to get used to this new way of learning.

5.3 Limitations

The complete course instruction was not altogether executed as planned. Several factors contributed to this, one being the time constraint caused by an unstable number of students enrolling in the elective course during the first few weeks, which was an Add-Withdraw period. In addition, since the tentative course schedule covering five units of instruction was designed with a flexible learning pace to accommodate students' unfamiliarity with PBL, a unit of instruction took three weeks (six classroom periods) instead of two weeks (four classroom periods) as originally planned. A classroom period was 75 minutes. As a result, only three units of instruction were completed instead of the full five units.

5.4 Pedagogical implications

The findings of this study suggest six pedagogical implications for development of any problem-based course for EFL readers. First, to effectively develop a business English reading course using PBL, literature on PBL, problem-based course development, language course development, English for business communication course development, and the construct—reading English for business communication abilities, must be sufficiently reviewed.

Also, an appropriate course development process is a must. The course must be developed based on a course development process that best suits the students' needs. It should be a process that allows both PBL and language acquisition simultaneously and be mutually constructive. The development of the problem-based business English reading course reflects that it is necessary that PBL be implemented in an ESP course or at least a content-based classroom. Without interesting/motivating content, problem situations become meaningless. This will certainly cause failure of the whole PBL process because problem situations are the starting points for students' learning in their problem-based classes. Since content plays such an important role, the course must be designed based on a needs analysis. Other major components included the course objectives, content, instructional process

(how PBL plays its role in class), materials, and assessment and evaluation. These components must be clearly described based on sufficient review of PBL literature. This is because PBL has its own characteristics. It can be effective in one context but ineffective in another.

Moreover, students need time to get used to PBL. It is recommended that PBL be first introduced as teacher-guided activities with clearly stated instructions. A sample problem situation should be easy and well within the students' world knowledge. It is possible that more than one sample problem situation will be required. After they become familiar with PBL, complicated problem situations can be introduced.

In addition, to adopt PBL as an alternative teaching method in reading classrooms or adopt PBL throughout the course, it is extremely important that problem situations be designed to meet the course objectives. To put it simply, they are to be designed in such a way that students are required to read English extensively for information to solve the problem. The problem situations play an important role in any problem-based courses. If a problem does not require much information search, but only general world knowledge, the problem will not motivate reading for information. This means PBL would be ineffective for EFL readers because it does not require much language input for EFL students.

Furthermore, once a problem situation is designed, it should be certain that the information be accessible via both www and reading through resources prepared by the teacher.

Finally, both teacher roles and student roles can influence the effectiveness of any problem-based activity. The teacher's major roles include being a monitor and a facilitator. Students' key roles include being active learners, responsible for their own learning such as individual reading, inquiry, reflection, and self-assessment. Also they are to be responsible for their group learning such as brainstorming, peer teaching and peer assessment. Since PBL is student-centered and thus students' roles affect their learning success, good classroom management skills are required for the teacher to solve any unexpected problems, especially when students are passive and irresponsible in class.

5.5 Recommendations for future research

According to the findings of the present study, three recommendations can be made for future research.

1. A long-term study of a problem-based business English reading course should be conducted to examine the consistency of the findings.

2. A true experimental study with two sample groups should be conducted to compare the effects of PBL with those of a traditional teaching method.

3. Since the problem-based business English reading course also enhanced communication skills, it is recommended that PBL be implemented to boost other English language skills such as writing, listening and speaking.

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APPENDICES

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Appendix A

Questionnaire for Employers/Employees Using English in the Workplace

Directions: Please mark ✓ in front of your answers.

1.1 Business Area: … (1) airlines …(2) hotels .. … (3) tourism ..…(4) others

1.2 Current Position: …….(1) employee using English
……..(2) head of a working unit
……..(3) manager or higher position
……..(4) others Please specify: ……

1.3 Working Experience: ……..(1) less than 1 year
(in the business area you are now working in). ……..(2) 1 – 3 years
……..(3) 4 – 5 years
……..(4) more than 5 years

This questionnaire is comprised of three parts. Part One and Part Two are in scales and Part Three consists of open-ended questions. The rating scales provide 5 choices of degrees of agreement. Please mark ✓ in the boxes representing your answers.

5	means	strongly agree
4	means	agree
3	means	undecided
2	means	disagree
1	means	strongly disagree

Part One: Purposes for Reading English for Business Communication						
Item	Reading purposes for communication in your business area include:	agree ➔ disagree				
		5	4	3	2	1
1	reading for meetings					
2	reading for presentations					
3	reading for negotiations					
4	reading for collaboration and socialization					
5	reading for promotion					
6	reading for business decisions and management					
7	reading for proposing ideas and opinions					
8	reading for information management					
9	reading for effective business communication					
10	reading for multiple business perspectives and planning					

11	others. Please specify: (1)……..					
	(2)…….					
	(3)…….					
Part Two: Business Communication Topics						
Item	Business communication topics you think English-major graduates should possess in order to be better qualified are	agree ➔ disagree				
		5	4	3	2	1
1	cross-cultural awareness					
2	business etiquette					
3	business ethics					
4	communication technology					
5	market research					
6	management styles					
7	working motives					
8	product analysis					
9	customer satisfaction					
10	others. Please specify: (1)……..					
	(2)…….					
	(3)…….					

Part Three: Business Communication Problems Experienced While Working
Based on your direct or indirect working experience, please give a short example of a problem situation which happened according to the lack of or insufficient knowledge about the business communication topics listed in Part Two.
1. Problem situation: (business communication topic = ……) …… ……
2. Problem solving: …… ……
3. Results after the problem was solved: …… ……

Thank you very much for your cooperation

Appendix B

Reading English for Business Communication Test

40 items: 80 marks Name of Student: ……
Time Allotment: 75 minutes Date: ……...

Reading English for Business Communication Test

Test Description: This test consists of eight business situations. Each situation shows communication between two business persons. You will play the role of one of these two business persons. Each situation is followed by five multiple-choice questions. These five questions will assess your reading comprehension of both the details of the situation and the message you have received. The first question of a situation asks you how you will respond to the message you have received from the other business person. The other four questions are to assess your general reading comprehension.

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Directions: Read each situation carefully—both the introduction of a situation and the message you have received.

Situation One (items 1-5)

You are Suthep Kraisornpong, Sales Manager of Asian Paradise Tour Co., Ltd. Peter Wong, Head of Customer Service of Amari Taiwanese Hotel sent you the fax message below.

Directions: Read this fax message. Then decide how you will reply by fax to Peter Wong.

Amari Taiwanese Hotel

From: Peter Wong
Date: 4 March, 2007

Fax to: Asian Paradise Tour, Co. Ltd.
Fax number: 966 1 367933
No of Pages: 1
ATTN: Suthep Kraisornpong, Sales Manager

Thank you for the Around-Thailand brochures you sent us. They look attractive and up-to-date, as we requested. But the total number we received was just 120, not 140 as we ordered. Could you please send the twenty missing brochures to us before this week-end? My VIP customers are waiting for them. Their traveling schedules are very tight. So they need the brochures as soon as possible.

Best regards,

Peter Wong
Customer Service

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1. Below is a fax reply to Peter Wong. Complete it by choosing a, b, c, or d.
(3 marks)

Asian Paradise Tour, Co.Ltd.
55 Sukhumvit Rd. BKK, Thailand

From: Suthep Kraisornpong,
Sales Manager
Date: 5 March, 2007

Fax to: Amari Taiwanese Hotel
Fax number: 8455 7363
No of Pages: 1
ATTN: Mr. Peter Wong
Customer Service

……
……
……

Best regards
Suthep Kraisornpong
Sales Manager

a. I apologize for the mistake. I will send you the missing brochures within 2 days. I hope this has not caused any inconvenience.

b. I apologize for the delay in sending you the Around-Thailand brochures. All of the 140 brochures you ordered will reach you by next month.

c. Please accept my apologies for not keeping in touch with you. I understand there has been a problem with the brochures. I will send them as soon as possible.

d. Please accept my apologies for those missing brochures. I have already asked for a reprint of one of our brochures. This will be attractive enough for your VIP customers.

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2. Why did Peter Wong send this fax to Mr. Suthep? He wanted …

a. to order Around-Thailand brochures which are more up-to-date and attractive.

b. to complain that he didn't receive all brochures ordered and this badly affected his business.

c. Asian Paradise Tour to reprint new brochures which are more attractive to his customers.

d. Asian Paradise Tour to send him some missing brochures for his VIP customers as soon as possible.

3.According to the communication between Mr. Wong and Mr. Suthep, what happened first?

a. Mr. Suthep sent Mr. Wong a number of the Around-Thailand brochures.

b. Mr. Wong's VIP customers wanted the Around-Thailand brochures from Asian Paradise Tour.

c. Mr. Suthep apologized to Mr.Wong for providing an incorrect number of Around-Thailand brochures.

d. Mr. Wong asked for the rest of the Around-Thailand brochures from Mr. Suthep for his VIP customers.

4. It can be inferred from the communication between Mr. Wong and Mr. Suthep that Mr. Suthep

a. is a hard-working person.

b. has knowledge of the Chinese culture.

c. knows how to negotiate or bargain in business.

d. has good business manners. He apologized for the mistake he made.

5. After Mr. Wong received Mr. Suthep's fax, how would he likely feel? He would feel

a. excited

b. satisfied

c. impressed

d. disappointed

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Appendix C

Problem Solving Skills Inventory

44 items / 88 marks Student Name: ……..
Time allotment: 75 minutes Date: ……..

Problem Solving Skills Inventory

Test description: This test has 10 problem situations. Each situation has 4 multiple-choice questions. These four questions ask about

(1) the problem in this situation;

(2) the cause of the problem;

(3) a possible solution; and

(4) a possible result to the possible solution.

Remark: In fact, there can be more than one possible solution to any of these problem situations. But among the choices in Question 3, there will be *only one* possible solution for that problem situation. Also, among the choices in Question 4, there will be *only one* possible result to the possible solution.

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Directions: Read each problem situation carefully, then answer the questions.

Problem Situation 1 (items 1-4)

Sakchai Suwanasri, President and Chief Operating Officer (CEO) of the Pranakhorn Group, Co., Ltd. (the PNG), is considering selling the company. The PNG owns two five-star hotels in Thailand. One is located in Chiengmai. The other is in Surathani. Although Sakchai, the founder of the PNG, has built a highly successful business over the years, today the PNG is facing tough competition. Sakchai cannot find enough qualified applicants to staff the hotels' Marketing and Sales Departments. In addition, a number of longtime employees are reaching retirement age and planning to leave. To make matters worse, some employees have resigned from the company to go to work for his competitors. Sakchai has no idea why they left and the company's sales are decreasing.

Adapted from a case study in Selected Readings in Business (Shulman, 1991: 21)

1. What is the problem in this situation?

a. The PNG does not have enough customers in Chiengmai and Suratthani.
b. Job applicants to the PNG are considered unqualified to work in the Department of Marketing and Sales.
c. Sakchai Suwanasri may have to sell the Phra Nakhorn Group, Co., Ltd., if he cannot find skilled workers and increase its sales.
d. Many experienced workers in the Department of Marketing and Sales are planning to leave the company to work for another hotel.

