ESL Students' Language Learning Strategy Repertoires in EAP and ESP Contexts: Perceived Success and Pedagogical Mediation

By

Zakiya Al Naddabi

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ABSTRACT

This study examined ESL students' language learning strategy repertoires in English for Academic Purposes (EAP) and English for Specific Purposes (ESP) contexts. It investigated: 1) the extent to which students' reported use of strategies matched their teachers' recommended strategies, 2) how EAP and ESP courses affected or "mediated" students' strategy use, and 3) how students' disciplinary studies influenced their strategy repertoires. The study results indicated that students in EAP and ESP courses appropriated strategies somewhat differently, especially in their reading and writing processes. The results also revealed a mismatch between EAP and ESP students' reported strategy repertoires and their teachers' recommendations of effective and useful strategies. The mismatch was considered a "negative use of strategies" resultant from an "inappropriate or negative uptake" of EAP and ESP strategy instruction contrary to teaching goals. Students were found to extend their negative employment of strategies to their academic courses due to the discipline-specific learning difficulties they encountered such as reading load, new vocabulary items, testing situations, etc. This negative uptake was attributed to students' individual, cultural, and academic differences, experiences, and beliefs. Finally, it was suggested that effective language learning strategies could be more developed if students' learning difficulties in their transition to academic study were identified and "strategic intervention" or "mediation" arranged through an informed ESL pedagogy, aiming for students' academic success.

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TABLE OF CONTENTS

ABSTRACT ..... **III**

ACKNOWLEDGEMENTS ..... **IV**

TABLE OF CONTENTS ..... **V**

LIST OF TABLES ..... **VII**

LIST OF APPENDICES ..... **VIII**

ABBREVIATIONS ..... **IX**

TRANSCRIPTION NOTATIONS ..... **X**

CHAPTER ONE: INTRODUCTION **1**

CHAPTER TWO: LANGUAGE LEARNING STRATEGIES (LLS) **6**

2.1. WHAT ARE LLS? DEFINITION AND SIGNIFICANCE 7
2.2. IDENTIFICATION, CLASSIFICATION, AND MEASUREMENT OF LLS 11
2.2.1. Identification and Classification of LLS 11
2.2.2. Quantitative Measurements in Strategy Research 12
2.2.2.1. Standardized Inventories 12
2.2.3. Qualitative Measurements of LLS 15
2.2.3.1. Think-aloud Protocols 15
2.2.3.2. Reflective Journals 16
2.3. VARIABLES CONSIDERED IN LLS QUANTITATIVE AND QUALITATIVE RESEARCH 17
2.3.1. Discipline as a Variable in Strategy Use 20
2.3.2. Causal Attributions and Beliefs in Strategy Use 23
2.4. STUDIES ON STRATEGY INSTRUCTION: INSTRUCTION AS A KEY VARIABLE IN STRATEGY USE 26
2.5. LLS AND SUCCESS 30
2.6. IMPLICATIONS FOR INSTRUCTION: APPLYING LLS TO LANGUAGE SKILLS 32

CHAPTER THREE: EAP AND ESP COURSE MODELS **37**

3.1. THE SPECIFICITY ISSUE 38
3.2. NEEDS ANALYSIS IN ESP COURSE DESIGN 40
3.3. APPROACHES TO EAP SYLLABUS DESIGN 41
3.4. CONTENT-BASED INSTRUCTION 42
3.5. THEMATIC APPROACH WITHIN MODELS OF CONTENT-BASED INSTRUCTION 43
3.6. WRITING SKILLS AND TASKS ACROSS THE DISCIPLINES 45
3.7. READING SKILLS AND TASKS ACROSS THE DISCIPLINES 48
3.8. LISTENING AND SPEAKING SKILLS AND TASKS ACROSS THE DISCIPLINES 50
3.9. STUDY SKILLS 51
3.10. FUTURE DIRECTIONS IN LLS RESEARCH AND SITUATING THIS STUDY 52
3.11. CONCLUSION 53

CHAPTER FOUR: METHODOLOGY **56**

4.1. SUMMARY OF RESEARCH STUDY: 56
4.2. CONTEXT/ RESEARCH SETTING 57
4.3. RECRUITMENT PROCESS 59
4.3.1 Recruiting Teacher Participants: 59
4.4. PARTICIPANTS 61
4.4.1. Questionnaire Participants in EAP and ESP Classes 61
4.5. DATA COLLECTION & RESEARCH INSTRUMENTS 67
4.5.1. Data Collection & Research Instruments (Teachers): 67
4.5.2. Data Collection & Research Instrument (Students): 69
4.6. DATA ANALYSIS 72

4.6.1. Analysis of TGI *72*
4.6.2. Analysis of IELLS *73*
4.6.3. Analysis of Inventory of Writing Strategies *76*
4.6.4. Analytic Induction of Interview Data *78*

CHAPTER FIVE: RESULTS AND DISCUSSION **80**

5.1. SECTION ONE: RESULTS AND DISCUSSION FROM INVENTORIES 80
5.1.1. Teaching Goals and Requirements of EAP and ESP Courses *80*
5.1.2. The IELLS Results *91*
5.1.2.1. Results of IELLS from EAP and ESP Classes 91
5.1.2.2. Results from the IELLS First Level of Analysis of Students' Strategy Use 94
5.1.2.3. Results from the IELLS Second Level of Analysis of Students' Strategy Use 100
5.2. SECTION TWO: RESULTS AND DISCUSSION FROM THE INTERVIEWS 116
Theme One: Students' Learning experience and background *117*
Theme Two: Students' Perceived Proficiency *121*
Theme Three: The Present ESL Course (EAP and ESP) Goals and Focus *123*
Theme Four: Learning expectations from the present ESL course (EAP or ESP) *125*
Theme Five: Students' perception of the course content and materials *128*
Theme Six: Other regular courses and their requirements/relevance of ESL course to them *136*
Theme Seven: Reading strategies *140*
Theme Eight: Word-Attack Strategies or Vocabulary Strategies *149*
Theme Nine: Writing Strategies *152*
Post-writing Strategies 160
Writing Requirements in Engineering Profession and ESP for Engineering 162
Theme Ten: Course assessment/motivation/progress *167*
Theme Eleven: Classroom organization *173*
Theme 12: Language practice outside the classroom *177*
Theme 13: Transfer or interference from the 1st language into regular or ESL courses *179*
Theme 14: Explicit and implicit strategy instruction *180*
Theme 15: Preference between teaching EAP and ESP *181*
Theme 16: Issues in Course Design *183*

CHAPTER SIX: CONCLUSION **190**

REFERENCES **207**

APPENDICES **214**

LIST OF TABLES

TABLE 1: QUESTIONNAIRE RESPONDENTS' PROFILES IN BOTH EAP AND ESP CLASSES. 61
TABLE 2: EAP AND ESP INTERVIEWED STUDENTS' DEMOGRAPHIC INFORMATION (N= 4). 64
TABLE 3: TEACHING GOALS INVENTORY SCORING GRID. 72
TABLE 4: ANALYSIS KEY OF QUANTITATIVE DATA COLLECTED USING IELLS. 74
TABLE 5: EAP AND ESP TEACHERS' GOAL CLUSTERS 81
TABLE 6: A COMPARISON OF MEANS BETWEEN THE ESP AND THE EAP CLASS IN LANGUAGE LEARNING STRATEGIES 91
TABLE 7: A COMPARISON OF THE ESP AND EAP CLASS MEANS IN READING STRATEGIES. 92
TABLE 8: A COMPARISON OF THE ESP AND EAP CLASS MEANS IN WRITING STRATEGIES 93
TABLE 9: ESP (N= 2) AND EAP (N= 2) STUDENTS' USE OF LANGUAGE LEARNING STRATEGIES 94
TABLE 10: ESP (N= 2) AND EAP (N= 2) STUDENTS' USE OF READING STRATEGIES. 97
TABLE 11: ESP (N= 2) AND EAP (N= 2) STUDENTS' USE OF WRITING STRATEGIES. 98
TABLE 12: EAP AND ESP STUDENTS' (N= 4) NEGATIVE STRATEGY USE FROM IELLS RESULTS. 101
TABLE 13: EAP AND ESP STUDENTS' (N= 4) POSITIVE STRATEGY USE FROM IELLS RESULTS. 101
TABLE 14: INDEX OF AGREEMENT[1] BETWEEN EAP (N= 2) AND ESP STUDENTS' (N= 2) IN NEGATIVE[2] STRATEGY USE FROM THE IELLS RESULTS 105
TABLE 15: PERCENTAGES OF FREQUENCY OF WRITING STRATEGY USE FOR STUDENTS AND TEACHERS 108
TABLE 16: EAP STUDENTS' (N= 2) NEGATIVE[1] AND POSITIVE USE OF WRITING STRATEGIES ACROSS THE STAGES OF THE WRITING PROCESS 110
TABLE 17: ESP STUDENTS' (N= 2) NEGATIVE[1] AND POSITIVE USE OF WRITING STRATEGIES ACROSS THE STAGES OF THE WRITING PROCESS 112
TABLE 18: INDEX OF AGREEMENT BETWEEN EAP AND ESP STUDENTS IN NEGATIVE WRITING STRATEGY USE 114
TABLE 19: STUDENTS' PERCEPTIONS OF THEIR PROFICIENCY 121

LIST OF APPENDICES

APPENDIX A: LANGUAGE LEARNING STRATEGIES (OXFORD, 1990, PP. 18-21) 214
APPENDIX B: INVITATION LETTER TO COURSE INSTRUCTORS 216
APPENDIX C: TEACHERS' CONSENT FORM 218
APPENDIX D: INVITATION LETTER TO STUDENTS 220
APPENDIX E: INVENTORY FOR ENGLISH LANGUAGE LEARNING STRATEGIES (IELLS) STUDENTS' VERSION 223
APPENDIX F: STUDENTS' CONSENT FORM 224
APPENDIX G: INVENTORY OF ENGLISH LANGUAGE LEARNING STRATEGIES (IELLS): TEACHERS' VERSION 226
APPENDIX H: SEMI-STRUCTURED INTERVIEW QUESTIONS (TEACHERS) 230
APPENDIX I: INVENTORY OF WRITING STRATEGIES 231
APPENDIX J: TEACHING GOALS INVENTORY, SELF-SCORABLE VERSION (ADAPTED FROM ANGELO AND CROSS, 1993, PP. 20-22) 233
APPENDIX K: SEMI-STRUCTURED INTERVIEW QUESTIONS (STUDENTS) 236
APPENDIX L: MATCH IN NEGATIVE STRATEGY USE AS REPORTED BY THE EAP (N= 2) AND ESP (N= 2) STUDENTS IN IELLS 237
APPENDIX M: EAP STUDENTS' (N = 2) POSITIVE AND NEGATIVE STRATEGY USE FROM IELLS RESULTS . 238
APPENDIX N: ESP STUDENTS' (N= 2) POSITIVE AND NEGATIVE STRATEGY USE FROM IELLS RESULTS ... 239

ABBREVIATIONS

- ESL= English as a Second Language
- EFL= English as a Foreign Language
- L2= Second Language
- EAP= English for Academic Purposes
- ESP= English for Specific Purposes
- LLS= Language Learning Strategies
- SBI= Strategy-Based Instruction
- SALL= Self-Access Language Learning
- SILL= Strategy Inventory of Language Learning
- SORS= Survey of Reading Strategies
- MARSI= Metacongitive-Awareness of Reading Strategies Inventory
- LASSI= Learning And Study Strategies Inventory
- SBI= Strategies-Based Instruction
- CALLA= Cognitive Academic Language Learning Approach
- LEP= Limited English Proficient
- Foresee= Communication, Cognitive Academic Language Development, and Content Instruction in the Classroom
- SSBI= Styles and Strategies-Based Instruction
- OSORS= Online Survey of Reading Strategies
- EGAP= English for General Academic Purposes
- ESAP= English for Specific Academic Purposes
- CALL= Computer-Assisted Language Learning
- IELLS= Inventory for English Language Learning Strategies
- TGI= Teaching Goals Inventory Self-Scorable Version
- AI= Analytic Induction
- CAEL Test= Canadian Academic English Language Test

TRANSCRIPTION NOTATIONS

- ...= text in quote was missing or deleted
- ....= end of sentence after which text in quote was missing or deleted
- [ ]= text within these brackets in quotes was changed for confidentiality purposes or it was linking words added by researcher to make text comprehensible
- ( )= text within these parentheses was either researcher's intruding questions or remarks

CHAPTER ONE: INTRODUCTION

Research on language learning strategies has long focused on the significance of strategy development in English as a second language instruction as part of the development of language competence (Oxford, 1990) and preparing students for their academic study. Educators have also developed courses to address students' language competence needs and to acculturate them to their academic studies, namely through English for Academic Purposes courses (EAP) and English for Specific Purposes (ESP) course models[11]. Acknowledging that these two courses differ in many respects, I wanted to examine their focus, goals, content, materials, activities, and tasks that may allow students to practice language learning strategies. My personal view of these strategies is that they are ways to develop one's proficiency and overcome language difficulties in academic study and social communication. So, I wanted to see the differences between the two courses and the role of language learning strategies in their pedagogical aims and practices. I was also eager to know how students employ these strategies in their academic study as well as their language classes. Another issue of concern to me was the requirements of students' disciplinary studies, how these are accounted for in EAP and ESP courses, and how students perceive their success and progress in these language and discipline-specific courses especially in relation to their language proficiency.

My personal interest in the investigation of this issue is a result of my experiences with language learning and teaching. I found it useful to find ways to help me learn more

[1] The contexts in this study are: one English for General Academic Purposes (EGAP) course that is called (EAP) throughout this thesis, and one English for Specific Academic Purposes (ESAP) course that is called (ESP). Although some researchers (Allison, personal communication, May, 4th, 2006) argue that these courses should be looked at as a continuum, I prefer to look at them as a dichotomy in this thesis as two different course models.

effectively. Some were strategies I gained from my undergraduate study and some were recently learned from workshops on Neuroliguistic Programming (NLP) and speed reading. What I learned from such experiences was that learning new ways to learn is a good means to develop personally and academically, leaving me to believe that the formulation of new positive strategies to learn is possible. Also, new behaviors for learning more effectively could be generated if one has access to strategy instruction that emphasizes learning strategies proven to lead to success.