2. What is the cause of this problem?

a. The PNG is facing the global economic crisis.
b. The PNG has competitors both in Chiengmai and Suratthani.
c. The PNG does not have enough budget to open its new branch.
d. The PNG is facing a decrease in its sales because of its labor shortage.

3. If you were Sakchai, how would you solve this problem? By …

a. increasing the company sales by doing market research to get to know what the customers prefer.

b. purchasing robots and computers to take the place of both new and experienced employees.

c. hiring a new general manager, director of the Personnel Department and director of Marketing and Sales.

d. setting up a training course for new employees and providing motives for experienced employees to work more.

4. What is the result of the solution you select from Question 3?

a. A new executive team can make the company become stable again with new business strategies. This will help keep the company.

b. More clients will come to the two hotels. Thus, the company sales will increase and there will be no need to sell the company.

c. There will be more qualified employees working in the Marketing and Sales Department. Thus, company sales will increase and the company will not have to be sold.

d. The Marketing and Sales Department can effectively work without many skilled employees by using robots and computers. This will help the hotel business carry on.

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Appendix D

PBL Log

1. How did the problem situations provided enhance your reading English for business communication? Please describe in details and give examples if possible.

……

……

……

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……

……

……

……

2. What skills in reading English for business communication (listed below) do you think you have improved? Please mark ✓in the space provided.

1. …… Identifying main idea	8. …… Predicting outcomes
2. …… Identifying detail	9. ……Finding solutions
3. …… Making inferences	10. ……Drawing conclusions
4. …… Distinguishing fact from opinion	11. ……Recognizing business terms and expressions
5. …… Recognizing cause and effect	12. …...Following instructions or manuals
6. …… Comparing and contrasting	
7. …… Identifying sequence or process	
13. …… Analyzing point of view and purpose	

3. How were those reading English for business communication skills improved?

……

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……

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4. What process skills (listed below) do you think you have improved? Please mark ✓in the space provided. (You can tick more than one). Also, describe in details the process engaged in the tasks that you did in class.

❑ Problem-solving skills

Describe what you did in the project concerning your practice and use of problem solving skills.

.....
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.....

❑ English communication skills

Describe what you did in the project concerning your practice and use of English communication skills

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❑ Self-directed learning

Describe what you did in the project concerning your practice and use of self directed learning (self directed learning = การเรียนรู้ด้วยตนเอง)

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5. How did these process skills improve? (Why do you think you have improved those process skills?)

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Appendix E

PBL Attitude Questionnaire

(Attitude Questionnaire toward the Problem-Based Learning approach)

Part One

Please mark ✓ in the box that best reflects your attitude.

5. means strongly agree
4. means agree
3. means neutral
2. means disagree
1 means strongly disagree

item	Attitude Statement	Agree ➔ Disagree				
		5	**4**	**3**	**2**	**1**
1	Problem situations are interesting because they relate to real-world demands in business communication.					
2	PBL approach is stimulating: it arouses my active reading of English for business communication.					
3	I think PBL is time-consuming to teach reading English for business communication.					
4	PBL provided me with useful business communication knowledge.					
5	I think PBL is too complicated to learn reading English for business communication.					
6	PBL enabled me to take more responsibility for my reading English for business communication.					
7	I do not think problem situations are related to my reading English for business communication.					
8	I could read English for business communication more than usual because PBL helped me read with a purpose.					
9	Without PBL, I can better read English for business communication.					
10	I would support the use of PBL in learning reading English for business communication.					

Item	Statement	Agree ➔ Disagree				
		5	4	3	2	1
11	I had bad experience with PBL in my business English reading course.					
12	I think PBL is too difficult to help me develop my reading English for business communication.					
13	I would suggest PBL to my friends when they need to read English for business communication.					
14	When I read English for business communication, I preferred lecture-based method to PBL.					
15	I had good experience with PBL in my business English reading course.					
16	I tried hard to get used to PBL in my business English reading course.					
17	PBL approach used in my business English reading course did not teach me any useful process skills.					
18	PBL is important for students studying English for business communication.					
19	With the use of PBL, my reading English for business communication abilities have not increased.					
20	I am satisfied with PBL: it helped me develop my reading English for business communication.					

Part Two:

Additional comments toward PBL:

……
……
……
……
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……

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Appendix F

PBL Attitude Questionnaire in Thai

แบบสอบถามทัศนคติเกี่ยวกับการเรียนการสอนโดยการใช้ปัญหาเป็นหลัก

ส่วนที่ 1

กรุณากาเครื่องหมาย ✓ ลงในช่องที่ตรงกับทัศนคติของท่าน โดย

5 หมายถึง เห็นด้วยอย่างยิ่ง

4 หมายถึง เห็นด้วย

3 หมายถึง ไม่ตัดสินใจ

2 หมายถึง ไม่เห็นด้วย

1 หมายถึง ไม่เห็นด้วยอย่างยิ่ง

ข้อที่	ข้อความทัศนคติ	เห็นด้วย ➔ ไม่เห็นด้วย				
		5	**4**	**3**	**2**	**1**
1	สถานการณ์ปัญหาน่าสนใจเพราะเป็นสถานการณ์ที่เกี่ยวพันกับความต้องการสำหรับการสื่อสารธุรกิจในโลกปัจจุบัน					
2	การใช้ปัญหาเป็นหลักเป็นวิธีการเรียนการสอนที่กระตุ้นการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉันได้อย่างดี					
3	ฉันคิดว่าการเรียนการสอนการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจโดยใช้ปัญหาเป็นหลักนั้น ต้องใช้เวลานาน					
4	การเรียนการสอนโดยใช้ปัญหาเป็นหลักทำให้ฉันได้เพิ่มพูนความรู้ด้านการสื่อสารธุรกิจ					
5	ฉันคิดว่าการเรียนการสอนโดยใช้ปัญหาเป็นหลักนั้นยุ่งยากเกินไปสำหรับการเรียนการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
6	การเรียนการสอนโดยใช้ปัญหาเป็นหลักทำให้ฉันมีความรับผิดชอบมากขึ้นในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
7	ฉันไม่คิดว่าสถานการณ์ปัญหามีความสัมพันธ์กับการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉัน					
8	ฉันสามารถอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจได้มากกว่าปกติโดยใช้ปัญหาเป็นหลักเพราะฉันมีจุดประสงค์ในการอ่าน					
9	ฉันสามารถอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจได้ดีกว่าถ้าไม่เรียนด้วยการใช้ปัญหาเป็นหลัก					
10	ฉันสนับสนุนการเรียนการสอนโดยใช้ปัญหาเป็นหลักในการเรียนการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					

ข้อที่	ข้อความทัศนคติ	เห็นด้วย ➔ ไม่เห็นด้วย				
		5	4	3	2	1
11	ฉันมีประสบการณ์ที่**ไม่ดี**เกี่ยวกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ					
12	ฉันคิดว่าการเรียนการสอนโดยใช้ปัญหาเป็นหลักนั้นยากเกินไปที่จะช่วยให้ฉันพัฒนาการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
13	ฉันจะแนะนำการเรียนการสอนโดยใช้ปัญหาเป็นหลักให้กับเพื่อนๆที่จำเป็นต้องอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
14	เมื่อฉันอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ ฉันชอบการเรียนการสอนโดยการฟังบรรยายมากกว่าการเรียนการสอนโดยใช้ปัญหาเป็นหลัก					
15	ฉันมีประสบการณ์ที่ดีเกี่ยวกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ					
16	ฉันได้พยายามอย่างมากที่จะคุ้นเคยกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ					
17	การเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ **ไม่ได้**สอนทักษะกระบวนการใดๆที่เป็นประโยชน์แก่ฉันเลย					
18	การเรียนการสอนโดยใช้ปัญหาเป็นหลักมีความสำคัญต่อผู้เรียนภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
19	ความสามารถในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉัน **ไม่ได้**เพิ่มขึ้นเนื่องจากการเรียนการสอนโดยใช้ปัญหาเป็นหลัก					
20	ฉันพึงพอใจกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักเพราะมีส่วนช่วยพัฒนาการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉัน					

ส่วนที่ 2:

ความคิดเห็นอื่นๆที่มีต่อ การเรียนการสอนโดยใช้ปัญหาเป็นหลัก

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Appendix G

Blueprint of the Reading English for Business Communication Test

1. Test Structure

A. Number of parts: This test is organized around eight business situations concerning business communication topics (such as business etiquette, customer satisfaction for example) in the fields of airline, hotel and tourism businesses. The purpose of all parts is to require the test takers to demonstrate their control of English reading skills in tasks that involve communicating with a co-worker or a customer.

B. Salience of parts: Parts are clearly distinct.

C. **Sequence of parts**: There is a variable sequence of response by test takers.

D. Relative importance of parts: All parts are equally important.

E. Number of tasks per part: five (multiple-choice items)

2. Test task specifications

A. Purpose: This test will be used as an achievement test to assess 4th year English for business communication majors' abilities in reading English for business communication.

B. Definition of construct: Based on English for business communication textbook analysis, construct is defined as ability to identify main idea, identify detail, make inferences, distinguish fact from opinion, recognize cause and effect, compare and contrast, identify sequence, predict outcomes, find solutions, draw conclusions, recognize business terms and expressions, follow instructions or manuals, and analyze purpose. These are thirteen reading skills commonly found in English for business communication textbooks.

C. Setting: Classroom

D. Time Allotment: 75 minutes

E: Instructions:

1. Language: English
2. Channel: Visual

F. Scoring method:

1. Criteria for correction: Objective scoring
2. Procedures for scoring the response: All rated by the same rater.
3. Explicitness of criteria and procedures: The test takers are informed in general terms about the scoring criteria.

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G. Characteristics of input and expected response

Characteristics of input	Characteristics of expected response
1. Format Channel: visual Form: language Language: English Length: moderately short (paragraphs and discourse) Type: selected and limited Degree of speededness: moderate	**1. Format** Channel: visual Form: language Language: English Length: short (circling) Type: selected and limited Degree of speededness: moderate
2. Language of input **1. Language characteristic** a. <u>organizational characteristics</u> ***-grammatical:*** **Vocab:** wide range of fundamental general English and business English vocabulary **Sintax:** wide range of fundamental general English Graphology: Typewritten ***-textual:*** wide range of business-oriented organizational patterns (e.g. letter, memorandum, minutes, e-mail, fax message) b. <u>Pragmatic characteristics</u> -functional: variable - sociolinguistic: standard variety, formal and informal register, natural language	**2. Language of expected response** **1. Language characteristic** a. <u>organizational characteristics</u> ***-grammatical:*** **Vocab:** wide range of fundamental general English and business English vocabulary **Sintax:** wide range of fundamental general English Graphology: Circling ***-textual:*** wide range of business-oriented organizational patterns (e.g. letter, memorandum, minutes, e-mail, fax message) b. <u>Pragmatic characteristics</u> -functional: variable - sociolinguistic: standard variety, formal and informal register, natural language
2. Topical characteristics **Variable**: business communication topics (e.g. business etiquette, business	**2. Topical characteristics** **Variable**: business communication topics (e.g. business etiquette, business

ethics, intercultural communication) in airline, hotel, and tourism businesses	ethics, intercultural communication) in airline, hotel, and tourism businesses

H. Relationship between input and response

- Reactivity: non reciprocal
- Scope of relationship: Narrow
- Directions of relationship: direct

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Appendix H

Blueprint of the Problem-Solving Skills Inventory

1. Test Structure

A. Number of parts: This test is organized around eleven business-oriented situations. The purpose of all parts is to require the test takers to demonstrate their control of problem solving skills in tasks that are organized around problem situations in airline, hotel, and tourism businesses.