As a language teacher, it is my belief that a language classroom is not a place for transmission of knowledge from the instructor's brain to the students' raw minds. It is rather a place where students learn about and practice survival, coping, study, and learning skills and a context that provides them with opportunities to practice such skills within the framework of content and tasks required in their academic mainstream courses. I would say that the strategies emphasized in EAP and ESP courses are intended to mimic and model sample tasks across the curriculum. However, the content used in such courses is sometimes an issue because of the heterogeneity of students' disciplines and institutional limitations in providing discipline-specific EAP instruction. Therefore, the study reported in this thesis looked into how teachers mediated by the use of content, materials, tasks and activities, etc, in order to prepare for and acculturate students to task requirements in their academic study as well as to develop a continuum of survival skills and strategies for students' autonomy and self-direction. The issue of concern to me is how much students employ what we teach them in EAP and ESP classes in their academic study and personal learning attempts. The following chapters, therefore, explore this issue and present research findings from a study designed to investigate

language learning strategy instruction in EAP and ESP courses. Having situated the study within the research literature, I narrowed down the research questions and developed my research methodology. In the remaining chapters of this thesis, I present a study that examined the following research problem: How could ESL instruction in EAP and ESP courses mediate students' use of language learning strategies for academic success? Implicit within this research question were several other questions:

1) To what extent do EAP and ESP students' language learning strategy repertoires match their teachers' recommendations of useful and effective strategies?

2) How do EAP and ESP courses affect the students' use of strategies and their perceived success?

3) How useful are these strategies in the students' respective disciplinary studies from the teachers' and students' perceptions and beliefs?

The rationale of the study was, therefore, to examine how instruction can intervene in addressing more appropriate and useful sets of learning strategies to ease the students' transition into their mainstream courses by emphasizing learning strategies more relevant to their needs and learning difficulties in their disciplinary study.

In order to investigate this issue, I first situated the study in the research literature to lay out the theoretical framework for this study, although it was an exploratory study in design. The theoretical framework is presented in the literature review reported in Chapters Two and Three. Chapter Two presents research on language learning strategies, its significance, the research instruments used in its investigation such as inventories and verbal protocols, variables and issues that have previously been examined by researchers,

and studies on strategy instruction. Having reviewed the literature on language learning strategies, I identified that more research was needed to explore the students' use of language learning strategies and how instruction aims to teach such strategies in a specific context so that students from different disciplinary studies can employ these strategies in their language as well as academic learning. Chapter Three also establishes the grounds for the research contexts, EAP and ESP courses, explaining the nature of these courses and their similarities and differences as debated in the literature. Chapter Three, therefore, presents research findings and issues related to these two course models, emphasizing studies on strategy instruction particularly in the framework of content-based instructional approaches, the thematic model, and sustained content model in ESL instruction. It was indicated that both teachers' and students' perceptions of strategies needed to be examined in EAP and ESP course contexts in order to see if students taking their last ESL courses were using strategies as recommended and taught by their teachers and how they might have employed such strategies in their disciplinary study. After reviewing the literature, I planned the research methodology as shown in Chapter Four that lays out the study research methods.

Chapter Four then describes the study contexts, recruitment process, participants, data collection procedures or instruments, and data analysis approaches. In order to explore students' exploitation of strategies in language learning and academic study, three approaches were used in this study: 1) responses were elicited to a learning strategy questionnaire from 11 ESP and ten EAP students who volunteered to participate in the study; 2) four students' accounts of their responses to the language learning strategy questionnaire and their use of learning strategies in academic study were elicited through

semi-structured interviews and an inventory of writing strategies; and 3) perceptions of one ESP and one EAP teacher of the nature of their courses and their strategy instruction were investigated through their responses to semi-structured interviews, the inventory of writing strategies, and an inventory of teaching goals. The teachers also discussed their course outlines during the interviews. It should be noted that the study instruments were devised from the literature review as explained in the methodology chapter.

After explaining how the study was conducted to investigate the research questions mentioned earlier, Chapter Five presents and discusses the study results starting with the results of the inventory of teaching goals, done by the two teachers, and also reporting the results of the course outlines analysis. Then, the results of the inventories of language learning strategies and writing strategies are presented and discussed to compare the students' strategy repertoires in both classes. Also, the four students' strategy repertoires are presented and a comparison is drawn between their reported strategies and their teachers' sets of recommended strategies to identify to what extent these students used recommended strategies. Then, the results of the interviews with the four students and the EAP and ESP instructors are reported and discussed in the last section of the chapter to account for strategy use in the particular study contexts based on the students' and teachers' rhetorical accounts of the nature of ESL instruction and academic study. Some concluding remarks, pedagogical implications, study limitations, and recommendations for future research are drawn in Chapter Six.

CHAPTER TWO: LANGUAGE LEARNING STRATEGIES (LLS)

Chapters Two and Three report on the literature review which provides the background to the study. These two chapters review the literature on language learning strategies (LLS) to devise the data gathering instruments and situate the study. The focus of this chapter is mainly on second language (L2) learning strategies and reports on previous studies on ESL strategy repertoires and learner strategy instruction. In Chapter Three, the focus shifts to the literature on English for Specific Purposes (ESP) and its branch English for Academic Purposes (EAP) with its two course models, English for General Academic Purposes (EGAP) and English for Specific Academic Purposes (ESAP), as well as content-based instruction.

In Chapter Two, I am relying mostly on the following learning strategy pioneers' work: Anderson (1991, 2002, 2003, 2005); Chamot & O'Malley (1987, 1994, 1996); Cohen (1987, 1996, 1998); Ehrman (1996); O'Malley & Chamot (1990); Oxford (1989, 1990, 1993, 1996); Peacock (2001); Rubin (1975, 1987, 1996); and Wenden (1987). In Chapter Three, I also draw on research conducted by many other researchers in ESP/EAP including Dudley-Evans & St John, (1998); Flowerdew & Peacock, (2001a, 2001b); Hyland, (2002) and others concerned with content-based instruction such as Benesch, (1988); Brinton, Snow, & Wesche, (1989); Guyer & Peterson, (1988); Horowitz, (1986); Karl, (1987); Kasper, (1994, 1995, 1996, 1997); Pally, (1997, 2001); Shih, (1986); and Snow, Met, & Genesee, (1989).

In this chapter, LLS are first defined, outlining their significance in learning and acquisition, and their role in building communicative competence. How learning strategies have been classified and measured in other studies using specific data gathering

instruments is examined. What factors might influence the choice of LLS in order to see the relationship between the use of strategies and other possible influencing variables is also considered. Also, studies on strategy instruction and training programs are discussed, providing sample strategy instruction approaches. As LLS have been linked to success (Rubin, 1987), a section is provided reporting what other researchers have concluded about perceived success and strategy use. Implications of how to apply LLS to language skills are also described prior to the next chapter on ESP and EAP course models.

2.1. What are LLS? Definition and Significance

Defining language learning strategies (LLS) and learner strategies better demonstrates their significance and features. The dictionary meaning of the word *strategy* carries notions of planning, directing, and managing things well for a certain purpose (Hornby, 1990, p. 1270). Research on language learning strategies in second language (L2) learning started in the mid-1970s (Anderson, 2005). Oxford (1990) expands the definition of language learning strategies by stating that "learning strategies are specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (p. 8). Thus, strategies are said to refer to specific actions or techniques and not characteristics that describe a general approach to learning (Wenden, 1987). According to the widely-used technical definition from cognitive psychology, strategies are "operations employed by the learner to aid the acquisition, storage, retrieval, and use of information" (Oxford, 1990, p. 8; Wenden, 1987, p. 7). Considering them as responses to learning needs, Wenden (1987) deems them "problem oriented" (p. 7) actions taken by students to facilitate language

processing. Wenden's (1987) definition captures what learning strategies are, as she says that the term

> refers to what learners know about the strategies they use, i.e. their strategic knowledge. This knowledge is revealed in statements learners make when they are asked to think back or retrospect on specific or general aspects of their language learning, e.g. when they are interviewed, complete a questionnaire, or write in a diary. In such cases, learners' reports may point to strategies they have actually used in a particular category of situations, strategies they assume they have used, or strategies they think they should use. (p. 7)

"Strategic competence" is part of the communicative competence aimed to be developed in language learners. According to Oxford (1990), communicative competence consists of four elements: grammatical competence, referring to mastery of the linguistic code; sociolinguistic competence, including the ability to comprehend and use speech acts in appropriate social contexts; discourse competence, expressing ideas that are cohesive in form and coherent in thought; and strategic competence, referring to the ability to use strategies to compensate for language knowledge limitations. As explained by Oxford (1990), learning strategies help develop this communicative competence:

> As the learner's competence grows, strategies can act in specific ways to foster *particular* aspects of that competence: grammatical, sociolinguistic, discourse, and strategic elements. For instance, memory strategies, such as using imagery and structured review, and contrastive analysis, strengthen *grammatical accuracy*. Social strategies - asking questions, cooperating with native speakers, cooperating with peers, and becoming culturally aware - powerfully aid *sociolinguistic competence*. Strategies related to communication in a natural setting and with social involvement also foster the development of sociolinguistic competence. Many kinds of strategies - compensation strategies, including using contextual clues for guessing, social strategies, such as cooperating and asking questions, and cognitive strategies, like recombination and use of common routines- encourage greater amounts of authentic communication and thus enhance *discourse competence*. Compensation strategies - guessing when the meaning is not known, or using synonyms or gestures to express meaning of an unknown word or expression - are the heart of *strategic competence*. (p. 9)

The definitions found in the literature highlight some features of language learning strategies related to issues of the awareness or consciousness level of language learning behaviors; learners' self-direction and control; observability; teachability; and amenability to change. In terms of consciousness, language learning strategies have been

defined as "the *conscious* actions that learners take to improve" (Anderson, 2005, p. 757) and "control their own learning" (Oxford, 1990, p. VIII). Although learners may attempt to learn and use strategies consciously, it is also assumed that "for certain learning problems, strategies *can become automatized* and remain below consciousness or potentially conscious" (Wenden, 1987, p. 8) after a fair amount of practice and use (Oxford, 1990). Thus, researchers assume that consciousness-raising and intervention can assist students' effective and efficient learning (Oxford, 1990; Rubin, 1987).

A common assumption in strategy use is that effective strategy use helps students self-direct and control their own learning processes inside and outside the classroom (Rubin, 1987). Self-direction is significant for the learners' language development as it reduces their reliance on the teacher, and enables them to take responsibility for their own learning and develop more confidence, involvement, proficiency (Oxford, 1990), empowerment (Grenfell & Harris, 1999), and autonomy (Benson & Voller, 1997; Oxford & Nyikos, 1989). To promote opportunities for self-access language learning (SALL), researchers (Gardner & Miller, 1999) suggest that teachers raise students' awareness of language learning strategies that could be employed in handling specific language tasks by discussing with them how to approach these tasks and by playing strategy search games urging students to think of possible uses of strategies in a particular context (Oxford, 1990). Therefore, a number of researchers argue that raising students' consciousness or awareness of the possible uses of these strategies can help them control and self-direct their own learning and develop their autonomy.

Language learning strategies are language learning actions or behaviors that might be observable and unobservable. The latter type usually includes mental processes that

can not be captured by an observer (Wenden, 1987). Other strategies such as cooperating with others can be observed. However, some strategies are sometimes used outside the classroom so they cannot be documented easily by the teacher through observations (Oxford, 1990).

Whether observable or not in the students' actions for the purposes of research, the teachability and learnability of these strategies is one of the most investigated issues in research. It has been shown that learning strategies are behaviors that could be learned, rejected, and modified. "They are a part of our mental software" (Wenden, 1987, p. 8). Called "learner training", "strategy training", or "learning to learn training", the teaching of learning strategies modifies and extends the teachers' role (Oxford & Nyikos, 1989). The teachers' role is to promote a learning environment that allows students to work on their strategies (Rubin, 1987) training them to identify these strategies and assisting their autonomy (Oxford, 1990). According to Wenden (1987), this increases the potential of their learnability and teachability, as shown in studies on strategy training programs, which have concluded that LLS are "readily teachable" (Oxford & Nyikos, 1989). In reference to explicit strategy instruction, Oxford (1999) notes that "strategy training is most effective when students learn why and when specific strategies are important, how to use these strategies, and how to transfer them to new situations" (p. 12).

Having considered how research has defined language learning strategies, the following section reviews the instruments that have been used to classify and measure language learning strategies in research.

2.2. Identification, Classification, and Measurement of LLS

Much of the research has attempted to identify the characteristics of good/successful learners' use of strategies, assuming that they could be made available to less successful ones (Rubin, 1987). The tools that have been mostly used in identifying, classifying, and measuring language learning strategies include standardized inventories; think-aloud protocols; and reflective journals. Anderson (2005) urges researchers to use more than one tool in order to triangulate their research.

2.2.1. Identification and Classification of LLS

Stern's (1975) seminal work identified the following ten strategies used by good language learners: planning, active, empathetic, formal, experimental, semantic, practice, communication, monitoring, and internalization strategies (as cited in Gardner & Miller, 1999, p. 161; Grenfell & Harris, 1999, p. 37). Language learning strategies were subsequently identified and classified by Oxford (1990) into six categories: memory, cognitive, metacognitive, compensation, affective, and social strategies. Oxford's (1990, pp. 18-21) six categories are listed in Appendix A. While some researchers refer to all of these strategies (Oxford, 1990, 2001), others refer to just some (Chamot & O'Malley, 1994; Weaver & Cohen, 1997). However, Dörnyei (2001) adds self-motivating strategies as a seventh category, but it overlaps with affective strategies in Oxford's (1990). According to Anderson (2005), successful learners also use the following: 1) memorization strategies; 2) clarification strategies; 3) communication strategies; 4) monitoring strategies; and 5) prior knowledge strategies.

2.2.2. Quantitative Measurements in Strategy Research

2.2.2.1. Standardized Inventories

Standardized inventories are surveys that have been used to identify, classify, and measure language learning strategies. The most frequently-used inventory for measuring language learning strategies is the Strategy Inventory for Language Learning Strategies (SILL) by Oxford (1990). Rebecca Oxford developed this questionnaire into different versions. Version 5.1 is an 80-item 5-point Likert scale devised to measure language learning strategies for English speakers learning a new language. Also, a 50-item version of the SILL was developed as Version 7.0 (ESL/EFL) for speakers of other languages learning English (Oxford, 1989; 1990). Reliability and validity data support the use of the SILL in measuring language learning strategies. When students respond to the EFL/ESL SILL in the second language they are learning, it has been reported by Oxford (1996) that the reliability coefficients range from .86 to .91, and increase when the SILL is responded to in the L1 ranging from .91 to .94. Also, the SILL validity is high as evidence reports the use of strategies and language performance (Anderson, 2005). The SILL classifies language learning strategies into direct and indirect strategies based on the language learning behaviors and their direct or indirect contribution to learning (Oxford, 1990; Wenden, 1987). Direct strategies include memory, cognitive, and compensation strategies. Indirect strategies involve metacognitive, affective, and social strategies. Both types are detailed in Appendix 1, summarizing the strategy system for all the strategies (Oxford, 1990, pp. 18-21). According to Anderson (2005), Oxford is working on a task-based version of the SILL to be used with specific L2 tasks.