B. Salience of parts: Parts are clearly distinct

C. **Sequence of parts**: There is variable sequence of response by test takers.

D. Relative importance of parts: All parts are equally important.

E. Number of tasks per part: four (multiple-choice items)

2. Test task specifications

A. Purpose: This test will be used as an achievement test to assess 4th year English for business communication majors' abilities in problem solving.

B. Definition of construct: Based on Weir's (1974) problem-solving sub skills, the construct definition of each part includes ability to define the problem, analyze the problem (identifying cause), propose a possible solution, and justify the results of the solution.

C. Setting: Classroom

D. Time Allotment: 75 minutes

E: Instructions:

1. Language: English
2. Channel: Visual

F. Scoring method:

1. Criteria for correction: Objective scoring
2. Procedures for scoring the response: All rated by the same rater.
3. Explicitness of criteria and procedures: The test takers are informed in general terms about the scoring criteria.

G. Characteristics of input and expected response

Characteristics of input	Characteristics of expected response
1. Format Channel: visual Form: language	**1. Format** Channel: visual Form: language

Language: fundamental English Length: moderately short (paragraphs and discourse) Type: selected and limited Degree of speededness: moderate	Language: fundamental English Length: short (circling) Type: selected and limited Degree of speededness: moderate
2. Language of input **1. Language characteristics** a. organizational characteristics ***-grammatical:*** **Vocab:** wide range of general fundamental English **Sintax:** wide range of general fundamental English Graphology: Typewritten ***-textual:*** problem situations adapted from business case studies (e.g. Fowles, Miller, and Stocker, 1995; Huggett, 1990; Rodgers, 1997; Shulman, 1991). b. Pragmatic characteristics -functional: variable - sociolinguistic: standard variety, formal and informal register, natural language	**2. Language of expected response** **1. Language characteristics** a. organizational characteristics ***-grammatical:*** **Vocab:** wide range of general fundamental English **Sintax:** wide range of general fundamental English Graphology: Circling ***-textual:*** Limited range of cohesive devices and organizational patterns b. Pragmatic characteristics -functional: variable - sociolinguistic: standard variety, formal and informal register, natural language
2. Topical characteristics **Variable**: business communication topics in airline, hotel, and tourism businesses	**2. Topical characteristics** **Variable**: business communication topics in airline, hotel, and tourism businesses

H. Relationship between input and response

- Reactivity: non reciprocal
- Scope of relationship: Narrow
- Directions of relationship: direct

Appendix I
Sample student self reports in PBL logs

Examples of student self reports in the first and the second PBL logs with English translation

1. How did the problem situations provided enhance your reading English for business communication? Please describe in detail, and give examples if possible.

A: ทำให้เราได้อ่านและแยกแยะกับสถานการณ์ที่ยกมาให้ รวมถึงปัญหาต่างๆ ได้รู้ถึงข้อมูลมากขึ้น และทำให้เราพัฒนาภาษาได้มากขึ้นกว่าเดิม จากรากศัพท์ภาษาทางการ หรือในทางธุรกิจ ช่วยเสริมสร้างการเรียนรู้จากเดิมที่เคยมีมาในอดีตได้ดีขึ้นกว่าเดิม อย่างเช่น การหาข้อมูลต่างๆเพื่อรวบรวมข้อมูลเหล่านั้น ก่อนที่จะมาพรีเซ้นท์ เราก็ต้องอ่านข้อมูลนั้นอย่างละเอียด เพื่อที่จะนำข้อมูลที่ดีที่สุดมาใส่ในแผนงานที่จะนำเสนอให้ได้ดีที่สุด

I read and analyzed the situations provided. I have learned more about formal vocabulary and business terms. This helped improve my English. I learned better than usual. For example, I had to search in depth for information so that the best information was presented.

B: สถานการณ์ที่จัดให้ได้ช่วยเสริมสร้างการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจอย่างมากเพราะในการอ่านสถานการณ์นี้ช่วยให้รู้ศัพท์และสำนวนทางธุรกิจเพิ่มขึ้น และเข้าใจภาษาธุรกิจเพิ่มขึ้น ในการค้นหาข้อมูลต่างๆ เพื่อมาทำงานก็ต้องอ่านให้เข้าใจและสื่อออกมาได้ ดังนั้นการอ่านสถานการณ์จึงช่วยเสริมสร้างการเรียนรู้ต่างๆได้เพิ่มมากขึ้น จากสิ่งที่ไม่เคยรู้ ไม่เคยเห็น ไม่รู้จัก ก็ได้รู้และเข้าใจมากขึ้น

Problem situations enhanced my reading English for business communication a lot because reading the situations helped me know more business vocabulary and terms, and understand more business English. To search for information to complete the project, I had to read comprehensively and to communicate with others. So, reading the situations enhanced my learning of many things—what was unknown, unseen became known and understood.

3. How were your reading English for business communication skills improved?

A: ได้พัฒนาทักษะการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจเพิ่มขึ้นจากเดิมเนื่องจากได้เข้ากลุ่มกับเพื่อนๆ ได้แลกเปลี่ยนความคิดเห็นและวางแผนการทำงานร่วมกัน ไม่ว่าจะเป็นการค้นหาเมนไอเดียและรายละเอียดต่างๆ ที่เราตกลงเลือกกัน เพื่อจะได้ทำความเข้าใจร่วมกันและนำเสนอได้ตรงตามเป้าหมายที่กลุ่มวางไว้

I have improved my reading English for business communication skills because I worked in a group, discussing and planning the work together. We discussed about main ideas and details for group understanding and agreement. This was so that we could present the work as planned.

B: อย่างแรกที่ดิฉันได้พัฒนาทักษะการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ ก็คือ ใจความสำคัญของเรื่อง และในตัวข้อมูลเอง เพื่อนำมาสรุปเป็นใจความด้วยภาษาของเราเอง ทำให้เราได้ค้นคว้า จากอินเตอร์เน็ท จากเคสที่อาจารย์ได้ให้มา แล้วทำโดยอาศัยจากหลักความเข้าใจของเราเอง ทำให้เราได้ทราบถึงปัญหา เหตุ-ผลได้อย่างชัดเจน เราต้องดูด้วยว่าวัตถุประสงค์ที่แท้จริงของเรื่องคืออะไร ว่าคำถามนั้นให้หาอะไร จะทำให้เราเข้าใจได้มากขึ้น

The first skills of reading English for business communication I have improved were reading for main ideas and details, and then summarizing in my own words. This helped me do research on the internet according to cases provided by the teacher. After finding information, I had to first understand it myself. This made me see problems and reasons clearly. I had to know what the real objective of the situation was, and what more I had to find out. This made me understand better.

4. Describe what you <u>did</u> in the project concerning your practice and use of problem solving skills.

A: จากสถานการณ์ที่กำหนดให้ มีหลากหลายสถานการณ์ที่ต่างกัน และสามารถเกิดขึ้นได้จริงในการทำงานในอนาคต สถานการณ์ปัญหาจึงช่วยให้ดิฉันได้คิด วิเคราะห์ปัญหาต่างๆได้อย่างเป็นขั้นตอน และมีเหตุผลมากขึ้น ทำให้รับทราบปัญหาและวิเคราะห์การแก้ไขปัญหาอย่างมีเหตุผล

และสามารถที่จะนำวิธีการแก้ปัญหานี้มาปรับปรุงโครงการและสถานการณ์จริงได้อย่างทันท่วงที เช่นเมื่อได้รับสถานการณ์ปัญหามาหนึ่งอย่าง เราก็มาคิดวิเคราะห์ว่า มีข้อมูลอะไรที่เรารู้ เราต้องการรู้อะไร อะไรเป็นสิ่งสำคัญที่ต้องแก้ไขปัญหานั้นๆ และที่สำคัญคือ การได้ร่วมกันแบ่งปันแลกเปลี่ยนความคิดในระบบกลุ่มได้ดียิ่งขึ้น

The problem situations provided were different and could occur when working in the future. They helped me think and analyze systematically and reasonably. This enabled me to understand the problems, solve them reasonably, and then I applied problem-solving steps to improve the project and actual situation on time. For example, when I was given a situation, I had to analyze what I already knew, what more I needed to know, and what had to be solved. The most important thing was that we shared ideas better in a collaborative group.

B: จากสถานการณ์นี้เป็นสถานการณ์ที่สอนให้เราได้รู้จักคิดหาวิธีแก้ไขปัญหาต่างๆที่เราต้องเผชิญ เป็นการพัฒนาทักษะการแก้ปัญหาที่สามารถนำไปใช้ได้จริงในอนาคต เกี่ยวกับธุรกิจที่เราจะต้องเข้าไปทำงานหลังจากจบการศึกษานี้

Problem situations taught us to know how to solve problems we were facing. It developed our problem solving skill, which could be applied in the future in the business sector after we graduated.

Describe what you <u>did</u> in the project concerning your practice and use of English communication skills.

A: ได้พัฒนาการสื่อสารทั้ง 4 ด้านเป็นอย่างดี การฟังคือฟังปัญหาที่เกิดขึ้น การพูดคือการแชร์ไอเดียกัน อ่านคือ การทำความเข้าใจกับสิ่งที่เกิดขึ้น (ปัญหา) เขียนคือ การสรุปในสิ่งที่เราเข้าใจและเพื่อนช่วยกันออกความคิด

I have improved all four English communication skills. Listening: because I listened to problems explained. Speaking: I tried to comprehend the problem.

Writing: I wrote to summarize according to what I understood of my teammates' shared ideas.

B: ทักษะการสื่อสารด้วยภาษาอังกฤษได้พัฒนาขึ้นมาก เช่นการอ่าน ทักษะด้านนี้ต้องใช้มาก เพราะต้องอ่านเพื่อหาข้อมูลต่างๆ ทำให้ได้รู้ศัพท์และสำนวนเพิ่มขึ้นมาก การเขียน ทักษะการเขียนได้พัฒนาเพราะต้องเขียนงานส่ง ทำให้ได้เรียนรู้กับการเขียนparagraph ว่าต้องมี introduction body และ conclusion เสมอ นอกจากนี้ได้เรียนรู้ทักษะการเขียน outline และการใช้ grammar ได้พัฒนาขึ้นด้วย การพูด ได้พัฒนาทักษะด้านนี้เพราะต้องพูดนำเสนองาน จึงต้องให้เรียนรู้เกี่ยวกับการพูด ทักษะการฟังได้พัฒนาเพราะ ต้องฟังอาจารย์พูดสอนให้เข้าใจ และฟังเพื่อน present งาน จึงต้องทำความเข้าใจและรับรู้สิ่งที่ฟังให้ได้ประสิทธิภาพ

I have greatly improved my English communication skills. Reading: This skill was used a lot because I had to read for information. This helped me learn more vocabulary and expressions. Writing: My writing was developed because I had to write. This allowed me to learn that when writing paragraphs there should always be an introduction, body and conclusion. Besides, I have improved my writing of outlines and my use of English structure. Listening skills were developed because I had to listen to the teacher's instructions as well as classmates' presentations. Thus, I had to clearly understand what I was listening to.

Describe what you <u>did</u> in the project concerning your practice and use of self directed learning (self directed learning = การเรียนรู้ด้วยตนเอง)

A: เพราะว่าในงานแต่ละชิ้นนั้นเป็นเรื่องที่ไม่มีในบทเรียน และที่สำคัญคือต้องคิดด้วยตนเองเกือบทั้งหมด ดังนั้นจึงได้ฝึกทักษะการเรียนรู้ด้วยตนเองอย่างมากจากการทำงานโปรเจคต่างๆ เพราะนอกจากจะได้เรียนรู้ในเรื่องของวิชา แล้วยังต้องจัดการปัญหาอื่นๆที่ตามมา เช่นการทำให้ทุกคนมีความเข้าใจในทางเดียวกัน การขอความร่วมมือกันภายในกลุ่ม ไปจนถึงการช่วยกันทำงานให้ออกมาเสร็จสมบูรณ์ สิ่งต่างๆเหล่านี้ล้วนต้องเรียนรู้และแก้ไขปัญหาด้วยตนเอง

Since each project required searching for information rather than comprising lessons provided in class, and had to be completed based mostly on self-directed

learning, I have improved this skill from doing projects. This is because I not only learned new information in the files, but also solved problems while doing group work so that we all had the same understanding, group cooperation, and collaboration for the completion of the work. All these required self-directed learning skills.

B: ดิฉันได้ค้นหาข้อมูลมาประกอบการทำงานไม่ว่าจะงานเดี่ยวหรืองานกลุ่ม ไปจนถึงการแก้ไขปัญหาเล็กๆน้อยๆที่เกิดขึ้นนอกเหนือจากการทำงาน เช่นการแก้ปัญหาในส่วนของกลุ่ม และก็ต้องเรียนรู้หาข้อมูลต่างๆ ที่มีทั้งถูกและผิด ต้องเลือกและพิจารณาเองทุกส่วน นอกจากนี้มีขั้นตอนของการรายงานทั้งการเขียนและการพูด ตลอดจนการสื่อสารกับเพื่อนในกลุ่ม เพราะว่าสิ่งเหล่านี้ไม่มีข้อบังคับตายตัว ต้องอาศัยการเรียนรู้ด้วยตนเอง

I searched for information for both individual and group work. This included my solving of small problems other than assigned work such as problems in the group. In addition, I had to learn and find information by myself. Available information may or may not be appropriate for the project, so I had to analyze it by myself. This is because there were no fixed rules, but required self-directed learning.

5. How did these process skills improve? (Why do you think you have improved those process skills?)

A: เพราะสิ่งที่ได้ทำและฝึกฝนมีการพัฒนาทักษะทุกขั้นตอน เราต้องใช้ทักษะในการแก้ปัญหากลุ่ม ทักษะการสื่อสารด้วยภาษา ไม่ว่าจะฟัง พูด อ่าน เขียน เราก็ต้องใช้ และที่สำคัญคือทักษะการเรียนรู้ด้วยตนเอง เพราะถ้าหากเราไม่รู้เรื่องในสิ่งที่ค้นคว้ามา แล้วเราจะนำเสนอคนอื่นให้เขาเข้าใจได้อย่างไร

I have improved all of the skills mentioned because I was required to use problem-solving skills, communication skills—listening, speaking, reading and writing—and self-directed learning. The most important skill was self-directed learning because if we didn't understand what we had researched, we could not present it for the understanding of others.

B: เพราะว่าในการเรียนวิชานี้ จำเป็นต้องอาศัยทักษะทุกด้านที่กล่าวมา เพื่อใช้ทุกขั้นตอนของการทำงาน และในตัวของเนื้อหาวิชา ดังนั้นเมื่อมีการใช้ จึงมีการฝึกให้มีการพัฒนามากขึ้น

This is because learning this subject required all of the skills mentioned. They were used and applied in all learning steps and in the content, itself. So, when the skills were used, the practice and development of them occurred.

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Appendix J

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Appendix K

Sample teacher's manual: Business etiquette

(from Part II of the teacher's manual: unit by unit lesson plans)

Briefing

This unit looks at issues relating to business etiquette. It provides a guide to the etiquette dilemmas that most employees encounter. Simultaneously, it aims to enhance their problem-solving skills through a PBL approach as well as their reading English for business communication. The unit was specifically designed to serve the following purposes of English for business communication, which include reading for effective business communication, collaboration, business decisions and management. Reading sub-skills required for students to complete the project in this unit are identifying the main idea, identifying details, distinguishing fact from opinion and recognizing common business English vocabulary.

Teaching Stage 1: Warm-Up Activities (1 classroom period: 75 minutes)

Do Good Manners Make Good Business?

Warm-Up Activity 1: (Timing: 25 minutes)

Students look at the picture

- Circulate among the groups, prompting comments on the picture. Draw out ideas on:

  - where it might be (in an office).

  - what kind of relationships are represented (new business partners, employer and employee, etc.)

  - what might the sitting man be thinking of the other?

- After the students read the situation, write "faux pas" on the board and discuss issues arising from the situation.

  - Tell the students that there is a "faux pas" in this situation. Can they guess what "faux pas" means?

faux pas = an action or a remark that causes embarrassment because it is not socially correct.

  - Ask who caused the faux pas.
  - If you were the man, what would you do?

In most cases, the one who initiated the invitation is the host, and payment is the host's responsibility. It is also important for the host to inform her server that she is to receive the bill. Guests may not be prepared to pay with cash. You may choose to split the bill, but that needs to be decided at the time of ordering.

Warm-Up Activity 2: (Timing 50 minutes)

Students read a passage.

- Ask students to read the passage "Manners Matter Now More Than Ever" and quickly decide what the main idea of the passage is.

Business etiquette is important for business success.

Students discuss.

- Facilitate a brief discussion based on the two questions provided. Try to make students see the value of business etiquette.

1. Etiquette is power. Good manners open doors that position and money cannot
2. 1. No, a man doesn't always open the door. Whoever gets to the door first opens it.
   2. No, don't keep a notebook on the table unless it's been approved by your dining companion.
   3. Yes, wear your nametag on the right side of your jacket. It makes it easier for someone to read your name as you extend your right hand to shake.

Teaching Stage 2: PBL Activities (3-4 classroom periods)

2.1 Problem Situation (Timing: 25 minutes)

Students encounter the problem.

- Introduce the problem situation. Ask students to read the problem situation carefully and make sure that they understand it all. Allow students to discuss with classmates sitting each side what is not clear for them. Encourage students to ask for explanations if needed. Then elicit their understanding by asking the following questions:

-What role will you take in this problem situation?

-Who are you supposed to be?

-What are you asked to do to complete the project?

- Students form small groups. Each group should consist of students with different English language abilities. A group can be 5 to 7 people.
- Ask each group to complete the "Rules of Trust" form (available in the Appendix). Explain that rules of trust are rules that a group thinks are very important to help or foster the group working effectively until the project is completed. Give examples such as "Be on time", "Be responsible for work assigned by the group", etc.

2.2 Learning logs

- Since PBL activities require a high level of responsibility and teamwork, each group is to keep a portfolio. This portfolio is to be submitted to the teacher at the end of the semester. The portfolio includes:

1. the group's rules of trust
2. learning logs: There will be five learning logs for each group to complete. These learning logs enable the students to move through the four steps of a PBL process effectively.

Learning log 1: What we know
Learning log 2: What we need to know
Learning log 3.1: Action plan for research
Learning log 3.2: Summary of What you Learned from Self Study (individual submissions.)
Learning log 4: Action Plan for Group Presentation

- The students will use learning logs according to each PBL step as follows.

PBL Process:

Step 1: Analyze the problem (Timing: 50 minutes)

Students use Learning Log 1: What We Know

- Explain that "What you know" means everything that you know based on the information provided in the problem situation. This also includes your own knowledge and experience.
- Show how to complete Learning Log 1 (What We Know) by introducing the sample problem situation below. Allow a few minutes for students to read the situation

A Sample Problem Case

Your manager received an e-mail (shown below) from the Chief Executive. In a meeting you are assigned as members of the planning committee for Mr. Chung's visit. Read the document. Then plan a draft program in your group and present it to the class.

To: Manager, Public Relations
From: Chief Executive
Subject: Mr. Lee Chung's visit Date: 2 June

…….

Mr. Lee Chung and Mr. John Wong will arrive at 9.10 a.m. on Monday, 20 June and leave on Thursday, 23 June.

When you prepare the draft program, please schedule a meeting (morning or afternoon) during which we can discuss our business plans with Mr. Chung and Mr. Wong. Also, make sure that our visitors have opportunities to meet our staff and gain a complete understanding of our business.

The visitors will expect to have some basic information about Toyworld and to be offered activities which give them an understanding of the company. Please, also arrange some social and cultural activities during their stay.

Above all, we do not want to make any cultural mistake during the visit. We want Mr. Chung and Mr. Wong to leave with an excellent impression of our company and the way we treat foreign visitors.

To help you plan the visit, please could you attend the talk by Catherine Eng (an expert on Chinese business culture.)

- Ask questions, for example "What is this situation about?" "Can you tell me things you know from the memo?" or "What does the memo says?"
- Elicit other information from the memo and explain that this is information we know from the memo or the situation. Show an example of how to complete Learning Log 1 based on the sample problem.

Sample What We Know

1. Two visitors (Mr. Lee Chung and Mr. John Wong) will arrive at 9.10 a.m. on Monday, 20 June and leave on Thursday, 23 June.
2. Schedule a morning or an afternoon meeting to discuss business plans with the visitors, and they can meet our staff.
3. Give basic information about Toyworld.
4. Offer activities for them to fully understand our company
5. Arrange social and cultural activities.
6. Avoid cultural mistakes.
7. The visitors must have a most favorable impression of our company.
8. Attend the talk by Catherine Eng, an expert on Chinese business culture.