Some other standardized inventories have been used in measuring particular strategies. For example, the Survey of Reading Strategies (SORS) was developed by Mokhtari to assess metacognitive strategies in reading (Mokhtari & Sheorey, 2002; Sheorey & Mokhtari, 2001). According to Shoerey and Mokhtari (2001), the SORS was developed based on the Metacognitive-Awareness of Reading Strategies Inventory (MARSI) for native speakers of English. They report that MARSI has a reliability of Cronbach's alpha of 0.89, but they do not present the reliability of the SORS. According to these researchers, the SORS categorizes reading strategies into cognitive, metacognitive, and support strategies. Cognitive strategies or problem-solving strategies are actions taken to solve comprehension problems, e.g. visualizing information read, or guessing meaning from context. Metacognitive or global strategies are planning and monitoring behaviors, e.g. previewing text before reading, or using text features such as tables. Support strategies are behaviors marked by seeking out tools to assist comprehension, such as using reference materials, or taking notes while reading.

Other surveys that have been used focus on particular strategies within language skills. For example, the "Young Learner's Language Strategy Use Survey" by Cohen and Oxford (n.d.) measures beginning or low intermediate learners' use of strategies. Strategies are divided according to the language skills and strategies involving listening, vocabulary, speaking, reading, writing, and translation strategies. In each of these categories, the survey items prompt learners to identify their use or lack of use of these strategies. For example, in listening strategies, items would be "what I do to listen more: ... I listen to the radio in the language...; what I do to understand sounds: ... I try to remember the unfamiliar sounds I hear...; what I do to understand what I hear: ... I listen

for words that are repeated...; and ... what I do if I still don't understand what someone says: ... I ask a question..." (Cohen & Oxford, n. d.).

The "Language Strategy Use Survey" devised by A. D. Cohen, R. L. Oxford, and J. C. Chi (n. d.) also includes strategies used in listening, vocabulary, speaking, reading, writing, and translation. If we look at the vocabulary strategy use section as an example of this survey's items, we find the items classified according to the goals for using these strategies. For instance, to memorize new words, learners can sometimes use rhyming. In order to review learned vocabulary, they can go back periodically to refresh their memory of the learned words. For recalling vocabulary, they can visualize the spelling of the words in their minds. To make use of the new words, they can use familiar words in different combinations to make new sentences.

The "Learning and Study Strategies Inventory (LASSI)" (Weinstein, Palmer, & Schulte, 1987, as cited in Ehrman, 1996) also provides scores on the following categories: attitude and interest; motivation, diligence, and self discipline; time management; anxiety and worry about academic performance; concentration and attention to tasks; information processing and reasoning; selecting main ideas, recognizing important information; use of support techniques and materials; self-testing, reviewing, and preparing for classes; test strategies, and preparing for tests (Ehrman, 1996, pp. 184-185).

Biggs (1992) developed another inventory called the "Study Processes Questionnaire. It "addresses motivation, and learning strategies in three categories: (a) surface (to get a task done with little personal investment), (b) achieving (to succeed in

competition and get good marks), and (c) deep (to learn with personal investment in the task)" (as cited in Ehrman, 1996, p. 186).

In general, such standardized inventories help to measure the students' strategy repertoires and their language performance in the different four language skills. This is not a comprehensive review of surveys that examine strategy use – for example, many examine beliefs (Horwitz, 1987; Yang, 1999), while others are concerned with other themes as discussed elsewhere in this chapter. These surveys provide quantitative data on the frequency of strategy use, but there are other methods that provide researchers with qualitative data as well such as think-aloud protocols which will be discussed in the next section.

2.2.3. Qualitative Measurements of LLS

2.2.3.1. Think-aloud Protocols

Verbal protocols or think-aloud data allow researchers to gain insights on the process of learning in using strategies (Anderson, 2005). Researchers have used them in L2 strategy research (Anderson, 1991; Anderson & Vandergrift, 1996; Cohen, 1996; Cohen & Olshtain, 1993) to collect data from learners. This tool has been advocated by cognitive psychologists such as Ericsson and Simon (1987) because it provides insights into language processing (as cited in Cohen, 1994). Usually studies that use verbal protocols get respondents to answer interview questions or respond to questionnaire items about language learning strategies (Cohen, 1994). Verbal protocols provide data on the actual use of strategies especially when they are gathered close to the event (Anderson, 2005). According to Cohen (1994), these verbal reports involve:

> *self-reports*, in which learners describe what they do in generalized statements about their learning behavior (e.g., "I tend to be a speed listener"); *self-observation*, in which learners

> inspect their specific language behaviors introspectively or retrospectively (e.g., "What I just did was to skim through the incoming oral text as I listened, picking out key words or phrases"); *self-revelation*, in which learners think aloud while they perform a learning task, providing a stream-of-consciousness disclosure of the information they pay attention to (e.g., "Who does the 'they' refer to here?"); or some combination of these. (p. 679)

One of the studies that have used think-aloud protocols is Vann and Abraham's (1990) study of two cases of unsuccessful learners. The researchers looked at learner strategies by analyzing think-aloud protocols and the students' products in completing four activities including an interview, a verb exercise, a cloze passage, and a composition. They used think-aloud data gathering procedures as suggested by Hosenfeld (1976). As learning strategy research first focused on the good language learner (Rubin, 1975; Rubin & Thompson, 1982; Stern, 1975), Vann and Abraham (1990) criticize research for lacking knowledge about strategies used by unsuccessful learners, which could be revealed through case studies using verbal protocols. As a consequence, they recommend studying cases in second language learning, concluding that their reported cases in the study are active strategy users who are just applying strategies improperly. Think-aloud protocols can provide descriptions of how learners use strategies to learn, through, for example, asking them to think aloud or report what they are thinking while performing tasks (Chamot, 1987; Vann & Abraham, 1990).

2.2.3.2. Reflective Journals

Reflective journals or diaries are reviewed and used by some (Baker and Boonkti, 2004; Green & Oxford, 1995; Li & Munby, 1996; Oxford, Lavine, Felkins, Hollaway, & Saleh, 1996) as a tool for learners to reflect on their learning. "Reflective journals are a type of self-report which allows learners to record on a regular basis numerous aspects of their learning process, including but not limited to the use of specific language learning

strategies" (Oxford et al., 1996). Teachers could focus students' attention by providing prompts for the reflection entries. This could be used as a tool to gather data on students' awareness of language learning strategies and their development (Anderson, 2005; Riley & Harsch, 1999).

2.3. Variables Considered in LLS Quantitative and Qualitative Research

Researchers have looked at many variables in relation to language learning strategy choice (e.g. Ehrman, 1996; Ehrman and Oxford, 1995; Green & Oxford, 1995; Griffiths & Parr, 2001; LoCastro, 1994; Oxford, 1990, 1989; Oxford & Nyikos, 1989; Peacock, 2001; Peacock & Ho, 2003; Yang, 1999). Factors that may influence strategy choice include degree of metacognitive awareness, stage of learning shown in proficiency or course of study, task requirements, teacher expectations and language teaching methods, age, gender, nationality/ethnicity, general learning style, personality traits, motivation level, purpose for learning the language, aptitude, career orientation or field of study, and type of strategy training (Oxford, 1990, 1989; Oxford & Nyikos, 1989). Ehrman (1996) argues that researchers need biographic background information accounting for individual differences in strategy use. The biographic background information Ehrman suggests could be gathered from informants to collect information on gender, age, educational background, native language and culture as well as experience with other cultures, socioeconomic status, and subject matter interests or career orientations. He argues that these factors play a role in motivating learners, preparing them for language classrooms, and enabling them to use "internal and external resources," of which learning strategies are internal (1996, p. 163).

Oxford (1989) argues that choice of language learning strategies may be influenced by the purpose of language learning. In addition, LoCastro (1994) claims that the context also has an impact on the purpose. She studied Asian student learners of English in a Japanese university looking at their efforts to improve their language skills despite the large class size in their educational system. Using the SILL and unstructured group interviews, LoCastro (1994) found from the respondents' reactions that the SILL items lack contextualization, raising "questions as to the extent to which such research tools and concepts can transfer across learning environments" (p. 413). She calls for more research on language learning strategies in different learning environments as the "values and beliefs of a learning context influence every aspect of educational practice, including the aims of the learners, the methods, and consequently the strategies used to achieve what that setting perceives to be a high level of competence in an L2" (p. 413).

Different strategy types and frequencies of use are influenced by these variables. For example, females use more and different strategies than males do (Ehrman & Oxford, 1995; Green & Oxford, 1995; Oxford & Nyikos, 1989). According to Oxford (1990), more advancement in awareness, language level, age, and motivation impacts the nature and range of strategies used by learners. Also, writing composition is a task requiring strategies that are different from a speaking task. Ethnicity also plays a role in the use of strategies; for example, Hispanics use social strategies more than others. Teacher expectations, as shown in his/her teaching and testing methods, orient students to use relevant strategies. The remaining individual characteristics, including the general learning style, purpose for learning, and personality traits, vary the choice of learning strategies (Oxford, 1990).

More proficient L2 learners have been reported to use a wider strategy repertoire, while the less proficient have fewer strategies used less effectively (Anderson, 2005; Ehrman & Oxford, 1990; Green & Oxford, 1995). Strategies are not either good or bad, but they might be applied effectively (Anderson, 2005; Cohen, 1998). Ehrman and Oxford (1989) studied the effects of sex differences, career choices, and psychological type (cognitive style and personality traits) on language learning strategies. Also, Ehrman and Oxford (1995) examined the relationships between proficiency ratings in speaking and reading skills to individual difference variables among learners including aptitude, age, gender, motivation, anxiety, self-esteem, tolerance of ambiguity, risk taking, language learning strategies, and language learning styles. In this study, females were also found to outperform males in their strategy use in four categories: cognitive, metacognitive, compensation, and self-management.

Such variables influencing choice of language learning strategies were also investigated in Oxford and Nyikos's (1989) study of 1,200 university native English speaking students studying other languages. Using factor analysis and ANOVA, five factors emerged from the study, classifying strategies into formal rule-related practice strategies; functional practice strategies; resourceful independent strategies; general study strategies; and conversational input elicitation strategies. They reported significant effects of background variables on the scores of each of the five factors. The variables involved: motivation, proficiency ratings, elective vs. required status in learning language, years of study, gender, and majors of study or career orientation. In this study, career orientation, shown as university field of specialization, affected the selection of language learning strategies. Humanities/social science/education students showed awareness of

metacognitive strategies, called "functional practice strategies" and "resourceful, independent strategies", more than the other students. The researchers conclude that this variable reflects the students' goal of developing communicative competence that motivated them more to seek language practice opportunities autonomously (Oxford & Nyikos, 1989, p.296). Ehrman (1996) argues that the subject matter interests or career orientations also reflect the traits of learners who specialize in these areas. For instance, as she suggests, humanities and social sciences majors are oriented towards verbal skills, so students who favor using words and verbal processing are attracted to such subjects. On the other hand, hard sciences and practical majors such as business would be chosen by students who prefer analytic processing.

2.3.1. Discipline as a Variable in Strategy Use

Disciplinary differences in strategy use need more investigation, as only a few studies have researched this variable (Oxford, 1989; Oxford & Nyikos, 1989; Peacock & Ho, 2003; Peacock, 2001; Politzer & McGroarty, 1985). One of the recent studies is Peacock and Ho's (2003) study of 1,006 EAP (English for Academic Purposes) students' language learning strategies across eight disciplines: building, business, computing, engineering, English, maths, primary education, and science. Other than disciplinary differences, students' use of strategies was investigated using the SILL and interviewing forty-eight students in relation to L2 proficiency, age, and gender factors. Differences were found by discipline in the low use of metacognitive strategies by computing students and in the English students' most use of strategies. Proficiency had a positive association with twenty-seven strategies. Older students were reported to use more affective and social strategies and females had more use of the memory and

metacognitive strategies. Peacock and Ho thus conclude that teachers should be aware of such disciplinary differences applying "discipline-specific strategy training where appropriate" (2003, p. 179).

Peacock (2001) claims that although strong evidence is reported on the association between strategy use and proficiency, "few studies have focused specifically on EAP or compared results among students from different academic disciplines" (p. 269). He suggests examining the teachers' opinions on the usefulness of the fifty strategies on Oxford's (1990) SILL. Combining learners' opinions through interviews and self-reports in the SILL, Peacock investigated disciplinary strategy use among EAP students and concluded that "interdisciplinary differences could be a factor of considerable importance to EAP teachers, who may have to tailor courses for particular groups of students" (2001, p. 270). Peacock (2001) used the SILL as a self-report questionnaire for students; a teacher version of the SILL rating the fifty strategies on a scale of seven from "very high usefulness to Hong Kong tertiary-level EAP learners" to "very low usefulness"; a comprehensive proficiency test; and a semi-structured interview sheet for the thirty-five most proficient and the thirty-five least proficient learners as shown on test results. Based on a sample of 140 students, the SILL had an internal consistency using Cronbach's alpha computed at .9150. The reliability of the teachers' questionnaire version was computed at .9387 (N= 43). The study tabulated the most and least frequently used strategies by students (N= 140). The researcher concludes that the cognitive and metacognitive strategies are the most useful to EAP students. He also suggests teacher intervention in future research. He found two broad differences between students from different disciplines. Physics students had the lowest use of cognitive

strategies and computing mathematics students used metacognitive strategies the least, indicating that there is a mismatch between what is useful and what is reported to be used. The researcher asserts the significance of teachers' identification of strategies associated with proficiency, suggesting that strategies that are positively linked to proficiency are the ones that should be incorporated in teaching materials and classroom tasks.

Griffiths & Parr (2001) also combined teachers' and students' perceptions of students' use of language learning strategies. The results showed discrepancies between students' and teachers' perceptions of language strategy use (p. 252), which cautions teachers to examine their students' use of certain strategies.

Only a few SILL studies note interdisciplinary strategy use, but the learning styles literature mentions differences by disciplines of study (Peacock, 2001; Reid, 1987, 1998). Learning styles are "cognitive, affective, and physiological traits that are relatively stable indicators of how learners perceive, interact with, and respond to the learning environment" (Keefe, 1979, p. 4, as cited in Reid, 1987, p. 87). In a study of learning styles, Reid (1987) found that computer science, hard sciences, business, and medicine students favor auditory learning as a major learning style. Tactile learning was reported to be preferred by engineering and computer science students more than humanities majors. For all fields of study, kinesthetic learning was a major preference. Hard sciences majors preferred visual learning the most while humanities majors had the least preference for it. In all fields, individual learning was a minor learning style, but group learning was a negative learning style for all except computer science.

Surveying 1,388 ESL students in the US using a Learning Style Questionnaire, Melton (1990) "found kinesthetic learning significantly more popular with English literature than medicine/science majors among 331 university students in China (p. 4, as cited in Peacock, 2001, pp. 271-272). Also, Chu, Kitchen, and Chew (1997) "report that business students had a significantly stronger preference for group learning over engineering students, and engineering students a significantly stronger preference for individual work over science students, among 318 university ESL students in Singapore" (p. 5, as cited in Peacock, 2001, p. 272). The research summarized above suggests that there is a gap in strategy use research regarding attributes of good EAP students, and that research on interdisciplinary strategy use is lacking. In addition, there is a need to explore both students' and teachers' opinions in different contexts on strategy use requirements and usefulness, depending on either a common ground for all students or a discipline-specific work.