- Allow all groups to complete their own Learning Log 1 based on their own problem situation. Circulate among the groups. Make sure all groups can manage their work.

Step 2: Identify further learning needs (Timing: 55 minutes)

Students use Learning Log 2: What We Need to Know.

- Explain that to solve a problem we have to know what information we need to help us make a decision or solve the problem most effectively. The best way to complete Learning Log 2 (What We Need to Know) is by making a list of questions that students should ask.
- Tell students to refer back to the sample problem of Mr. Lee Chung's visit. Start with a sample question "Where will the visitors stay?" as an example. Elicit other questions students should ask. Then show an example of how to complete Learning Log 2.

Sample: What We Need to Know

1. Where will the visitors stay?
2. Who will meet them? What transport will be used?
3. What arrangements should be made for meals?
4. When will the business meeting take place?
5. What topics would be suitable for discussion at meals?
6. How will the visitors be entertained? Trips? Special events?
7. What gifts would be suitable? When and how should they be given?
8. Should there be local press and television coverage?
9. Is it necessary to provide an interpreter?
10. Any other ideas to develop a good relationship?

- Provide a list of questions that can help them discuss what they need to know. Then allow them to work in their group.

Questions About Questions

- Do we all agree that this is the question?
- Is the question clear? Do we understand it?
- Can we break this question down at all?
- Why is this question important?

- Circulate among the groups, facilitating and monitoring. Check that all groups' list of questions is similar to the expected list of questions. Below is a list of expected questions for ongoing assessment.

Teacher Checklist for Ongoing Assessment

Expected Questions (from "What We Need To Know")	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6
1. What is business etiquette? Example?						
2. Why is it important to be aware of business etiquette?						
3. What is "fact" and "opinion"? Example?						
4.What are facts and opinions concerning business etiquette?						
5. What does business etiquette say about "First Impressions"?						
6. What does business etiquette say about "Business Meal Manners"?						
7. What does business etiquette say about "Written Communications"?						
8. What does business etiquette say about "International Awareness"?						
9. What does business etiquette say about "Common Business English Vocabulary"?						
10. How can we make the business etiquette training program as interesting, as attractive, and as useful to the sales team as possible?						

Students use Learning Log 3: Action Plan for Research. (Timing: 20 minutes)

- Tell the students that Learning Log 3 (Action Plan for Research) will help boost teamwork in their group. Each group member has to be responsible for his/her assigned homework to be well prepared for group discussion in the next class. If anyone is not prepared, the whole group is affected.
- Use the following questions to monitor their work.

  "What do you need to know more about?"

  "Where can you find that information?"

Step 3: Self direct themselves to collect additional information (inside and outside class) (Timing: 20 minutes for in-class activity)

Students use Learning Log 3.1: Action Plan for Research and Learning Log 3.2: Summary of What You Learned from Self Study.

- Tell students to assign reading tasks to group members. Each student has to find answers to one or two questions from the list of questions in Learning log 2 (What We Need to Know).
- Tell the students that Learning Log 3 (Action Plan for Research) will help boost teamwork in their group. Each group member has to be responsible for his/her assigned homework to be well prepared for group discussion in the next class. If anyone is not prepared, the whole group is affected.
- Use the following questions to monitor their work.

"What do you need to know more about?"

"Where can you find that information?"

- Encourage individual students to start reading alone based on their reading assignment from the group. Near the end of the class, do the following:
- Announce that everybody's homework is to read and provide answers to the questions assigned in the group. All have to complete Learning Log 3.2 (Summary of What You Learned from Self Study) in preparation for group discussion in the next class.
- Inform students that the Resource File was designed for their self-directed learning. Apart from various readings available, there are questions to encourage their thinking as well as an answer key to facilitate their self correction.
- Encourage students to e-mail the teacher if they need help or more guidance while reading alone.
- Be sure that all students know the value of self-directed learning and group discussion. Repeat that they are to read and to share what they read with the group. Emphasize that "It's time to start helping each other to learn. In this information age, you don't have time to read everything by yourself. Sharing knowledge and ideas is then a good solution. Also this project will enable you to become familiar with your work in the future when teamwork is necessary."

Step 4: Review what has been learnt and propose solutions (Timing: 75-150 minutes)

Students use Learning Log 4: Action Plan for Group Presentation

- Ask students to sit in their group and show that each has completed Learning Log 3.2. Assign individual scores to encourage cooperation. Take notes of students who did not complete Learning Log 3.2.
- Show the list of questions the students should use to stimulate more ideas?

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Questions of Clarification

- What is your main point?
- Could you give me an example?
- Could you explain that further?
- What did you mean by ……..?
- How does ……relate to ……..?

Questions that Probe Reasons and Evidence

- How do you know?
- Do you have any evidence for that?
- Could you explain your reasons for us?
- What led you to believe that?

- Allow group discussion on the project. Tell them that the project should not be too big, and it should be complete in this class. The project is to be presented in the next class and should take about eight minutes.
- Ten minutes before the class is over, ask students to complete Learning Log 4 (Action Plan for Group Presentation). This will ensure their teamwork for class presentation.
- Inform the students about the evaluation criteria for class presentation.

Teaching Stage 3: Evaluation and Reflection Activities (30-75 minutes)

Students use 'Classroom Presentation Rubric' and 'Teamwork Evaluation Form'.

- Ask students to evaluate each presentation immediately on completion before observing another presentation.
- Tell students to evaluate their own group's teamwork after evaluating all presentation.
- Encourage students to share PBL experience, reading skills gained and knowledge acquired.

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Appendix L
Sample students' materials: Business etiquette

Unit One
Business Etiquette

Objectives

By the end of this unit, you will be able to:

1. discuss on "Business Etiquette" issues,
2. design a business etiquette training program,
3. distinguish fact from opinion.

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Section One: Warm-Up Activities

Do Good Manners Make Good Business?

- Look at the picture. In groups, discuss the situation. Who are these people? Decide what you think the man at the table is thinking.

(Mitchell and Corr, 1996)

- **Read the situation below. If you were the man at the table in this situation, what would you do?**

Awkward situations sometimes occur at business meetings. One afternoon a colleague telephoned to ask my opinion about a situation. He had been the guest of a woman for lunch. When the bill came, it was placed in front of him. As he looked at his host, she looked at the table, then excused herself to go to the rest room. She returned to the table after a lengthy absence but did not acknowledge the bill or offer to pay it. JR was left with the bill. He was perplexed and annoyed, but paid it. His call to me was to ask what he should have done. My response was to question him on whether he wanted to conduct business with her again. His answer was an emphatic "Yes."

What would you do? These were his options. JR could have

- pushed the bill across the table to her.
- asked her if she was hosting this time.
- suggested that they split the bill.
- paid it and said nothing.

➢ **Read the passage below, then identify its main idea.**

Should a man always open the door?
Should you keep a notebook on the table during a business dinner?
Should you wear a nametag on the right side of your jacket?

These questions and their answers are part of the growing field called business etiquette—putting to work in business those social skills which provide us with the confidence to handle people and situations with tact, diplomacy and respect.

Think of a time when you were uncomfortable.
Think of the worst faux pas you've ever witnessed.

Now think of someone who handled a difficult situation well. Chances are, he or she applied some business etiquette basics—apologizing for an error, treating the person's concern with respect, demonstrating a professional demeanor.

In today's business world, knowing a lot about your area of expertise isn't always enough. The ability to get along with others, demonstrate good manners and make others feel comfortable is increasingly important. Without these skills, business can be lost. Because our goods and services don't differ that much, the way we treat our customers often determines whether they'll choose our company instead of another. A polite, professional manner is a key component of quality.

Pachter and Brody (1995: xiii)

faux pas = an action or a remark that causes embarrassment because it is not socially correct.
Demeanor = the way that somebody looks or behaves

➢ **Discuss**

1. Someone says 'business etiquette is 'power etiquette'. Do you agree with this opinion? Why?
2. What are your answers to the three questions raised at the beginning of the reading passage?

Section Two: Problem-Based Learning Activities

In this section, you and your group are supposed to complete a project work by using a PBL approach. You will move through the PBL processes step by step. Use the materials provided as follows.

- Your Materials

2.1 Problem Situation

- Read the problem situation carefully and work in your group to achieve all of its requirements.

You have been working in the training center (TC) of Siam Diamond Hotel. Today you receive a memo form Khun Malinee, Training Manager.

Memorandum

To: Khun Pracha and your TC staff — From: Training Manager
Subject: Business etiquette training program — Date: 12 March 2008

At the end of this year the Hotel will start expanding its market into Europe and Canada. If our sales team could sign a contract with local hotel agents, we can expect many more clients at the Hotel throughout the year.

The sales team needs to be very well-prepared in all aspects. Our big boss, Giant, believes in the power of business etiquette, and will provide us with a ฿ 60,000 budget to set up a three-day business etiquette training program for the sales team. There will be 10 sales representatives participating in this project.

Giant would like to see (1) a report on facts and opinions concerning business etiquette in the 21st century, (2) an outline of the three-day business etiquette training program and (3) the program evaluation method and criteria.

Please design this three-day business etiquette program to train ten sales executives. The outline should include the objectives of the program, timetable, content and how to evaluate the training. If you need any other information about the sales team's project abroad, please contact Khun Jirapond, assistant training manager.

Please submit the report, the program outline and the evaluation plan to me at the end of this month. We will discuss its strengths and weaknesses before you make a presentation to Giant at the end of April
Remark: All training materials should be attached. Giant requires that the content includes at least 'First Impression', Business Meal Manners, 'Written Communication', International Awareness and Common Business English Vocabulary.

Requirements for the project

1. The outline of the three-day business etiquette program for ten sales representatives includes

    1. the program objectives;
    2. timetable;
    3. content; activities; and
    4. program evaluation

2. The program content should contain all necessary business etiquette skills for the sales team and cover the five business etiquette topics mentioned in the memo.

Remark:

1. Evaluation criteria for the training program proposed include:
    1. clearly stated objectives
    2. content coverage
    3. systematic plan / schedule
    4. contributions to the audience

2. To complete the work, please follow the teacher's guidance step by step throughout the learning process until you are familiar with the problem-based learning method.

3. All materials necessary to facilitate your work are available.

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Appendix M

Resource File for Self Study: Business etiquette

The resource file for your self study includes two parts: textbook readings and authentic readings.

Part One: Textbook Readings

This part consists of various reading passages compiled from business communication textbooks. The passages are organized under four topics—(1) the First Impression, (2) Business Meal Manners, (3) Write It Right, and (4) Gaining International Perspectives.

1. The First Impression (Casperson, 1999)

Warm Up

Give answers to the following questions based on your opinions.

1. Am I expected to stand and shake hands when people enter my office?
2. Whose name do I say first when introducing my employer to our new client?
3. What is a self-introduction and when do I use it?

1.1 The First Greeting

Should I rise and shake hands when someone comes into my office?