2.3.2. Causal Attributions and Beliefs in Strategy Use

Generally, researchers (Williams & Burden, 1997) have used "profiles of attribution" to determine the factors affecting unsuccessful language learning attempts and "control profiles" to indicate which variables students can control. More widely researched causal attributions include ability, effort, and task difficulty pointing to what and how students attribute their success in learning to these factors or causes and how such perceptions or beliefs concerning their performance being attributed to these factors affect their achievement and control of their learning (Perry & Magnusson, 1989; Williams & Burden, 1997).

Researchers have argued that learners' perceived beliefs about language learning have an impact on their use of language strategies and second language learning (Abraham & Vann, 1987; Horwitz, 1987; Wenden, 1987; Yang, 1999), suggesting that there is a relationship between learners' metacognitive knowledge or beliefs about language learning and their language learning strategy selection. Metacognitive knowledge is knowledge about cognition, which is "relatively stable, statable ... information that human thinkers have about their own cognitive processes and those of others" (Brown, Bransford, Ferrara, & Campione, 1983, p. 87; as cited in Yang, 1999, p. 516). Yang (1999) argues that if learners believe the course material is valuable and interesting, they "tend to use all kinds of learning strategies." Those who are anxious about exams "use fewer cognitive and metacognitive strategies" (p. 518).

Yang (1999) studied 505 university students in Taiwan using 1) an English Learning Questionnaire (Yang, 1992); 2) Horwitz's (1987) Beliefs About Language Learning Inventory (BALLI); 3) Oxford's (1990) Strategy Inventory for Language Learning (SILL); 4) open-ended questions to gather information on language learners' beliefs and learning strategies; and 5) an individual background questionnaire about students' perceived motivations, efforts, and proficiency in learning English. Yang's study looked into theories of self-efficacy and attribution, with the former defined as "personal judgment of performance capabilities in a given domain of activities (Schunk, 1985, p. 208; as cited in Yang, 1999, p. 517) and the latter being judgments of causes of events. Both are "achievement-related variables" that affect how and when students use strategies in response to expectancy of future performance, emotional reactions, persistence, and task choice. In a sense, learners with more confidence in their ability or

those that have stronger self-efficacy beliefs for course work "are more likely to be cognitively engaged in their work and more likely to report attempts to control their thinking and efforts (Yang, 1999, p. 518). Quantitative analyses included descriptive statistics, principal-components analysis and factor analysis (Varimax rotation), Pearson correlation and canonical correlation analysis. Qualitative analysis used content analysis for recurring themes. With the two research approaches applied, quantitative and qualitative, the study provided evidence for the relationship between language learners' beliefs and their use of learning strategies. Yang (1999) concludes that learners' "self-efficacy beliefs about learning English were strongly related to their use of all kinds of learning strategies, especially functional practice strategies"; and that "students' beliefs about the value and nature of learning spoken English were closely linked to the use of formal oral-practice strategies" (p. 533). Further, Yang (1999) recommends attending to students' metacognitive and motivational beliefs about L2 learning in second language teaching and strategy training programs.

Kalaja and Barcelos (2003) also considered the relationship between beliefs and actions as a cause and effect linkage within a metacognitive approach to defining beliefs. As metacognitive knowledge is learners' information about their learning, metacognitive strategies are "skills through which learners manage, direct, regulate, and guide their learning" (Wenden, 1999, as cited in Kalja & Barcelos, 2003, p. 18). Thus, "beliefs that are favorable to self-directed learning are seen as leading to successful strategies, and negative beliefs would result in unsuccessful strategies or non-autonomous behavior," taking contextual factors into account (Kalaja & Barecelos, 2003, p. 19).

This section has examined the research on language learning strategies; types of strategy measurements; and the influence of some variables on language learning strategy use, such as L2 proficiency, gender, age, beliefs, and most importantly disciplinary differences, which is the focus of the empirical study in ESP and EAP contexts. Having examined key variables in the research literature on LL strategy use, in the next section I look more closely at studies of strategy instruction programs and approaches, which is the focus of this thesis.

2.4. Studies on Strategy Instruction: Instruction as a Key Variable in Strategy Use

Cohen (1998) describes options for strategy training, arguing that they differ in their level of explicitness, transferability to new situations, and level of integration into the curriculum. One of these is general study skills courses offered to students to develop general learning strategies and an awareness of learning processes, and to transfer learning skills across class subjects. Another option for strategy training is awareness training or "familiarization training" (p. 74) provided in isolated lectures and discussions. Another way to raise learner awareness of strategies is "strategy workshops" (p. 77). Peer tutoring is another option for strategy training as practiced in study groups or tutoring sessions. Language learners can also get strategy training from language textbooks that deal with learning strategies either implicitly or explicitly. Videotaped mini-courses could also be useful to use before commencing an introductory-level foreign language courses. Joan Rubin designed a one-hour language learning disc for such a purpose as an interactive video disc program (Rubin, 1996).

The last type of strategy training models Cohen (1998) outlines is the Strategies-Based Instruction (SBI) as "a learner-centered approach" (p. 81). As Anderson (2005) reports,

> teaching learners to be aware of their learning style is known as Style-Based Instruction. For example, you may best learn by listening (auditory), looking at printed material (visual), or by moving around (kinesthetic). Strategies are the specific things that one does to learn. Strategies are typically linked to a learning style. For example, an auditory learner may apply a strategy of reading aloud to hear a text. A visual learner may draw a graphic organizer to help visualize the organization of a reading passage. A kinesthetic learner may walk around while studying new vocabulary written on flash cards. (p. 758)

O'Malley (1987) also reports on the positive effects of strategy training for minority language students on the academic English language tasks of vocabulary learning, listening to a lecture, and making oral presentations to other students. Learning strategies were shown to have enhanced learning of the academic language skills of listening and speaking.

One example of strategy training is described in Nunan (1998) as a program orienting students to know their strengths as they are freshmen who need to adapt to the new university context. The program was designed to have a self-study component for students to complete on their own time and to integrate styles and strategies training with content-based modules: Module A on learning styles or approach to learning; Module B on developing listening and note-taking skills and strategies; Module C on developing reading and note-taking strategies; and Module D on strategies for improving language skills.

O'Malley and Chamot (1987, 1990) developed an ESL instructional model called the Cognitive Academic Language Learning Approach (CALLA) to develop academic language skills of limited English proficient (LEP) students in upper elementary and secondary schools. The CALLA Approach draws on principles of cognitive theory and its

instructional design includes three components: topics from the major content subjects of science, mathematic, social studies, and literature and composition; development of academic language skills; and direct instruction in learning strategies for both content and language. The strategies are classified into metacognitive, cognitive, and social/affective strategies. The founders of this approach distinguish between observable and unobservable behaviors, calling the former study skills such as note-taking, summarizing, and using reference materials, and labeling the latter learning strategies as they are unobservable mental processes such as inferencing and elaborating prior knowledge. However, they keep their classification as cognitive, metacognitive, and social/affective strategies. Metacognitive strategies include advance organization, advance preparation, organizational planning, selective attention, self-monitoring, self-evaluation, and self management. Cognitive strategies are comprised of resourcing, grouping, note-taking, summarizing, deduction, imagery, auditory representation, elaboration, transfer, and inferencing. Questioning for clarification, cooperation, and self-talk are classified under social/affective strategies (O'Malley & Chamot, 1990).

CALLA lessons have three types of objectives: content, language, and learning strategies objectives. Each lesson has five phases: preparation, presentation, practice, evaluation, and expansion activities. It is argued by the researchers that such strategies used in the CALLA model develop motivation; for instance, by self-evaluating their learning, students "learn to attribute their level of achievement to their efforts rather than unchangeable innate ability." Also, self-management assists learners to "set goals, and arrange conditions that help them learn, and self-talk, in which students learn how to control anxiety about a task" (O'Malley & Chamot, 1990, p. 199). It is thus an

instructional system teaching LEP learners how to apply learning strategies to both academic language and content tasks and activities.

Kidd and Marquardson (1996) also drew on the CALLA Approach in their development of the Foresee Approach for ESL strategy instruction in an academic-proficiency context. The Foresee stands for the four Cs in the longer title Communication, Cognitive Academic Language Development, and Content Instruction in the Classroom. The Foresee Model comprises of content, language, and learning strategies components as well. The content component includes skills, facts, and processes. The language component involves linguistic knowledge, functions, and skills. Metacognitive, cognitive, and social/effective strategies are developed in the learning strategies component. It is "content-driven" like CALLA (p. 193), but it is an integrated model following an "application process" (p. 193) or sequence from selecting content or materials; identifying the lesson content objectives; determining the procedures that include the lesson plan and techniques; defining the language objectives that fit the content; and finally identifying the learning strategies for teaching and practice. Thus, the application process is dynamic and flexible, consisting of three components: theory, materials, and procedures. The theory identifies content, language, and learning strategies objectives. The researchers stress that the materials are content-based in Foresee and could be taken from reference books, stories, newspapers, etc. The procedures involve lesson organization and techniques. A lesson would follow O'Malley and Chamot's (1990) CALLA four phases in its organization in a sequence of preparation, presentation, practice, evaluation, and expansion activities. Lesson techniques encouraged in the Foresee are the Text Questioning Technique (TQT), the Research Technique, the

Presentation Technique, the Dictated Instructions Technique (DIT), and the T-List Procedure. Kid and Marquardson (1996) claim that it is a theme-based approach, designing a unit based on a theme. Like CALLA, it is intended to be a "bridge to the mainstream" (Chamot & O' Malley, 1987, p. 227) for post beginning ESL students by "developing their cognitive and academic language proficiency through active participation in motivating and challenging content-area work" (Kidd & Marquardson, 1996, p. 189).

Many other learner strategy training approaches are reported in the literature . However, SBI, CALLA, and Foresee are the ones that are relevant to the focus of this research, because they integrate language skills, content, and strategy instruction and help students to bridge the gap between their language instruction and the learning requirements in their mainstream courses.

2.5. LLS and Success

Anderson (2005) recognizes how language learning strategies are related to success in accomplishing language learning tasks, stating that less successful learners do not progress in their tasks as more successful learners do due to the formers' lack of strategy repertoires, strategy use, and awareness of such strategies. Green & Oxford (1995) connect progress, L2 skills, and the development of strategies by stating that "language learning strategies are specific actions or techniques that students use, often intentionally, to improve their progress in developing L2 skills" (p. 262). Oxford (1996) has argued that a greater emphasis should be placed on identifying effective language learning strategies and on teaching students how to use them successfully. Some researchers have reported the differences between successful and less successful learners

based on the language learning strategies they use (e.g., Abraham & Vann, 1987; Vandergrift, 1997). They sum up that good language learners seem to be skillful in monitoring and adapting different strategies. They demonstrate flexibility in using strategies to accomplish different language learning tasks.

Whether successful or less successful, Nunan (1991) and Oxford (1993) claim that a single language teaching method cannot meet all students' needs. When it comes to language teaching methodologies, there are two approaches using strategies in teaching: Styles and Strategies-Based Instruction (SSBI) and the Cognitive Academic Language Learning Approach (CALLA). Cohen (2003) studied the relationship between learning styles, strategies, and tasks. According to Anderson (2005), SSBI explicitly teaches students learning styles and strategies and integrates them into classroom activities for "contextualized" practice (Anderson, 2005, p. 758).

Strategy instruction has been advocated by many researchers (e.g. Grenfell & Harris, 1999; Kidd & Marquardson, 1996; O'Malley & Chamot, 1987, 1990; Vandergrift, 1997). Relating effective strategy repertoire management to success, Grenfell and Harris (1999) argue that the purpose of strategy instruction should be kept explicit for learners in order to raise their awareness for making informed choices in using strategies. They group strategies into "categories of planning, execution, evaluation and repair" (p. 104). When integrating strategies into instruction implicitly, "learners are presented with activities and materials designed to elicit the use of strategies being taught but are not informed of the reasons underlying the particular approach" (Grenfell & Harris, 1999, p. 104). Learners need to reflect on what and how to learn, negotiating this with their peers as they share their consciousness and collaborative project-based learning (p. 105). In

consciousness-raising, learners get involved "reflectively in task planning, executing and assessment" moving in a cycle of "awareness-raising," "action planning," and "evaluation" (p. 104). For instance, in a sociocultural perspective on strategy use in Donato and MacCormick's (1994) study of students' written portfolios, students attributed their success in identifying, refining, and improving their strategies to the language classroom culture, which "mediated language learning in reflective and systematic ways through the use of student portfolios" (p. 462). The researchers argue that developing language learning strategies is "a by-product of mediation and socialization into a community of language learning practice" (p. 453) by externalizing their own learning to their teachers and themselves in discourse. The portfolios gave these students the chance to "self-asses, set goals, plan courses of actions to fulfill these goals, and identify themes in their own learning" (p. 459). Grenfell and Harris (1999) also suggest that strategy instruction should be in the target language, but "geared towards the level and needs of the learners" (pp. 105-106).

When applying or integrating language learning strategy instruction in the teaching of learning language skills, there are some implications that we should attend to, as explained further in the following section.

2.6. Implications for Instruction: Applying LLS to Language Skills

Oxford (1990) explains how direct and indirect strategies can be used to develop each of the four language skills: listening, reading, speaking, and writing. Language learning strategies are usually connected to each other and do not happen in isolation from each other. Anderson ascertains how strategies are interconnected and views them as a "process" (2005, p. 757). Brown (2002) also gives teachers a practical guide about

how to deal with language learning strategies in the classroom. Some research has shown that integrating strategy instruction into regular classroom instruction brings about effectiveness (Anderson, 2005; Cohen, 1998; Oxford & Leaver, 1996).

Research has tended to focus on the use of specific strategies in language skill areas, including listening, speaking, reading, writing, and grammaring skills. In listening tasks, learners manipulate listening strategies. Vandergrift (2002) studied 420 fourth to sixth graders in Canada and reported that children used metacognitive strategies of planning, monitoring, and evaluation while listening. Other studies have also looked into listening strategies (O'Malley & Chamot, 1990; Vandergrift, 1997; Vogely, 1995).

Researchers have investigated the learners' use of strategies during speaking (Cohen & Olshtain, 1993; Dörnyei, 1995). Using think-aloud retrospective protocols, Cohen & Olshtain (1993) report L2 learners' strategies, classifying the informants into metacognizers, avoiders, and pragmatists. The strategies used by the participants fell into four strategies: 1) planning to use specific vocabulary and grammatical structures; 2) thinking in 2 languages; 3) using a variety of different strategies; and 4) not paying much attention to grammar or pronunciation.