Yes. When someone from outside your company enters your office it is a gesture of respect and courtesy to rise, move from behind the desk, and shake hands. Your handshake speaks loudly about your professionalism, credibility, and confidence. It shouldn't come as a surprise that your abilities may be judged by the five-second handshake. The handshake is an important contact or physical link between two

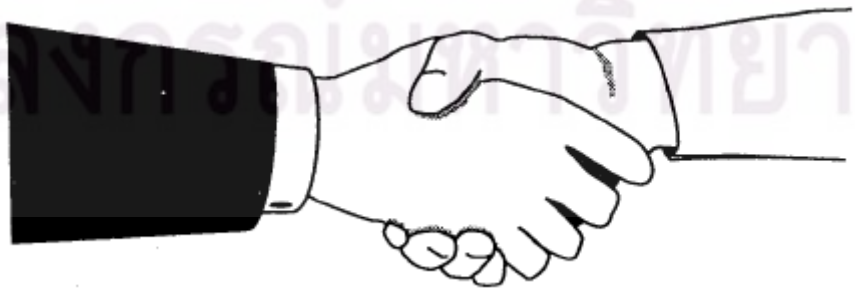
people. A firm handshake conveys confidence, assurance, interest, and respect. A limp handshake can send the opposite message.

Your handshake communicates a powerful nonverbal message before you speak. A firm handshake conveys “I am interested in you and confident in my business skills,” whereas a weak handshake may be interpreted as “I’m unsure of myself and I’m uncomfortable being here and meeting you.” Eye contact and a smile during the handshake are also essential because they show attentiveness. The initial connection between two individuals is an opportunity to establish rapport and positive chemistry. An immediate bond develops from the touch of a hand and sets the tone for conversation and future business association, leading to a productive relationship.

All cultures have customary gestures of a handshake, kiss, hug, or bow that signifies a greeting and the commencement of an encounter. The unspoken greeting is an act of respect and an acknowledgement of another person. The handshake is the first physical connection we have with the person and serves as the bond. It is always appropriate to shake hand in the business setting. By shaking hands easily, often, and graciously, you actually influence your peers to shake hands more often.

Use your right hand to shake hands and don’t squeeze too hard. Keep in mind that a handshake should be firm, not bone crunching. Be especially considerate of seniors (and others) who may suffer from arthritis; return similar pressure to theirs. Your hands should touch with web to web (between thumb and forefinger); wrap your fingers around the other person’s hand (see figure 1). Shake hands vertically with the thumbs up, facing one another squarely.

Figure 1: Illustration of the proper handshake



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Appendix N

Sample teacher's manual (Part I: Make the most of PBL)

Part One

Making the Most of PBL

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1. Problem-Based Learning Approach (PBL)

Based on the Constructivist framework, PBL is a learning model which facilitates the process of linking instructional activities to individual learning based on problem scenarios or cases. With the PBL model, students work in collaborative groups to resolve or manage these scenarios, not for acquiring a predetermined series of right answer, but for deciding what information they need to learn and what skills they need to gain in order to manage the situation effectively.

PBL process applied in this course comprise three main stages—encountering the problem situation, participating a PBL task, and evaluating and reflecting. Details are as follows:

Stage One: Encountering the problem

1.1 After Warm-Up activities to activate students' prior knowledge and experiences about a unit topic, the students are presented with a problem situation. Students individually silently read it, following which they check their comprehension of the situation as a group. As a class activity, the teacher elicits some comprehension responses. The teacher asks questions to make sure that all students understand key terms and concepts and can define the problem.

Stage Two: Participating a PBL task

After the teacher has explained the PBL process required to complete the task, as well as showing sample learning logs and how to complete them, the students are formed into small groups of 6-7. The PBL process includes four steps—(1) analyzing the problem, (2) identifying further learning needs, (3) self-directing themselves to

collect additional information, and (4) reviewing what had been learnt and proposing solutions.

2.1 Analyze the problem

- Students in groups analyzed the problem situation by making a list of short and simple sentences about all important information in the problem situation in Learning log 1 (What We Know). They analyzed the problem and listed what they know based on the information provided from the problem situation itself, using their existing knowledge and reasoning skills. The teacher asked questions such as 'what are the most interesting facts about the case?', 'Why is the information you know about the case important?'

2.2 Identify further learning needs and resources

- Students identified further learning needs for making process with the problem. They collaboratively discussed and shared ideas about what questions they should ask themselves to arrive at a solution of the problem situation. They completed Learning log 2 (What We Need to Know) with short and simple questions. The teacher asks questions such as 'How might you find out information on cultures?' 'What do you need to know more about?' 'Where can you find that information?'

2.3 Self direct themselves to collect additional information

- Individual students are assigned by the group to read extensively for certain information. They complete Learning log 3.1 (Action Plan for Research), which helps them divide their outside class reading responsibilities. The list is based on the questions developed in Step 2. Each student has to find answers to one or two questions from the list and summarize the answer(s) to their questions in Learning log 3.2 (Summary of What I Learnt from Self Study). Since the third step requires students to read extensively in their free time outside of class, students should be given a few days to complete their work. Thus, the students should divide their reading work by completing Learning log 3.1 before a weekend.

Appendix O

Usefulness of the REBC test in terms of item facility and item discrimination

After the test was piloted, the test items were calculated for item facility (IF), and item discrimination (ID) index to make it as appropriate as possible for the main study. According to Brown (2004), appropriate test items have IFs that range between .15 and .85. ID indices that show high discrimination between high-and low-ability test takers are 1.0 whereas zero means that there is no discrimination at all. The table below presents the number of REBC test items with IFs and IDs.

Difficult ↓ Easy	IF	Numbers of items	ID	Numbers of items	High discrimination ↓ Low & no discrimination
	.17 - .3	11	.7 - .9	5	
	.4 - .6	15	.4 - .6	16	
	.7 - .8	10	.2 - .3	12	
	.88 -.9	5	-0.1 - .01	7	
Total		40		40	

This table illustrates that the REBC test had no items that were too difficult, but there were five items which were too easy and had to be revised. They were items 2, 4, 5, 7, and 18. In terms of IDs, seven items had low or no discrimination power. As a result, they were revised based on distracter efficiency analysis. Those items were 1, 4, 16, 29, 32, 35, and 38.

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Appendix P

Usefulness of the PSSI in terms of item facility and item discrimination

After the PSSI was piloted, the PSSI items were calculated for item facility (IF), and item discrimination (ID) index to make it as appropriate as possible for the main study. According to Brown (2004), appropriate test items have IFs that range between .15 and .85. ID indices that show high discrimination between high-and low-ability test takers are 1.0 whereas zero means that there is no discrimination at all. The table below presents the number of PSSI items with IFs and IDs.

Difficult ↓ Easy	IF	Numbers of items	ID	Numbers of items	Moderate discrimination ↓ Low & no discrimination
	.03 - .12	2	.4 - .6	19	
	.18 - .3	4	.2 - .3	14	
	.4 - .6	22	-.1 - .1	11	
	.7 -.8	14			
	.9	2			
Total		44		44	

As can be seen in this table, the PSSI had two excessively difficult items (items 14 and 22) and two overly easy items (items 6 and 18). They were revised. In terms of IDs, there were eleven items which could not discriminate between the high-achievers and the low-achievers. They were items 2, 3, 7, 10, 14, 15, 16, 22, 23, 33, and 41. These items were revised based on distracter efficiency analysis.

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Appendix Q

Name list of experts validating research and instructional instruments

1. Experts validating needs questionnaire	
1. Assoc. Prof. Dr. Punchalee Wasanasomsithi	CULI
2. Asst. Prof. Dr. Nuttaporn Lawthong	Faculty of Education, CU
3. Dr. Parichat Wongsuwon	UTCC
2. Experts validating problem solving skills inventory	CUATC
1. Assoc. Prof. Prakaikaew Opanon-amata	TU
2. Assoc. Prof. Dr. Pratin Pimsarn	UTCC
3. Dr. Sunee Dhanasarnsombat	
3. Experts validating reading English for business communication test	
1. Assoc. Prof. Dr. Suphat Sukamolson	CULI
2. Asst. Prof. Dr. Tracey Bretag	Division of Business, School of Management, University of South Australia
3. Dr. Wanida Ploysangwal	UTCC
4. Experts validating students' materials and teacher's manual	
1. Dr. Lindy Woodrow	Faculty of Education, University of Sydney
2. Asst. Prof. Dr. Pornapit Darasawang	KMUTT
3. Dr. Nuwee Chomphuchart	UTCC
5. Experts validating PBL attitude questionnaire and PBL log	
1. Assoc. Prof. Antikar Rongsa-ard	CULI
2. Dr. Wannee Kaemkate	Faculty of Education, CU
3. Assoc. Prof. Dr. Uraiwan Thanasthit	UTCC

Appendix R

Evaluation Forms for Experts

1. Needs questionnaire evaluation form
2. Teacher's manual evaluation form
3. Students' materials evaluation form
4. Course components evaluation form
5. Reading English for business communication test evaluation form
6. Problem-solving skills inventory evaluation form
7. PBL log evaluation form
8. PBL attitude questionnaire evaluation form

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Appendix R

Needs Questionnaire Evaluation Form

Part A: Point-by-Point Evaluation

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

3 means appropriate
2 means undecided
1 means inappropriate

Part 1: Purposes of reading English for business communication		Content			Language in English			Language in Thai		
		3	2	1	3	2	1	3	2	1
ข้อที่	Reading purposes for communication in your business area include … (จุดประสงค์การอ่านเพื่อการสื่อสารในธุรกิจของท่านได้แก่)									
1	Reading for meetings (การอ่านเพื่อการประชุม)									
2	Reading for presentations (การอ่านเพื่อการนำเสนอ)									
3	Reading for negotiation (การอ่านเพื่อการต่อรอง)									
4	Reading for collaboration and socialization (การอ่านเพื่อการทำงานร่วมกันและปฏิสังคม)									
5	Reading for promotion (การอ่านเพื่อการเลื่อนตำแหน่ง)									
6	Reading for business decisions and management (การอ่านเพื่อการตัดสินใจและการจัดการ)									
7	Reading for proposing ideas and opinions (การอ่านเพื่อเสนอความคิดเห็น)									
8	Reading for information management (การอ่านเพื่อการจัดการข้อมูล)									
9	Reading for effective business communication (การอ่านเพื่อเพิ่มประสิทธิภาพการสื่อสารทางธุรกิจ)									
10	Reading for multiple business perspectives and planning (การอ่านเพื่อเพิ่มมุมมองที่หลากหลายทางธุรกิจและการวางแผน)									
11	Others. Please specify: (1)…….. (อื่นๆ โปรดระบุ) (2)…….. (3)…….									