"Grammaring" strategies suggested by Larsen-Freeman (2003) are strategies used by learners to learn grammar, focusing on particular grammar aspects (p. 255, as cited in Anderson, 2005, p. 766). Anderson (2005) suggests that more research is needed to account for learning strategies utilized by learners to learn grammar (p. 766).

Reading strategies of L2 learners have been the focus of some researchers (Anderson, 2003, 1991; Mokhtari & Sheorey, 2002; Sheorey, 1999; Sheorey & Mokhtari, 2001). One of these attempts to investigate learning strategies was Mokhtari & Sheorey's

(2002) study using the Survey of Reading Strategies (SORS) as a standardized instrument. Recently, the SORS was used by Anderson (2003) to measure metacognitive reading strategies used by EFL and ESL students while reading academic materials online. The adapted survey was called the Online Survey of Reading Strategies (OSORS), but the SORS classification was kept as global reading strategies, support strategies, and problem-solving strategies. This research reports a variety in strategy use by both EFL and ESL readers with significant differences in using problem-solving strategies such as rereading difficult texts, and adjusting reading rate. To increase learners' online reading abilities, Anderson (2003) finally recommends that teachers focus their students' attention on the OSORS metacognitive reading strategies.

Writing strategies have also been researched by some (Baker & Boonkit, 2004; Bosher, 1998; Donato & MacCormick, 1994). For instance, Bosher (1998) investigated the writing processes of Southern Asian students in a videotaped writing task requiring them to write their opinions on the topic of an article they read. She indicates that the learners differed in their metacognitive awareness, ability to include information from the reading in their writing, the amount of attention given to writing aspects, and the quantity and variety of problem-solving strategies utilized (p. 205). She used recall protocols of thought processes stimulated by the viewing of videotaped pause times, which were the times when the learners paused, and she also used interviews and a coding scheme for text analysis. Such studies could help identify students' needs by allocating their weaknesses and strengths and suggesting strategies to overcome their problems.

Baker and Boonkit (2004) have also studied learning strategies in reading and writing in EAP contexts in a Thai university. The study examined EAP students' learning

strategies employed in reading and writing EAP courses, adapting the SILL (N= 149 respondents), oral and written reports from the interviews (N= 17), and journals (N= 12). Results indicated that the most frequently used strategies were metacognitive, cognitive, and compensation strategies, reporting differences in strategy use by "successful" and "less successful" readers and writers (p. 299) and revealing some strategies to be culturally inappropriate in the Thai context. Researchers conclude that learners' awareness should be raised of the less "effective" strategies that might affect their success.

Oxford (1990) explains how to apply direct and indirect strategies to the four language skills. For example, memory strategies (Appendix A) are used to store and retrieve information in memory for comprehension and production. She classifies them into three types: grouping, associating/elaborating, and placing words into a context. Grouping could be used in listening and reading as learners can categorize and label what they hear or read into meaningful groups such as parts of speech as in verbs, adverbs, nouns, etc. Other strategies that might be used are paying attention or taking notes. Listening and reading could also use associating/elaborating strategies by meaningfully associating new heard or read language with already familiar language, for example, by associating the word *billboard* with *board* if the learner already knows the latter. All four skills could benefit from placing new words into a context in a spoken or a written form in sentences or even stories. In applying images and sounds, strategies that could be utilized in remembering language newly heard or read include using imagery, semantic mapping, using keywords, and representing sounds in memory. Learners can use imagery to create a mental image of what they hear or read even for abstract words by drawing

symbols, diagrams, arrows, figures, sketches, etc for illustration. In semantic mapping, relationships between concepts could be diagramed highlighting key words and linking them with arrows or lines by using related words or pictures and words. The other strategies could also be used within this strategy to remember what is heard or read. Note-taking is a strategy that could be used to do the semantic mapping that could be manipulated in pre-listening and pre-reading activities. Another strategy for listening and reading is using keywords by creating a visual image of the new word and a familiar word. Learners can also have auditory representation of sounds in their memories for their listening, reading, and speaking abilities using rhymes. All four skills can also be used to review well periodically in a "spiraling" (Oxford, 1990, p.p. 66-67) or structured review in intervals until they restore the material in the long-term memory and retrieve for use automatically. For employing action strategy, physical response or sensation could be utilized in physically acting out what is heard or read. For what has been heard or read, learners can use flashcards to write down the new expressions and their definitions. The memory strategies can involve all the skills in restoring and retrieving the language. In sum, this review of the literature on language learning strategies suggests that LLS could be taught to students to utilize in developing their language skills.

Chapter Three: EAP and ESP Course Models

This thesis focuses on ESP and EAP course models and how students and teachers in these courses perceive language learning strategies in terms of their frequency of use, usefulness, and relevance to their disciplinary requirements. This chapter looks into the features of ESP and EAP course models and how they have been distinguished. The specificity issue regarding what content to use in language instruction is also discussed in light of these different course models. Subsequently, the issue of needs analysis in designing ESP and EAP courses is also brought up in order to further compare the two course models. Also, approaches to syllabus design are laid out, focusing on the content-based approaches and one of their models, theme-based instruction. Language skills and tasks of writing, reading, listening, speaking, and study skills across the disciplines are then examined by investigating the literature on the task requirements across the curriculum. The chapter concludes with a consideration of future directions and introduces the study that is the focus of this thesis.

In order to differentiate between the two course models, we should look at their stance in the English for Specific Purposes dichotomy. English for Specific Purposes (ESP) has two branches, English for Academic Purposes (EAP) and English for Occupational Purposes (EOP). These two branches are subdivided according to the disciplines and occupations they are concerned with. The following Figure 1 demonstrates the subdivision of EAP according to Flowerdew and Peacock (2001a, p. 12).

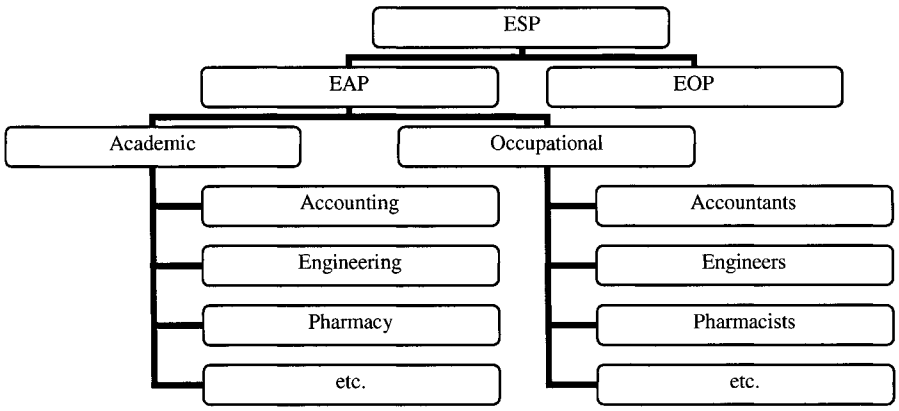

Figure 1: Subdivisions of EAP[2] (Adapted from Flowerdew and Peacock, 2001a, p. 12)

Strevens (1988) proposed four absolute characteristics of ESP and EAP and two variable characteristics of ESP. According to Strevens, ESP and EAP English language teaching is characterized by the following traits:

- Designed to meet more specific needs of the learner;
- Related in content (i.e. in its themes and topics to particular disciplines, occupations and activities);
- Centered on the language appropriate to those activities in syntax, lexis, discourse, semantics, etc., and analysis of this discourse; and
- In contrast with 'General English'.
- The variable characteristics Strevens mentions are that ESP may be, but is not necessarily:
- Restricted as to the language skills to be learned (e.g. reading only); and
- Not taught according to any pre-ordained methodology (as cited in Flowerdew & Peacock, 2001a, p. 13).
- Dudley-Evans & St John (1998) argue that there are other variable characteristics to be attended to in defining ESP:
- ESP may be related to or designed for specific disciplines;
- ESP may use, in specific teaching situations, a different methodology from that of general English;
- ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could, however, be used for learners at secondary school level; and
- ESP is generally designed for intermediate or advanced students. Most ESP courses assume basic knowledge of the language system, but it can be used with beginners (pp. 4-5).

3.1. The Specificity Issue

[2] The contexts in this study are: one English for General Academic Purposes (EGAP) course that is called (EAP) throughout this thesis, and one English for Specific Academic Purposes (ESAP) course that is called (ESP). Although some researchers (Allison, personal communication, May, 4th, 2006) argue that these courses should be looked at as a continuum, I prefer to look at them as a dichotomy in this thesis as two different course models.

Researchers have linked students' level of motivation to the level of specificity of their language courses. The issue of specificity has been pinpointed by many in the ESP literature (e.g. Flowerdew & Peacock, 2001a; Hyland, 2002; Spack, 1988). In terms of motivation, whereas the higher the students' motivation is, the more able they become to handle subject specific work, students with low motivation tend to prefer less specific work (Dudley-Evans & St John, 1998, p. 10). Related to this is the debate on specificity and the distinction between English for General Academic Purposes (EGAP) and English for Specific Academic Purposes (ESAP). "EGAP refers to the teaching of the skills and language that are common to all disciplines; ESAP refers to the teaching of the features that distinguish one discipline from others" (Dudley-Evans & St John, 1998, p. 41). Blue (1993) states that EGAP "isolates the skills associated with study activities such as listening to lectures; participating in supervisions, seminars and tutorials; carrying out practicals (largely in science or engineering courses); reading textbooks, articles and other material; and writing essays, examination answers, dissertations, and reports" (as cited in Dudley-Evans & St John, 1998, p. 41). ESAP helps students transfer their skills to comprehending lectures and reading texts and producing their discipline-specific essays and reports, etc. by integrating their EGAP work in their subject-matter tasks (Turner, 1996, as cited in Dudley-Evans & St John, 1998). The distinction between ESAP and EGAP is essential because my thesis study focused on one ESAP course and one EGAP course as its research contexts.[3]

[3] The contexts in this study are: one English for General Academic Purposes (EGAP) course that is called (EAP) throughout this thesis, and one English for Specific Academic Purposes (ESAP) course that is called (ESP). Although some researchers (Allison, personal communication, May, 4th, 2006) argue that these courses should be looked at as a continuum, I prefer to look at them as a dichotomy in this thesis as two different course models.

Some researchers (e.g. Hutchinson & Waters, 1987; Blue, 1988) have argued against subject-specific work claiming that EAP teachers should focus on EGAP provided that individualized project work will teach them ESAP. As argued by Dudley-Evans & St John (1998), supplementing the common-core EAP work with subject-specific work makes learning more relevant to students' needs and difficulties, with more motivation and transferable skills and language learned. Flowerdew and Peacock (2001a) also suggest that curriculum planners concentrate on discipline-specific activities rather than wasting time waiting for students to master the common core, as students need to be able to read textbooks, listen to lectures, write essays, and do library research and master many other skills, particularly in their disciplines.

3.2. Needs Analysis in ESP Course Design

In developing ESP and EAP curricula, designers or teachers need to conduct a needs analysis (Dudley-Evans & St John, 1998). Needs analysis is "the collection and application of information on learners' needs," and is essential in designing a syllabus, tasks, and materials (Flowerdew & Peacock, 2001b, p. 178). The needs analysis should include: 1) students' lacks; 2) language information of students (Present Situation Analysis); 3) professional information about the learners, which is what they are/will be using English for (Target Situation Analysis/Objective Analysis); 4) what is wanted from this particular course; 5) environmental situation in which the course will be run (Means Analysis); 6) students' personal information (Wants/Means/Subjective Needs); 7) language learning information (Learning Needs); and 8) how to communicate in the target situation (linguistic; discourse; and genre analyses). The methods for gathering data for needs analysis are questionnaires, analysis of authentic spoken and written texts

and recordings, observations, interviews, case studies of learners, self-assessment, pre- and post- course testing, and learner diaries (Dudley-Evans & St John, 1998; Flowerdew & Peacock, 2001b). The main sources for the needs analysis are the students, research in the field, and teachers (Dudley-Evans & St John, 1998).

Another dimension in needs analysis is the identification of learners' language learning strategies (Oxford, 1990). "Strategy analysis is particularly important in EAP contexts where learners and teachers come from different cultural backgrounds, and where approaches to language learning may vary" (Tudor, 1996, as cited in Flowerdew & Peacock, 2001b, p. 179).

3.3. Approaches to EAP Syllabus Design

Research in applied linguistics has influenced the approaches to EAP syllabus design. As listed by Hall & Crabbe (1994), some approaches dominated in the EAP history, including: the Lexicogrammar-based approach, the Functional-notional-based approach, Discourse-based approaches, the Learner-centred approach, and the Genre-based approach. Significantly influenced by the sixties and seventies register analysis, the focus of the Lexicogrammar-based approach was on structure and vocabulary instruction. Opposing the form-focused approaches, the Functional-notional-based approach was developed in the seventies. In the late 1970s, the discourse-based approaches emerged with their focus on cohesion and coherence at the text level. Hutchinson and Waters' (1987) is another Learning-centred approach emphasizing classroom communication, and meaningful and appropriate content. As described by Hall & Crabbe (1994), the Genre-based approach raises students' awareness of the genre conventions and procedures through the use of authentic linguistic materials and tasks. According to Flowerdew &

Peacock (2001b), there are two other approaches to syllabus design in EAP instruction, the skills-based approach, and the content-based approach. Of particular interest to my thesis study is the content-based approach because it is followed in the study contexts described in Chapter four.

3.4. Content-Based Instruction

Much of the research being undertaken has concentrated on the issue of what content to use in the language classroom, especially in classes that are heterogonous in terms of language proficiency and educational and occupational goals (Dudley-Evans & St John, 1998; Hyland, 2002). Therefore, a growing body of research has focused on linking content courses with the language courses, as the latter are aimed at facilitating the transition into the former (Benesch, 1988; Brinton et al., 1989; Guyer & Peterson, 1988; Karl, 1987; Kasper, 1994, 1995, 1996, 1997; Pally, 2001, 1997; Shih, 1986; Snow et al., 1989). Traditional approaches to language instruction isolate language skills from substantive content, but approaches that integrate language and content teaching link language learning to cognitive and/or academic development. This integrated approach provides a meaningfully contextualized social and academic atmosphere (Snow et al., 1989).

The learning theory underlying the content-based instruction is based on the acquisition theory that assumes learning takes place without explicit instruction (Karl, 1987). This points to the everlasting debate on how to teach skills within a meaningfully authentic context rather than explicitly fragmenting the input to learners. Kasper (1995, 1996) has highlighted the gap between the skills needed in academic/ professional settings and those taught in ESL programs. Also, Pally (2001) claims that such a gap

emerges in a curriculum that does not contextualize language and outlines research findings by Vygotsky (1962), Lantolf and Appel (1994), and Krashen (1981, 1985) that suggest that language learning is enhanced by specific contexts in which learners engage in real-world tasks and social exchanges. This pinpoints the significance of content in language instruction. Content-based teaching then contextualizes language functions and meanings encompassing "the full range of communicative competence, including a structural competence (grammatical competence), sociolinguistic and discourse competence (especially in school settings and in school discourse), and strategic competence, again as it relates to academic activities" (Karl, 1987, p. 68). The integration of language and content, therefore, stems from the need to meaningfully contextualize the language input in all of its functions and meanings. We next turn to look at the thematic approach within three models of content-based instruction.

3.5. Thematic Approach within Models of Content-Based Instruction

Brinton et al. (1989) differentiate between three models of content-based second language instruction, which are the theme-based, sheltered and adjunct models. Here we focus on the thematic approach because it is the model that most closely corresponds to the courses investigated in this study. In their discussion of these models' features, Brinton et al. (1989) emphasize that the theme-based model is an ESL course for non-native speakers focusing on language skills and functions. Thus, the objective is to assist students' L2 competence development from low to advanced levels within the framework of specific areas or themes. The language teacher is held responsible for both language and content instruction. In the theme-based curriculum, the four skills are integrated in the curricular units. Besides using commercial ESL texts, teachers need to develop their

own materials for instruction. This requires that they be given a release time to develop such materials as well as training in curriculum/syllabus design and materials development. When it comes to the skills addressed in theme-based approaches, there can be one-skill courses e.g. a writing course, but more commonly there are four skills courses.

Furthermore, in the assessment component of the theme-based language instruction courses, the focus is on language competency and generally involves the following areas: "linguistic knowledge, knowledge of content-appropriate conventions of written discourse knowledge, and academic language use skills (critical thinking and the ability to analyze and manipulate academic content through language)" (Meyer, 1994, p. 20).

Kasper (1997) noted the positive effects reported in the use of such an approach as an attempt to quantitatively provide evidence on the academic progress achieved by students who receive content-based instruction as opposed to those who do not. Shih (1986) also claims that content-based academic instruction might prompt students to develop complex thinking, researching, and language skills required in other academic courses due to its treatment of writing "in a manner similar (or identical) to how writing is assigned, prepared for, and reacted to in real academic courses" (p. 625). Also, using content in language instruction may seem to motivate students and arouse their interests, as language makes content accessible (Meyer, 1994) and as students see the relevance of their instruction to their university content courses (Shih, 1986), especially when the skills they develop in their language class can be transferred to handle the content courses. It has also been reported that the integrated approach allows students to

recognize language variation by noticing genres or registers in certain subject areas (Snow et al., 1989), as the content studied in the language classroom represents diverse genres and registers of certain disciplines. Students' self-directed learning is also enhanced when, for instance, they are assigned a task to investigate how a citation is used in their own disciplines. Here, "learning becomes more discipline-specific", increasing their autonomy and decreasing their dependence on the teachers who lack expertise in the students' fields (Collins, 2001, p. 58).

3.6. Writing Skills and Tasks across the Disciplines

Skills needed by students across the disciplines point to the requirements ESP and EAP courses should incorporate. What follows is an outline of the skills and tasks students need to attain for their success in academic study.

In our investigation of what content to use, we need to determine the sets of tasks students are required to do in their mainstream courses. One of the most researched areas of the four skills is the identification of the writing across the disciplines tasks. For instance, Shih (1986) emphasizes the importance of writing skills in assisting students' grasp of content-area course materials by developing their analytical, critical thinking, and synthetic skills. Shih states that "writing is learning" (p. 640) and argues that we need to know the types of academic and writing tasks and skills required across the academic disciplines. She outlines the results of published reports at the graduate and undergraduate levels, advocating the need for writing instruction at the undergraduate level. This is primarily attributable to students' later exposure to various tasks across disciplines. In addition, as such demands are addressed, the students' needs can be identified so as to provide information to teachers and curriculum developers. Based on

the findings, she concludes that writing is used by instructors as a means to demonstrate students' knowledge, as for example in essay tests and summaries, and as a way for "promoting independent thinking, researching, and learning", as in research papers and critiques (p.621).

Horowitz (1986) also tries to provide data on the conventions of academic writing tasks in the context of U.S. universities. This is to assist EAP teachers with designing the writing tasks, particularly within a framework of transferable skills. He classifies and describes the writing tasks from his findings into seven categories: "summary of/reaction to a reading, annotated bibliography, report on a specified participatory experience, connection of theory and data, case study, synthesis of multiple sources, and research project" (p. 449). Furthermore, Horowitz (1986) suggests that teachers and students sharing a body of information practice the academic information processing skills within the contexts of these categorized tasks. The skills are: selecting relevant data from sources (e.g. readings on a topic); reorganizing data in response to a prompt; and encoding data into academic English.

In the content-based approaches, the emphasis is put on writing from sources such as readings, lectures, and discussions rather than writing from personal experience. In students' ongoing study of specific subject matter in one or more academic disciplines, Shih (1986) argues that they are stimulated to think and learn as they synthesize and interpret the information. When it comes to dealing with the form (organization, grammar and mechanics); and style, they are handled according to the students' needs.

Genre and text analysis research has also shown us that there are "multiple literacies" pointing to the fact that there are different kinds of writing or academic

literacies in different disciplines (Hyland, 2002). But for heterogeneous classes, Hyland proposes a solution to finding a common ground among students, which is "to exploit the specificity of their circumstances through the opportunities that such classes offer to contrast their disciplinary experiences and expectations" in an attempt to raise their rhetorical consciousness (2002, p. 393). In addition, Dudley-Evans & St John (1998) claim that genre awareness can aid in developing the skills, especially the development of language composition. As they say, in teaching composition, there are three distinct approaches: the product, process, and social-constructionist approaches. The latter "combines the strengths of both the product and the process approaches to the teaching of writing" and urges writers to be members of a discourse community adopting its style and stance. They advocate an approach that gradually develops students' rhetorical awareness; allows them to practice specific genre features, especially moves and writer stance; helps them to handle writing tasks; and requires them to evaluate and edit their writing by peer review (p. 118). However, comparing the discourse written in a specific field by university students as novice writers and the practicing professionals in the workplace, Freedman & Adam (1996) found that the types of writing in the two contexts differ, although the course instructors use authentic workplace tasks such as case studies, because the rhetorical contexts are different. They state that when moving from the academic to the workplace settings, learners need not only to attend to and learn new genres, but also to learn new ways to learn such genres. In the context of a Canadian university and based on theories of genre and situated learning, Artemeva, Logie, & St-Martin (1999) report on the pedagogical approach followed in contextualizing and integrating rhetorical skills and strategies into a discipline-specific discourse community,

namely engineering. They argue that the same approach could be used in any discipline to design communication courses if the following conditions are met: relating assignments to subject matter courses, making students build on their learning experiences from the course, and promoting a dialogic environment.

Studying engineering students, O'Brien (2000) highlights that students could be provided with sufficient practice, strategies, and knowledge expected from technical writers to acculturate them into their disciplinary area and its writing demands. She argues that

> even a limited degree of engagement with writing tasks that are modeled on professional communication would initiate an awareness of the necessary changes in strategic management of their writing. A content-based syllabus, in which students work through tasks incorporating real communication gaps in the resolution to a problem, offers a framework for many interactive writing practices that could begin to foster such an understanding. (pp. 276-277)

She further recommends that, due to the relationship between reading and writing, student's reading strategies should be developed, arguing that reading strategies employed with their discipline-specific genres "will move their writing from being novice, or reader-based, to expert, or writer-based competence" (2000, p. 283).

3.7. Reading Skills and Tasks across the Disciplines

Many studies have focused on the advantages earned from linking the content of an ESL reading course to that of the mainstream course, aimed at benefiting from the discipline-based texts and focusing on developing reading skills by dealing with topics in the mainstream course (Benesch, 1988; Brinton et al., 1989; Guyer & Peterson, 1988; Kasper, 1994). As found by Kasper (1996), discipline-based text rather than literary text has been proven to benefit students more and improve their reading comprehension. Kasper explains this in the light of schema theory, arguing that discipline-based

materials promote more elaborate schemata, provided that comprehension of literature is subjective in nature. Therefore, focusing on introducing English language literature including genres such as poems, stories, novels, etc. does not match the students' needs. Choosing texts on themes from other disciplines can thus enhance the students' objective sense and let them experience real life texts dealing with information and points of view that draw on their schemata. In addition, reporting on the impact of discipline-based content on developing English reading comprehension, researchers (Brinton, et al., 1989; Kasper, 1996) argue that such content encourages students to construct schemata, increase their metacognition of the reading process, and guides them to use more efficient comprehension strategies.

Furthermore, the development of efficient reading strategies for students to use should allow for a sequence of instruction, including direct explanation, guided practice, independent use or practice, and group feedback (Kasper, 1996; Nist & Simpson, 1987; Shih, 1992; Weinstein, 1987). Nist & Simpson (1987) argue that group feedback following independent practice enhances self-regulated learning and reading comprehension by allowing self-monitoring and self-evaluating. However, Kasper (1996) claims that such an instructional sequence is insufficient to improve the reading performance of ESL students, arguing that the type of material is more critical and again pointing to the significance of discipline-based materials. One could conclude that group discussions form a scaffold to the reading input, and peer review of writing can also help students edit their work.

Here are some of the skills intended to establish the balance between skills and language, which might be transferred as well from the L1 if such skills were well-

developed there: selecting what is relevant for the current purpose; using all the features of the text such as headings, layout, typeface; skimming for content and meaning; scanning for specifics; identifying organizational patterns; understanding relations within a sentence and between sentences; using cohesive and discourse markers; predicting, inferring and guessing; identifying main ideas, supporting ideas and examples; processing and evaluating the information during reading; and transferring or using the information while or after reading (Dudley-Evans & St John, 1998). Other skills might be developing private dictionaries and research charts; and questioning or challenging readings (Pally, 2001).

3.8. Listening and Speaking Skills and Tasks across the Disciplines

There has been some research on EAP listening materials and how they are linked to authentic academic lectures students attend in their mainstream courses. Thompson (2003) compares authentic undergraduate lectures and talks in EAP listening skills materials in her identification of text-structuring metadiscourse and the signalling of organization. She concludes that students must listen to authentic lectures or "quasi-authentic talks" given by a speaker (p.18), thus pointing to the importance of students' awareness of text-structuring markers and the effect of using visual aids such as slides, video clips, etc. in signaling lecture organization. The call for authenticity is aimed more to expose students to kinds of talks they will experience in their academic study rather than the simplified versions of the audio-visual materials accompanying textbooks. Dudley-Evans & St John (1998) also outline listening micro-skills as follows: identifying the purpose and scope of the monologue; identifying the topic of the lecture and following topic development; recognizing the role of discourse markers; recognizing key

lexical items related to subject/topic; deducing meanings of words from context; and recognizing the function of intonation to signal information structure (e.g. pitch, volume, pace, key). Students need to develop these listening skills in order to function well in their academic study, as they listen to real lectures delivered in English.

Another important aspect is the relationship between talking and learning, where the students get the chance to talk about the content they are exposed to as a whole class and in small group discussions. This familiarizes them with the materials. Furthermore, students working in a reader/writer/text interaction manner go through a meaning-making process in their grasp of the content and their employment of reading and writing strategies (Benesch, 1988). For oral presentations or speaking monologues, Dudley-Evans & St John (1998) identify some of the features of an effective oral presentation, looking at its language, structuring, visuals, voice, and advance signaling as encompassing skills students need to acquire.

3.9. Study Skills

As one of the goals of EAP is assisting students to use English to learn, study skills have been linked to EAP instruction. According to Flowerdew & Peacock (2001b), these study skills involve: listening and note taking, reading skills such as skimming, scanning, guessing meanings from context and using the dictionary, seminar discussion, oral presentation, essay/thesis/laboratory report writing, using the library, and using computers in their various applications as in word-processing, the Internet, etc. (p. 192). The use of corpora and concordancing packages as a learning tool is also deemed a language learning strategy used in EAP content subject. Cobb and Horst (2001) describe one of the successful experiences in developing an EAP course to enhance the students'

reading comprehension. A concordance program was used to present words in context in a corpus and an interface designed especially for students with an elementary level of linguistic and computational knowledge. This was to ensure that students encounter each word at least five times in contexts familiar to them. Thus, a lexical tutor was designed for vocabulary acquisition to aid the students' reading skills in authentic contexts by the use of the corpus-based lexical tutoring system that came out of the corpus analysis in one attempt to integrate content with language.

My aim in this chapter was to identify the skills and tasks across the disciplines in order to understand how research has attempted to answer the question of what content to use in language courses. Through discipline-based content, tasks could be developed for writing, reading, speaking, listening, and study skills, as explained in the preceding sections.

3.10. Future Directions in LLS Research and Situating This Study

As Anderson (2005) highlights, more research is needed to better understand language learning strategies. Research could explore the relationship between language learning strategies and learning styles; similarities and differences between strategy use in EFL and ESL environment/contexts of learning and academic and social language use contexts; the role of computer-assisted language learning (CALL) in strategy training; and the hierarchy of language learning strategies in terms of significance to learning.

I think that more research is needed to understand the nature and reasons behind disciplinary differences in strategy use in different learning contexts. We need to understand pedagogical mediations in strategy instruction, whether implicit or explicit, and how these are orchestrated in the language classrooms. While EAP courses at the

university level usually target students in a variety of disciplinary areas at university, ESP courses tend to target students in specific disciplines in order to acculturate them to the community of practice of their academic studies and future professions. In the study reported in the remaining chapters of this thesis, I looked into EAP and ESP students' frequency of strategy use and their discursive accounts of their language learning in relation to their sense of success and beliefs about the ESL courses, EAP and ESP. I also investigated their teachers' efforts in explicating or implicitly teaching academic success strategies, which have shed light on their perceptions of the degree of usefulness of these strategies for these students while they are being prepared for their academic studies. Differences between the two course models and the variety in students' strategy use were finally illuminated in this study.

3.11. Conclusion

These two chapters have set the bases for the study by drawing on research studies and their findings about language learning strategies. At the beginning, I referred to how learning strategies are defined by the pioneers in language learning strategy research and the significance they attribute to strategies in making the most of learning and building metacognitive awareness and communicative competence. I then pinpointed the features of language learning strategies in terms of their consciousness level, self-direction, control, observability, teachability, learnability, and amenability to change. I also reviewed how learning strategies have been identified, classified, and measured in the literature by many researchers using standardized inventories, think-aloud protocols, and reflective journals. Since researchers have examined some variables affecting strategy choice, I have identified a gap in research regarding disciplinary differences in

EAP and ESP contexts, contrasting how the two course models provide strategy instruction and how and why students from various majors of study may differ in strategy use. Further in the chapter, I drew some implications for applying language learning strategies to language skills.