Comments and Suggestions:

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Part 2: Business Communication Topics		Content			Language in English			Language in Thai		
		3	2	1	3	2	1	3	2	1
ข้อที่	Business communication topics you think English for business communication-major graduates should possess in order to be more qualified are … (หัวข้อเกี่ยวกับการสื่อสารธุรกิจที่ท่านคิดว่า บัณฑิตเอกวิชาภาษาอังกฤษเพื่อการสื่อสารธุรกิจควรศึกษาเพื่อเพิ่มพูนคุณภาพในการปฏิบัติงานในอนาคต ได้แก่ …)									
1	cross-cultural awareness (ความตระหนักในความหลากหลายทางวัฒนธรรม)									
2	business etiquette (จรรยามารยาททางธุรกิจ)									
3	business ethics (จรรยาบรรณทางธุรกิจ)									
4	communication technology (เทคโนโลยีการสื่อสาร)									
5	market research (การวิจัยการตลาด)									
6	management style (รูปแบบการจัดการ)									
7	working motives (สิ่งกระตุ้นการทำงาน)									
8	product analysis (การวิเคราะห์ผลผลิต/สินค้า)									
9	customer satisfaction (ความพึงพอใจของลูกค้า)									
10	others: Please specify: (1)……. (อื่นๆ โปรดระบุ) (2)……. (3)…….									

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Comments and Suggestions:

Part 3: Problems Found While Working		Content			Language in English			Language in Thai		
		3	2	1	3	2	1	3	2	1
ข้อที่	**Directions**: Based on your direct or indirect working experience, please give a short example of a problem situation which happened due to the lack of or insufficient knowledge about the business communication topics listed in Part Two. (คำชี้แจง: จากประสบการณ์การทำงานของท่านทั้งทางตรงและทางอ้อม โปรดยกตัวอย่างสถานการณ์ปัญหาที่เกิดจากการขาดความรู้และความเข้าใจในหัวข้อการสื่อสารธุรกิจในส่วนที่ 2)									
1	Problem Situation: (business communication topic = …….) (สถานการณ์ปัญหา : (หัวข้อการสื่อสารธุรกิจ = …….)									
2	How was the problem solved? (ปัญหาได้รับการแก้ไขอย่างไร)									
3	Results after the problem was solved: (ผลที่ได้รับเมื่อปัญหาได้รับการแก้ไข)									

Comments and Suggestions:

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Part B: Overall Evaluation

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

5	means	strongly agree
4	means	agree
3	means	undecided
2	means	disagree
1	means	strongly disagree

Item	Questions	agree ➔ disagree				
		5	4	3	2	1
1	The format of the needs questionnaire is appropriate (two rating-scale parts and one open-ended part)					
2	Length of the needs questionnaire is appropriate.					
3	Content of the needs questionnaire is appropriate.					
4	English language of the needs questionnaire is appropriate.					
5	Thai translation of the needs questionnaire is appropriate.					

Comments and Suggestions

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Thank you very much for your comments and suggestions

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Appendix R

Teacher's Manual Evaluation Form

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

5 means strongly agree
4 means agree
3 means undecided
2 means disagree
1 means strongly disagree

Item	Questions	agree ➔ disagree				
		5	4	3	2	1
1	General layout of the teacher's manual enhances readability.					
2	General layout of the teacher's manual enhances easy access to information.					
3	The teacher's manual covers all useful information required.					
4	The teacher's manual is adequately effective in promoting understanding in PBL implementation.					
5	Unit-by-unit notes for planning classroom activities are clear					
6	Unit-by-unit notes are adequate for planning classroom activities.					
7	The resource file for teachers enables him/her to be well-prepared to monitor and facilitate students/ learning effectively.					
8	The resource file for teachers is sufficient.					

What are your additional comments and suggestions for improving the teacher's manual?

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Thank you very much for your comments and suggestions

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Appendix R

Students' Materials Evaluation Form

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

5	means	strongly agree
4	means	agree
3	means	undecided
2	means	disagree
1	means	strongly disagree

Item	Questions	agree ➔ disagree				
		5	4	3	2	1
1	General layout of the students' materials enhances readability (for 4th year English majors).					
2	General layout of the students' materials provides easy access to information.					
3	The students' materials cover all useful information required.					
4	The students' materials are adequately effective in promoting understanding in PBL implementation.					
5	Instructions provided in the students' materials are clear.					
6	The students' materials are free of ethnic and gender bias.					
7	The students' materials offer sufficient resources for students to complete their project work.					
8	The students' materials provide appropriate content according to the objectives of each unit (stated at the beginning of each unit).					
9	The problem situations for student project work are achievable by 4th year English for business communication majors.					
10	The problem situations for student project work appear challenging.					
11	The problem situations for student project work promote ownership.					

What are your additional comments and suggestions for improving the students' materials?

Thank you very much for your comments and suggestions

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Appendix R

Course Components Evaluation Form

Directions: Please state your degree of agreement towards the appropriateness of each of the following course components by marking ✓ in the box which best reflects your opinion.

3	means	acceptable
2	means	undecided
1	means	revision needed

Course Components	Acceptable → Revision Needed		
	3	2	1
Objectives The objectives of the course were translated from the top-five purposes for reading English for business communication found. The course objectives are that by the end of the course the students will be able to (1) read English for business communication, (2) read English for collaboration, (3) read English for multiple business perspectives and planning, (4) read English for business decisions, and (5) read English for proposing ideas and opinions.			
Content The course content will cover the top-five business communication topics found. They include customer satisfaction, communication technology, business etiquette, business ethics, and intercultural communication. Each topic will be introduced in the form of a problem situation. (Attached is a sample problem situation.)			
Materials The course materials included the teacher's manual and the students' materials. (Attached is the description of the materials)			

Course Components	Acceptable → Revision Needed		
	3	2	1
Instructional process A problem-based learning approach (PBL) will be implemented throughout the course. PBL process includes Warm-Up Activities, PBL Activities, and Evaluation and Reflection Activities. This process is used to complete a problem-based project.			
Assessment and evaluation There will be both formative and summative assessment. The formative assessment will be conducted by means of learning logs and feedback sessions. The summative assessment will be conducted by means of class presentations and examinations on reading English for business communication abilities and problem solving skills.			

What are your comments and suggestions for improving the course components?

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Thank you very much for your comments and suggestions

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Appendix R

Evaluation of The Reading English for Business Communication Test

Part One

Items	Objectives	Agree	Disagree	Questionable	Comments
1	Identifying main idea				
2	Analyzing purpose				
3	Identifying sequence				
4	Making inferences				
5	Predicting outcomes				
6	Identifying main idea				
7	Recognizing cause & effect				
8	Making inferences				
9	Making inferences				
10	Drawing conclusions				
11	Identifying main idea				
12	Analyzing purpose				
13	Making inferences				
14	Distinguishing fact from opinion				
15	Drawing conclusions				
16	Identifying main idea				
17	Making inferences				
18	Recognizing business terms				
19	Distinguishing fact from opinion				
20	Predicting outcomes				
21	Identifying detail				
22	Making inferences				
23	Identifying detail				
24	Distinguishing fact from opinion				
25	Drawing conclusions				
26	Identifying main idea				
27	Comparing and contrasting				
28	Identifying detail				
29	Distinguishing fact from opinion				

Items	Objectives	Agree	Disagree	Questionable	Comments
30	Making inferences				
31	Identifying sequence				
32	Analyzing purpose				
33	Comparing and contrasting				
34	Drawing conclusions				
35	Finding solutions				
36	Identifying main idea				
37	Making inferences				
38	Identifying detail				
39	Predicting outcomes				
40	Making inferences				

Part Two:
Other comments and Suggestions

Thank you very much for your comments and suggestions

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Appendix R
Evaluation of The Problem-Solving Skills Inventory

Part One

Items	Objectives	Agree	Disagree	Questionable	Comments
1	Defining the problem				
2	Analyzing the problem (Identifying a cause)				
3	Proposing a solution				
4	Justifying the results of the solution				
5	Defining the problem				
6	Analyzing the problem (Identifying a cause)				
7	Proposing a solution				
8	Justifying the results of the solution				
9	Defining the problem				
10	Analyzing the problem (Identifying a cause)				
11	Proposing a solution				
12	Justifying the results of the solution				
13	Defining the problem				
14	Analyzing the problem (Identifying a cause)				
15	Proposing a solution				
16	Justifying the results of the solution				
17	Defining the problem				
18	Analyzing the problem (Identifying a cause)				
19	Proposing a solution				
20	Justifying the results of the solution				
21	Defining the problem				
22	Analyzing the problem (Identifying a cause)				
23	Proposing a solution				
24	Justifying the results of the solution				

Items	Objectives	Agree	Disagree	Questionable	Comments
25	Defining the problem				
26	Analyzing the problem (Identifying a cause)				
27	Proposing a solution				
28	Justifying the results of the solution				
29	Defining the problem				
30	Analyzing the problem (Identifying a cause)				
31	Proposing a solution				
32	Justifying the results of the solution				
33	Defining the problem				
34	Analyzing the problem (Identifying a cause)				
35	Proposing a solution				
36	Justifying the results of the solution				
37	Defining the problem				
38	Analyzing the problem (Identifying a cause)				
39	Proposing a solution				
40	Justifying the results of the solution				
41	Defining the problem				
42	Analyzing the problem (Identifying a cause)				
43	Proposing a solution				
44	Justifying the results of the solution				

Part Two:
Other comments and Suggestions

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Thank you very much for your comments and suggestions

Appendix R

PBL log Evaluation Form

Part A: Question-by-Question Evaluation

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

5	means	strongly agree
4	means	agree
3	means	undecided
2	means	disagree
1	means	strongly disagree

Item	Questions	agree ➔ disagree				
		5	4	3	2	1
1	How did the problem situations provided improve your reading English for business communication?					
2	What skills in reading English for business communication (listed below) do you think have improved?					
3	How were these reading English for business communication skills (#2 above) improved?					
4	What process skills (listed below) do you think have improved?					
5	How did these process skills improve?					

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Part B: Evaluation of Rating Scale part

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

5 means strongly agree
4 means agree
3 means undecided
2 means disagree
1 means strongly disagree

Item	Questions	agree ➔ disagree				
		5	4	3	2	1
1.	Rating scale items of question 2 (What skills in reading English for business communication do you think have improved?) are appropriate.					
	1.1 Rating scale items of question 2 are sufficient.					
	1.2 Rating scale items of question 2 are concise.					
2	Rating scale items of question 4 (What process skills do you think have improved?) are appropriate.					
	2.1 Rating scale items of question 4 are sufficient.					
	2.2 Rating scale items of question 4 are concise.					

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Part C: Overall Evaluation

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

5 means strongly agree
4 means agree
3 means undecided
2 means disagree
1 means strongly disagree

Item	Questions	agree ➔ disagree				
		5	4	3	2	1
1	The format of the PBL log is appropriate (three open-ended questions and two rating-scale items)					
2	The length of the PBL log is appropriate.					
3	The content of the PBL log is appropriate.					
4	The English language of the PBL log is appropriate for third and fourth-year English for business communication majors.					
5	The PBL log can reflect the students' reading English for business communication					
6	The PBL log can reflect the students' problem-solving skills					
7	The PBL log can reflect other process skills found by the students.					