Having explored language learning strategies in the research literature, I then focused on two models of L2 instruction, namely EAP and ESP. I presented these two models, reporting on: the dichotomy or distinction between them; the specificity issue of content; needs analysis in course design; and approaches to EAP syllabus design. The study focuses on the content-based instruction and its model, the theme-based model, examining the use of discipline-based content in academic study tasks; and writing, reading, speaking, listening, and study skills.

Having situated this study within the research literature, in the remaining chapter of this thesis, I present a study that examined how ESL instruction in EAP and ESP courses mediates students' use of language learning strategies. The rationale is to investigate how instruction can intervene in addressing more appropriate and useful sets of learning strategies to ease the students' transition by identifying study skills and learning strategies more relevant to their disciplines. The main research questions guiding this study were:

4) To what extent do EAP and ESP students' language learning strategy repertoires match their teachers' recommendations of useful and effective strategies?

5) How do EAP and ESP courses affect the students' use of strategies and their perceived success?

6) How useful are some strategies in the students' respective disciplinary studies from the teachers' and students' perceptions and beliefs?

From the literature review, I found it possible to devise a language learning strategy inventory from Oxford's (1990) SILL fifty items and Baker and Boonkit's (2004) Reading and Writing Questionnaire seventy items as explained in the methodology chapter. As indicated in the literature review as well, teachers' perceptions of strategy use are important to investigate as well as their students' reported use, which is the focus of this study. Besides, accompanying the statistical analysis with qualitative data collection and analyses could add to the richness and the thick description of the study. Thus, interviews with teachers and students were used as well as the other instruments manipulated in the study, as explained in the following methodology chapter.

CHAPTER FOUR: METHODOLOGY

4.1. Summary of Research Study:

Designed as an exploratory study, this research investigated differences and similarities in language learning strategies used by students taking English for Academic Purposes (EAP) or English for Specific Purposes (ESP) courses[2]. As discussed in chapter three, EAP courses are designed to provide students with ge[4]neral academic strategies used by all students across university disciplines, such as effective note taking, summarizing main ideas in reading or writing academic papers that are used by all students across university disciplines. ESP courses are designed to provide students within a single discipline with discipline-specific activities, language, and experience. For example, ESP for Engineers focuses on engineering communications, effective lab reports and technical report writing. In theory, the learning strategies that are developed by students in these two types of English courses will differ. Learning strategies are defined in the research literature as "operations used by learners to aid the acquisition, storage, and retrieval of information" (Oxford and Nyikos, 1989, p. 291). They have been shown to help students overcome some of their learning difficulties and improve their academic performance (op.cit.).

In order to explore students' exploitation of strategies in language learning and academic study, three approaches were used in this study: 1) responses were elicited to a learning strategy questionnaire from 11 ESP and ten EAP students who volunteered to

[4] The contexts in this study are: one English for General Academic Purposes (EGAP) course that is called (EAP) throughout this thesis, and one English for Specific Academic Purposes (ESAP) course that is called (ESP). Although some researchers (Allison, personal communication, May, 4th, 2006) argue that these courses should be looked at as a continuum, I prefer to look at them as a dichotomy in this thesis as two different course models.

participate in the study; 2) four student accounts of their responses to the language learning strategy questionnaire and their use of learning strategies in academic study were elicited through semi-structured interviews and an inventory of writing strategies; and 3) perceptions of one ESP and one EAP teacher of the nature of their courses and their strategy instruction were investigated by their responses to semi-structured interviews, the inventory of writing strategies, and an inventory of teaching goals. The teacher interviews discussed course outlines, which are prepared by all teachers and are public documents, in order to explore differences in the types of strategies encouraged by these two different course models.

This study used a mixed method approach (Nunan, 1992) applying both qualitative and quantitative approaches in gathering and analyzing the data. Quantitative analysis of questionnaire responses was accompanied by qualitative data collection approaches, which consisted of semi-structured interviews that gathered data from volunteering teachers and students.

4.2. Context/ Research Setting

The study took place at the language school of a Canadian university, where students develop their English language proficiency and academic skills in the ESL courses they take in the intensive and credit programs. Students are placed in levels depending on their scores on language proficiency tests such as the TOEFL or the Canadian Academic English Language (CAEL) Test, the last of which is administered at the school itself.

The research contexts were: 1) an English for General Academic Purposes (EGAP) course and 2) an English for Specific Academic Purposes (ESAP) course. I refer

to the first context as the "EAP course" and the second context the "ESP course" for purposes of comparison. The EAP course is the last credit EAP course for all students going into various disciplinary studies. While the ESP course is the final EAP course for the ESL students as well, it is restricted to engineering students only, which makes it more of an ESP course for engineering students. Theses engineering students should therefore satisfy the requirements of doing the pre-requisite ESL courses either by having a sufficient language proficiency test score, or by going through other intensive and 2 credit EAP courses depending on the score on language proficiency tests.

According to the university calendar description (n.d.), the first EAP credit course students take is a one- credit introductory English as a second language for academic purposes course that deals with "skills and strategies in ESL for students with little or no experience with academic English." It aims at "general proficiency development" using "integrated language skills and strategies for academic success at university." It is a one-term course for nine hours a week. Throughout this paper, this course is called "the first EAP course". "The second EAP course" that students take is an intermediate course in English as a second language for academic purposes, which emphasizes the "skills and strategies in ESL for students with basic grammatical and oral competence but limited experience with academic English." It focuses on "reading, listening and writing" and introduces students to "research skills." It is a one-credit course lasting for one term course lasting for six hours a week. The third and final EAP course students should take is an advanced English as a second language for academic purposes course aimed at the students' "development of research and analytic skills, primarily through reading and writing of academically-oriented texts." It is a one-credit course lasting for one term for

six hours a week. It should be taken by students from all majors of study except engineering students who are to take an ESP course as the advanced English as a second language course. It specifically aims at the "development of technical communication skills specific to Engineering and Industrial Design: reports, design projects, oral presentations," etc. It is for three hours a week over two terms. As the advanced EAP course is called in the paper "the EAP course," the advanced ESP course is called "the ESP course". These two advanced EAP and ESP courses were the research setting for this study.

4.3. Recruitment Process

4.3.1 Recruiting Teacher Participants:

Subsequent to the ethics review, in the Fall 2005 and Winter 2006, the teachers were invited to participate in this study by emailing an invitation letter (See Appendix B) to instructors teaching EAP and/or ESP in a Canadian university and also by talking to them in person about the nature of the study. A number of teachers expressed an interest in the study but as I was looking for a match in the levels of the two courses, I only contacted two teachers in particular, one each from EAP and ESP, who were willing to participate in the study. In the emailed invitation to teachers, I requested from those who wished to participate that I be allowed to visit their classes to briefly describe (five minutes) my research study to their students. I discussed the appropriateness of the research instrument, the strategy inventory for students, with the teachers to make sure it was relevant to their courses. I also arranged a convenient time to meet with those two teachers who agreed to participate in the interviews about their courses. Both the EAP

and ESP teachers signed consent forms (See Appendix C) in the interviews and I later gave each a copy of her signed consent form.

4.3.2. Recruiting Student Participants:

Arranged in advance with the class instructors in both classes, I presented my study to the students in the last five minutes of their class sessions in January of the 2006 Winter Term. In my presentation, I showed them an example questionnaire item explaining the meaning of the scale of frequency of strategy use. This was supplemented with a graph of my own strategy repertoire asserting that if they participated in the interview part of the study, they would get to know their own strategy repertoires, highlighting their weaknesses and strengths. The purpose of the presentation was to encourage students to fill out the questionnaires and urge them to supply their contact information in the space specified at the end of the questionnaire for interviews. At the end of the classroom presentation, I left behind invitation letters (See Appendix D), envelopes, and copies of the Inventory for English Language Learning Strategies (IELLS) (See Appendix E), telling them that I would be collecting their completed forms, in sealed enveloped, at the start of their next language class. As I expected more student volunteers for the interviews than I needed, I set the criteria to choose two students from each course and one EAP and one ESP teacher for interviews, based on the nature and level of their courses and the results of the questionnaires. However, the selection criterion that I really followed when choosing students were their first language background, so as to easily compare the students' levels and to control variables such as culture differences as evidenced in their accounts of strategy use in relation to their beliefs. As there were only two volunteers from the EAP class, a male Chinese student

and a female Arabic student from the two different courses, I chose an Arabic-speaking student and a Chinese student from the two different courses, EAP and ESP, whom I contacted via phone and email to arrange for the interviews. In the interviews, each student participant signed a consent form (See Appendix F) and they were given copies.

4.4. Participants

4.4.1. Questionnaire Participants in EAP and ESP Classes

In its quantitative part, the study involved ten students from an EAP class and 11 students from an ESP class in responding to a Likert-scale questionnaire. These 21 students' profiles are shown in Table (1). It should be noted that these numbers are not representative of the whole class as they only report on the study sample.

Table 1: Questionnaire Respondents' Profiles in both EAP and ESP classes.

Class	Case No.	Age	Gender	First Language	Major of Study	Language Spoken	No of Years of Studying English
EAP Class (n= 10)	1	20.00	female	Arabic	Business Information System	English + 1 other (Arabic)	20.00 Yrs "Since I was a child"
	2	22.00	Male	Chinese	Mass Communication	English + 1 other (Chinese)	"Over 6.00 Yrs"
	3	21.00	female	Chinese	Economics	English + 3 others (Cantonese, Chinese, & Mandarin)	4.00 Yrs
	4	19.00	female	Chinese	Accounting	English + 1 other (Chinese)	7.00 Yrs
	5	18.00	Male	Arabic	Communication Engineering	English + 1 other (Arabic)	4.00 Yrs "Since high school"
	6	29.00	female	Russian	Economics	English + 1 other (Russian)	15.00 Yrs
	7	21.00	Male	Chinese	Finance	English + 2 others (Chinese & Mandarin)	7.00 Yrs

Class	Case No.	Age	Gender	First Language	Major of Study	Language Spoken	No of Years of Studying English
	8	22.00	Male	Portuguese	Commerce	English + 2 others (Portuguese & Spanish)	2.00 Yrs
	9	25.00	Male	Mandarin	Economics	English + 2 others (Mandarin & Chinese)	6.00 Yrs
	10	22.00	Male	Arabic	Business	English + 1 other (Arabic)	1.00 Yrs
ESP Class (n= 11)	1	23.00	Male	Farsi	Civil Engineering	English + 1 other (Persian or Farsi)	3.00 Yrs
	2	NA	Male	Farsi	Environmental Engineering	English + 1 other (Persian or Farsi)	NA Yrs
	3	19.00	Male	Belarusian+ Russian	Aerospace Engineering	English + 3 others (Belarusian, Russian, & French)	4.00 Yrs
	4	21.00	Male	Chinese	Software Engineering	English + 1 other (Chinese)	10.00 Yrs
	5	20.00	Male	Vietnamese	Software Engineering	English + 1 other (Vietnamese)	3.00 Yrs
	6	22.00	Male	Chinese	Software Engineering	English + 1 other (Chinese)	7 Yrs Since he was 15.
	7	21.00	Male	Arabic	Civil Engineering	English + 1 other (Arabic)	10.00 Yrs
	8	20.00	Male	Arabic	Computer Systems Engineering	English + 1 other (Arabic)	5.00 Yrs
	9	19.00	female	Farsi	Electrical Engineering	English + 1 other (Farsi)	2.00 Yrs
	10	20.00	Male	Arabic	Communication Engineering	English + 1 other (Arabic)	7.00 Yrs
	11	25.00	female	Turkish	Civil Engineering	English + 1 other (Turkish)	8.00 Yrs

* (n)= number of participants; (Yrs)= years; (NA)= information not available.

It should also be noted that the students who participated in the interviews also did the questionnaires with the class at the same time. They volunteered for the interviews on

their own after they filled out the questionnaires and were contacted by the researcher via phone and email to meet for individual interviews of almost one hour. Although there were 20 students in the EAP class, the response rate was 50 % as only ten students handed in the completed questionnaires. According to the ESP teacher, there were 15 students officially registered in the ESP course. However, one student had never been to class. There were thus 14 students including 12 males and two females. One male student was in his second year while the others are in their first year of university academic study. The response rate in the distributed questionnaires was 78.66% in the ESP course as 11 of the 14 students responded to and handed in the questionnaire responses to me. While the age average in the EAP class was 21.9 years old (with a range from 18 to 29), 21 was the average age in the ESP class (with a range from 19 to 25). In both classes, male students outnumbered female students. In the ESP class, 18.2% of the class was females (n= 2) and 81.8% was males (n= 9). 60% of the EAP class was males (n= 6) and 40% was females (n= 4). In the EAP class, there were four students whose first language was Chinese; three Arabic-speaking students; one Russian-speaking student; one Portuguese-speaking student; and one Mandarin-speaking student. In the ESP class, three students were Farsi speakers; three students were Arabic speakers; two students were Chinese speakers; one student spoke Belarusian and Russian as his mother tongues; one student was Turkish-speaking; and one other was a Vietnamese speaker. The EAP class was heterogeneous, encompassing students from a variety of disciplinary studies as there were three Economics students, two Business Information System students, and one student from each of the following majors: Mass Communication, Accounting, Communication Engineering, Finance, and Commerce. In the ESP class, there were three

Software Engineering students; three Civil Engineering students; and one student from each of the following specializations: Environmental Engineering; Aerospace Engineering; Computer Systems Engineering; Electrical Engineering; and Communication Engineering. In addition to the English language, 60% of the EAP class and 90% of the ESP class spoke one other language, which was their mother tongue. Thus, English was a second language to them. 30% of the EAP students spoke languages other than English. There was only one student in each class speaking three languages in addition to English. Students in the EAP class varied in the number of years of their English language learning, but the average was 7.2 years. With respect to English language learning, there was also quite of a variety in the ESP class with an average of 5.9 years. The following Table (2) highlights the demographic information of the four students who participated in the interviews.

Table 2: EAP and ESP Interviewed Students' Demographic Information (N= 4).

Students & Class		Age	Gender	First Language	Major Study	Spoken Languages	No. of Years of English Language Study
EAP Students	1	20.00	female	Arabic	Business Information System	English + Arabic	20.00 years
	2	22.00	male	Chinese	Mass Communication	English + Chinese	Over 6.00 years
ESP Students	1	22.00	male	Chinese	Software Engineering	English + Chinese	7 years. Since he was 15 years old
	2	20.00	male	Arabic	Communication Engineering	English + Arabic	7.00 years

There were one Chinese and one Arabic-speaking students from each class. The only female was the Arabic EAP student. The average age of these four students was 21 years old. All spoke English only as a second language in addition to their mother tongues. They were all from different majors of study. Although the ESP students came from

engineering, the Chinese ESP student was in software and the Arabic ESP student was in communication engineering. The Arabic EAP student was specializing in business information system and the Chinese EAP student's major of study was mass communication.