Comments and Suggestions

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Thank you very much for your comments and suggestions

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Appendix R

PBL Attitude Questionnaire Evaluation Form

Part A: Positive attitude statements vs Negative attitude statements

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

5 means strongly agree
4 means agree
3 means undecided
2 means disagree
1 means strongly disagree

Item	**The following ten statements reflect a <u>positive</u> attitude toward PBL**	agree ➔ disagree				
		5	4	3	2	1
1	Problem situations are interesting because they relate to real-world demands in business communication สถานการณ์ปัญหาน่าสนใจเพราะเป็นสถานการณ์ที่เกี่ยวพันกับความต้องการสำหรับการสื่อสารธุรกิจในโลกปัจจุบัน					
2	PBL is stimulating: it stimulates my active reading of English for business communication การใช้ปัญหาเป็นหลักเป็นวิธีการเรียนการสอนที่กระตุ้นการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉันได้อย่างดี					
4	PBL provided me with useful business communication knowledge. การเรียนการสอนโดยการใช้ปัญหาเป็นหลักทำให้ฉันได้เพิ่มพูนความรู้ด้านการสื่อสารธุรกิจ					
6	PBL enabled me to take more responsibility for my reading English for business communication. การเรียนการสอนโดยการใช้ปัญหาเป็นหลักทำให้ฉันมีความรับผิดชอบมากขึ้นในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
8	I could read English for business communication more than usual because I had an objective to read with PBL. ฉันสามารถอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจได้มากกว่าปกติเพราะการเรียนการสอนโดยการใช้ปัญหาเป็นหลักทำให้ฉันมีจุดประสงค์ในการอ่าน					
10	I would support the use of PBL in learning reading English for business communication. ฉันสนับสนุนการเรียนการสอนโดยใช้ปัญหาเป็นหลักสำหรับการเรียนการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
13	I would suggest PBL to my friends when they need to read English for business communication. ฉันจะแนะนำการเรียนการสอนโดยใช้ปัญหาเป็นหลักให้กับเพื่อนๆที่จำเป็นต้องอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					

Item	**The following ten statements reflect a <u>positive</u> attitude toward PBL** (Cont.)	agree ➔ disagree				
		5	4	3	2	1
15	I had a good experience with PBL in my business English reading course. ฉันมีประสบการณ์ที่ดีเกี่ยวกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ					
18	PBL is important for English for business communication students. การเรียนการสอนโดยใช้ปัญหาเป็นหลักมีความสำคัญต่อผู้เรียนภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
20	I am satisfied with PBL: it helped me develop my reading English for business communication. ฉันพึงพอใจกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักเพราะมันช่วยพัฒนาการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉัน					

Item	**The following ten statements reflect a <u>negative</u> attitude toward PBL**	agree ➔ disagree				
		5	4	3	2	1
3	I think PBL is time consuming to teach reading English for business communication. ฉันคิดว่าการเรียนการสอนการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจโดยใช้ปัญหาเป็นหลักนั้น ต้องใช้เวลานาน					
5	I think PBL is too complicated to learn reading English for business communication. ฉันคิดว่าการเรียนการสอนโดยการใช้ปัญหาเป็นหลักนั้นยุ่งยากเกินไปสำหรับการเรียนการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
7	I do not think problem situations are related to my reading English for business communication. ฉันไม่คิดว่าสถานการณ์ปัญหามีความสัมพันธ์กับการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉัน					
9	Without PBL, I can better read English for business communication. ฉันสามารถอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจได้ดีกว่าถ้าไม่เรียนด้วยการใช้ปัญหาเป็นหลัก					
11	I had a bad experience with PBL in my business English reading course. ฉันมีประสบการณ์ที่ไม่ดีเกี่ยวกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ					
12	I think PBL is too difficult to help me develop my reading English for business communication. ฉันคิดว่าการเรียนการสอนโดยใช้ปัญหาเป็นหลักนั้นยากเกินไปที่จะช่วยให้ฉันพัฒนาการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					

Item	**The following ten statements reflect a <u>negative</u> attitude toward PBL** (Cont.)	agree ➔ disagree				
		5	4	3	2	1
14	When I read English for business communication, I preferred lecture-based method to PBL. เมื่อฉันอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ ฉันชอบการเรียนการสอนโดยการฟังบรรยายมากกว่าการเรียนการสอนโดยใช้ปัญหาเป็นหลัก					
16	I tried hard to get used to PBL in my business English reading course. ฉันได้พยายามอย่างมากที่จะคุ้นเคยกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ					
17	PBL used in my business English reading course did not teach me any useful process skills. การเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ ไม่ได้สอนทักษะกระบวนการใดๆที่เป็นประโยชน์แก่ฉันเลย					
19	My reading English for business communication abilities were not improved by PBL. ความสามารถในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉัน ไม่ได้เพิ่มขึ้นเนื่องจากการเรียนการสอนโดยใช้ปัญหาเป็นหลัก					

Part B: Point-by-Point Evaluation

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

5	means	strongly agree
4	means	agree
3	means	undecided
2	means	disagree
1	means	strongly disagree

Part one (ส่วนที่ 1)

Item	**PBL Attitude Statement** **ข้อความทัศนคติ**	agree ➔ disagree				
		5	4	3	2	1
1	Problem situations are interesting because they relate to real-world demands in business communication สถานการณ์ปัญหาน่าสนใจเพราะเป็นสถานการณ์ที่เกี่ยวพันกับความต้องการสำหรับการสื่อสารธุรกิจในโลกปัจจุบัน					
2	PBL is stimulating: it stimulates my active reading of English for business communication การใช้ปัญหาเป็นหลักเป็นวิธีการเรียนการสอนที่กระตุ้นการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉันได้อย่างดี					
3	I think PBL is time consuming to teach reading English for business communication.					

	ฉันคิดว่าการเรียนการสอนการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจโดยใช้ปัญหาเป็นหลักนั้น ต้องใช้เวลานาน					
4	PBL provided me with useful business communication knowledge. การเรียนการสอนโดยการใช้ปัญหาเป็นหลักทำให้ฉันได้เพิ่มพูนความรู้ด้านการสื่อสารธุรกิจ					
5	I think PBL is too complicated to learn reading English for business communication. ฉันคิดว่าการเรียนการสอนโดยการใช้ปัญหาเป็นหลักนั้นยุ่งยากเกินไปสำหรับการเรียนการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
6	PBL enabled me to take more responsibility for my reading English for business communication. การเรียนการสอนโดยการใช้ปัญหาเป็นหลักทำให้ฉันมีความรับผิดชอบมากขึ้นในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
7	I do not think problem situations are related to my reading English for business communication. ฉันไม่คิดว่าสถานการณ์ปัญหามีความสัมพันธ์กับการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉัน					
8	I could read English for business communication more than usual because I had an objective to read with PBL. ฉันสามารถอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจได้มากกว่าปกติเพราะการเรียนการสอนโดยการใช้ปัญหาเป็นหลักทำให้ฉันมีจุดประสงค์ในการอ่าน					
9	Without PBL, I can better read English for business communication. ฉันสามารถอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจได้ดีกว่าถ้าไม่เรียนด้วยการใช้ปัญหาเป็นหลัก					
10	I would support the use of PBL in learning reading English for business communication. ฉันสนับสนุนการเรียนการสอนโดยใช้ปัญหาเป็นหลักสำหรับการเรียนการอ่านภาษาอังกฤษธุรกิจ					
11	I had a bad experience with PBL in my business English reading course. ฉันมีประสบการณ์ที่ไม่ดีเกี่ยวกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ					
12	I think PBL is too difficult to help me develop my reading English for business communication. ฉันคิดว่าการเรียนการสอนโดยใช้ปัญหาเป็นหลักนั้นยากเกินไปที่จะช่วยให้ฉันพัฒนาการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
13	I would suggest PBL to my friends when they need to read English for business communication. ฉันจะแนะนำการเรียนการสอนโดยใช้ปัญหาเป็นหลักให้กับเพื่อนๆที่จำเป็นต้องอ่าน					

	ภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
14	When I read English for business communication, I preferred a lecture-based method to PBL. เมื่อฉันอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ ฉันชอบการเรียนการสอนโดยการฟังบรรยายมากกว่าการเรียนการสอนโดยใช้ปัญหาเป็นหลัก					
15	I had a good experience with PBL in my business English reading course. ฉันมีประสบการณ์ที่ดีเกี่ยวกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ					
16	I tried hard to get used to PBL in my business English reading course. ฉันได้พยายามอย่างมากที่จะคุ้นเคยกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษธุรกิจ					
17	PBL used in my business English reading course did not teach me any useful process skills. การเรียนการสอนโดยใช้ปัญหาเป็นหลักในรายวิชาการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจ ไม่ได้สอนทักษะกระบวนการใดๆที่เป็นประโยชน์แก่ฉันเลย					
18	PBL is important for English for business communication students. การเรียนการสอนโดยใช้ปัญหาเป็นหลักมีความสำคัญต่อผู้เรียนภาษาอังกฤษเพื่อการสื่อสารธุรกิจ					
19	My reading English for business communication abilities were not increased by PBL. ความสามารถในการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉัน ไม่ได้เพิ่มขึ้นเนื่องจากการเรียนการสอนโดยใช้ปัญหาเป็นหลัก					
20	I am satisfied with PBL: it helped me develop my reading English for business communication. ฉันพึงพอใจกับการเรียนการสอนโดยใช้ปัญหาเป็นหลักเพราะมันช่วยพัฒนาการอ่านภาษาอังกฤษเพื่อการสื่อสารธุรกิจของฉัน					

Part Two (ส่วนที่ 2)

Item ข้อที่	**Open-ended question**	agree ➔ disagree				
		5	4	3	2	1
1	Additional attitudes toward PBL ทัศนคติเพิ่มเติมอื่นๆ)					

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Part C: Overall Evaluation

Directions: Please state your degree of agreement by marking ✓ in the box which best reflects your opinion.

5 means strongly agree
4 means agree
3 means undecided
2 means disagree
1 means strongly disagree

Item	Questions	agree ➔ disagree				
		5	4	3	2	1
1	The format of the PBL attitude questionnaire is appropriate (one rating-scale part and one open-ended part)					
2	The length of the PBL attitude questionnaire is appropriate.					
3	The content of the PBL attitude questionnaire is appropriate.					
4	The English language use of the PBL attitude questionnaire is appropriate.					
5	The Thai translation of the PBL attitude questionnaire is appropriate.					

Comments and Suggestions

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Thank you very much for your comments and suggestion

ศูนย์วิทยทรัพยากร
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BIOGRAPHY

Takwa Bosuwon received her B.A in English from the Faculty of Arts, Thammasat University in the academic year 1989 and M.A. in teaching English as a foreign language, Thammasat University in the academic year 2000. She is a lecturer in the Department of English for Business Communication, Faculty of Humanities, University of the Thai Chamber of Commerce. Her current interests are language course development and English reading instruction.

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