4.4.2. EAP and ESP Teachers' Profiles

Both teachers had experience in teaching EAP and ESP courses as well as other content courses at the school. The EAP teacher had been teaching for almost 35 years. She started teaching in a high school in Poland, her native country. Still in Poland, she then taught economics courses in an academic setting at an economic university after which she moved to teach EFL in the university Department of English as a Foreign Language after teaching at the Department of Economic Production. After that, she taught for ten or 11 years in the Polish Department of Foreign Trade. Upon moving to Canada, she started teaching in schools as a supply teacher and also taught English in community colleges. Then she became employed by the language school at the university where this study took place. Her first experience in teaching there was teaching in the intensive program. Most of her 15 years at this university were in both credit and intensive courses and for the last five years she has been teaching credit ESL courses. For ESP, she taught one of the EAP courses formerly integrating Inspire, a web-based negotiation support system, into that ESL course, arguing that its use in language teaching was based on assumptions of the communicative approach to language teaching embedded in the second language acquisition theory. At the time of the study, she was teaching two sections of the advanced EAP course, one of which was my study setting. She developed the EAP course on her own, but she was in constant collaboration with

other instructors in the credit ESL program, sharing materials and discussing issues relevant to the courses they taught.

The ESP teacher was one of the first original appointees at the school. She had been teaching at this university for over 29 years, mainly in English for Academic Purposes and English for Specific Purposes for engineering. She also had a teaching experience in content courses in applied linguistics. She is experienced in materials development and was involved in developing distance education units for ESL and special projects in collaboration with the university Instructional Television (ITV) presenting lessons on TV for students in the first credit EAP course. She did her undergraduate studies in French and Spanish; her Master's degree in Spanish; and had a certificate in teaching ESL. Taking Master's and PhD courses in linguistics and applied language studies, she eventually did an interdisciplinary PhD in applied linguistics, second language acquisition, and human resources development. Throughout her teaching experience at the school, she was involved in the developments of both intensive and credit courses and she coordinated the intensive and credit programs as well as engineering communications, modern languages, and special projects. At the time of the study, she was teaching one section of the ESP course for engineering students, which is the focus of this study, and second language theory and learning courses as well as coordinating special programs on modern languages at the school. Due to the specialized nature of the ESP course she was teaching, she designed the course mostly on her own. However, she consulted engineering professors and professionals and read on relevant topics to help her manage the course.

Throughout the report and analysis of the quantitative and qualitative accounts of the students' use of strategies in language learning, the teachers' perceptions and accounts of the nature of strategies in the students' academic life as well as their course design issues are brought up to further link the students' learning with the pedagogical mediation attempts. The term "pedagogical mediation" is used here to refer to the teachers' efforts in promoting learning opportunities that mediate or create a chance for students to learn within a framework of set objectives and planned course content and activities.

4.5. Data Collection & Research Instruments

4.5.1. Data Collection & Research Instruments (Teachers):

1. I asked the EAP and ESP teachers to fill out a teacher version of the Inventory for English Language Learning Strategies (IELLS) (See Appendix G) which I used in the study. The IELLS involved 50 items from a learning strategy questionnaire called the Strategy Inventory for Language Learning (SILL) (Oxford, 1990) and 70 items from Baker & Boonkit's (2004) Reading and Writing Strategies Questionnaire. This teacher version was a Likert-scale inventory asking teachers to indicate how useful the listed strategies were to students in their EAP and ESP classes, as to draw a comparison between their perceptions of the usefulness of language learning strategies and their students' reported frequency of use of such strategies. The scale ranged from 1: Never to almost never useful; 2: Usually not useful; 3: Somewhat useful; 4: Usually useful; and 5: Always or almost always useful to students. The ESP teacher responded to the items following the Likert-

scale, but the EAP teacher was reluctant to use the scale because she believed the statements were meant to be answered by learners according to their use of language learning strategies. However, she responded to the items using words that I later coded using the Likert scale for analysis purpose. The words and their scales were: "encourage" (5) and/ or "practiced in class" (5); "discourage" (1); "sometimes" (3); and "maybe" (3).

2. Approximately one hour semi-structured interviews were conducted with the EAP and ESP teachers. As I anticipated, certain themes arose during the interviews as guided by the interview questions (See Appendix H). Some follow up questions were sent to the ESP teacher via emails due to time constraints encountered in the interview.
3. During the interviews, the teachers were given two inventories. One was an inventory called the "Inventory of Writing Strategies" (see Appendix I) (Fox, 1989). I gave the inventory to the teachers asking them to rank the items as Never, Sometimes, or Usually to indicate their views of what strategies students should use to help them write better. The inventory indicated their perceptions of how often such writing strategies could be used by students to improve their writing and ease their writing process. The teachers were also asked to comment further on these strategies on a sheet provided to them (See Appendix I). Teachers were also given the Teaching Goals Inventory Self-Scorable Version (TGI) (Appendix J) developed by Angelo and Cross (1993), which requested that they indicate how significant some suggested goals were to them in their present EAP and ESP courses. I asked both teachers to rank 1: not applicable; 2: unimportant; 3:

important; 4: very important; and 5: essential to determine how often they tried to achieve such teaching goals in their present EAP and ESP courses and how important they were. The inventory's 52 goals were divided according to clusters as follows: Higher-Order Thinking Skills (goals: 1-8); Basic Academic Success Skills (goals: 9-17); Discipline-Specific Knowledge and Skills (goals: 18-25); Liberal Arts and Academic Values (goals: 26-35); Work and Career Preparation (goals: 36-43); and Personal Development Goals (goals: 44-52). The cluster names were important as a tool of comparison between the goals in the two courses because of the discipline-specific differences I assumed to be milestones in both courses. The teachers responded to the two inventories, the Inventory of Writing Strategies and the Teaching Goals Inventory, at their own pace and gave them back to me in a few days.

4.5.2. Data Collection & Research Instrument (Students):

1. The Inventory for English Language Learning Strategies (IELLS) (See Appendix E) used in the study encompassed 50 items from a learning strategy questionnaire called the Strategy Inventory for Language Learning (SILL) (Oxford, 1990) and adapted 70 items from Baker & Boonkit's (2004) Reading and Writing Strategies Questionnaire. It was the same questionnaire give to teachers, however, students were asked to check how often they used language learning strategies from 1 Never to almost never true of me; 2 Usually not true of me; 3 Somewhat true of me; 4 Usually true of me; and 5 Always or almost always true of me. The IELLS asked students to fill out a background sheet to provide information on age, gender, first language, major of study, languages spoken, English language

learning experience, present language course, their perceptions of their proficiency compared to their classmates and native speakers of English, the importance of learning English, and their reasons and goals for learning English. The IELLS items from 1 to 50 covered the following strategy categories: memory strategies (items 1-9); cognitive strategies (items 10-23); compensation strategies (items 24-29); metacognitive strategies (items 30-38); affective strategies (items 39-44); and social strategies (items 45-50). The second part in the IELLS had 32 items that involved: general reading behavior (items 1-2); pre-reading strategies (items 3-9); while-reading strategies (items 10-24); and post-reading strategies (items 25-32). The third part or the final 38 items in the IELLS focused on writing strategies and categorized them as follows: general writing behavior (items 33-34); pre-writing strategies (items 35-46); while-writing strategies (items 47-61); and post-writing strategies (items 62-70). Statements with the Likert-scale responses required approximately 40 minutes to complete. The students returned their questionnaires to me several days to a week after first receiving them.

2. Semi-structured interviews (see Appendix K) asked students to comment on their responses to the questionnaire (see 1 above). Discussion about strategies emerged naturally in relation to their comments on their experience learning the English language and their academic study at university. When debriefing the students on their questionnaire responses and the frequency of their strategy use across the categories, the students were asked about the reasons for their low and high use of certain categorized strategies as in, for example, one student's low usage of memory strategies. The discussion of the second part of the questionnaire

involving the 70 items on reading and writing strategies extended the interviews to elicit the students' utilization of specific strategies, in particular reading and writing activities before, while, and after finishing such activities.

3. As the focus of both courses was mostly in reading and writing, I used another inventory called the "Inventory of Writing Strategies" (Fox, 1989) (See Appendix I) to elicit more information on the students' use of writing strategies and how they related what they read to their writing tasks. I gave the inventory to the students asking them to check never, sometimes, or usually to indicate how often they used such strategies that were recommended by some professors to improve the students' writing and ease their writing process. The reason for focusing on reading and writing is that these two skills were key focal points in English for Academic Purposes and English for Specific Purposes courses at this particular university, for students needed to gain such skills and strategies to succeed in their academia. At the university writing centre, in 1989, Fox (personal communication, March, 17th, 2006) met with almost 25 teachers in political science and 23 teachers in sociology, who were either TAs or professors, to help them teach students to write. She asked them to list three things they do before they begin to write, while, and before they submit their writing. As they were experts in writing essays, journal articles, abstracts, with no reports, she looked into their repertoires of academic writing. The rationale was to come up with suggested strategies for better academic writing. It was assumed that the more strategies that were used, the more successful the user became. The inventory produced, which was called "The Inventory of Writing Strategies" examines the

"breadth versus poverty in strategy use" as Fox (personal communication, March, 17th, 2006) maintained. The strategies that were repeatedly marked as sometimes or usually used were the most frequently used. The inventory items account for the process approach favored in writing instruction at the school, which is the study context. Items 1-14 described pre-writing strategies. Strategies used while actually writing were sketched in items 15-34. Post-writing strategies or strategies used in the revision stage preceding the final submission were described in items 35-47. Each interviewed student was given a copy of the Inventory of Writing Strategies, urging them to benefit from the recommendations when engaging in particular writing practices.

4.6. Data Analysis

4.6.1. Analysis of TGI

The data gathered using inventories was analyzed statistically. The Teaching Goals Inventory (TGI) was analyzed using the six goal clusters in Angelo and Cross's (1993) self-scorable version rating scale that indicated the degree of importance given by the teachers to certain goals and the nature of these goals. I used the following scoring grid in Table (3) to compute the cluster scores of the teachers' goals of their present EAP and ESP courses.

Table 3: Teaching Goals Inventory Scoring Grid.

	A	B	C	D	E	F
	Cluster Number and Name	**Goals Included**	**Sum of Ratings Given to Goals in That Cluster**	**Divide C By This Number**	**Cluster Scores**	**Ranking of Clusters**
I	**Higher-Order Thinking Skills**	1-8		8		
II	**Basic Academic Success Skills**	9-17		9		
III	**Discipline-Specific**	18-25		8		

	Knowledge and Skills					
IV	**Liberal Arts and Academic Values**	26-35		10		
V	**Work and Career Preparation**	36-43		8		
VI	**Personal Development**	44-52		9		

As shown in the scoring grid in Table (3), the inventory's 52 goals were divided according to the clusters as follows: Higher-Order Thinking Skills (goals: 1-8); Basic Academic Success Skills (goals: 9-17); Discipline-Specific Knowledge and Skills (goals: 18-25); Liberal Arts and Academic Values (goals: 26-35);Work and Career Preparation (goals: 36-43); and Personal Development Goals (goals: 44-52). The sums of ratings were computed for each cluster by adding the responses for the cluster goals. The sums in each cluster were then divided by the number of responses or items in each cluster. The ranking of clusters showed the order of importance given to each goal cluster by each teacher for comparison purposes. The information collected by the TGI was triangulated with the information presented in the course outlines as obtained from the course instructors and as discussed in the interviews.

4.6.2. Analysis of IELLS

The data collected by the IELLS was coded in a database using the Statistical Package of the Social Sciences (SPSS) software, versions 13.0 and 14.0. As the study sample was so small, it could not be considered for a significant statistical analysis. Therefore, the questionnaire items were classified according to Oxford's (1990) six categories and Baker and Boonkit's (2004) categorization of reading and writing strategies, as explained earlier in the instruments section. Tables were generated to summarize the average use of strategies in each category, drawing a comparison between

the two classes and within each class. In all of the IELLS categories, Oxford's (1990) means were used as cut-off points as to what was low, medium, or high use of strategies. As the scale was from 1.0 to 5.0, the averages ranged from 1.0 to 5.0. A low average use of strategies would be within the average range of 1.0 to 1.4, meaning it was never or almost never used. Means from 1.5 to 2.4 reported a low use of strategies as they were generally not used. If strategies were sometimes used or in the scale of frequency, they were within the range of 2.5 to 3.4, the use of strategies was medium. A high use of strategies would fall within the range of 3.5 to 5.0, but if strategies were usually used, the reported averages would be from 3.5 to 4.4. If they were always or almost always used, the averages would be from 4.5 to 5.0. The teachers' version of the IELLS was also analyzed using Oxford's (1990) cut-off points as the same analytical tool. The following Table (4) provides a picture of how the quantitative data from the IELLS collected from the students and teachers was analyzed and discussed using Oxford's (1990) cut-off points in her SILL answer key.

Table 4: Analysis Key of Quantitative Data Collected Using IELLS.

High	Always or almost always used	4.5 to 5.0
	Usually used	3.5 to 4.4
Medium	Sometimes used	2.5 to 3.4
Low	Generally not used	1.5 to 2.4
	Never or almost never used	1.0 to 1.4

The case summaries or tables of comparisons of the categories between and within the classes demonstrate the degree of importance allotted by participants to each set of strategies. Thus, these categories were compared by reporting their frequency of use from the highest to the lowest between and within the classes as well as among the four students. So, first the IELLS data was analyzed comparing the strategy repertoires of the students in both classes and it was reported as means or averages of strategy use across

the categories. Then, in the first level of analysis of the IELLS data obtained from the four interviewed students, the four students' strategy repertoires across the categories were examined, and compared. The IELLS data of these four students was compared with that of the teachers' IELLS responses, forming a second level of analysis.

In the second level of analysis, the IELLS data that was obtained from the four interviewed students' completed questionnaires was examined to determine the students' use of specific strategies within each category in order to identify their positive and negative use. Negative strategies were either 1) strategies used by students although it was recommended by their teacher not to use these, or 2) strategies that were not used by students although recommended by their teacher. Positive strategies were strategies used by students as recommended by their teacher to use, or not used by students as recommended by their teacher not to use. So, negativity of strategy use here represented the mismatch between teachers' and students' responses, indicating a mismatch between students' reported strategy and teachers' perceptions of their usefulness. Recommendation of strategies was determined by the teachers' responses to the items in the questionnaire, whereas responses of 1 or 2 were considered "Not Recommended" and responses of 3, 4, or 5 were classified as "Recommended" strategies. The students' responses of 1 or 2 were coded as "Not Used" and their responses of 3, 4, or 5 were considered "Used" strategies. So, the items were clustered as positively or negatively used by each student. Then, percentages of negative and positive strategy use across the categories of the IELLS, and positive and negative use within every category were calculated. The percentages of negative use for the four students were then compared to match their negative use of strategies and come up with "an index of agreement of

negative strategy use" across the categories for the two EAP and two ESP students. Specific items or strategies that were reported to be appropriated negatively by students were then highlighted in the discussion.

4.6.3. Analysis of Inventory of Writing Strategies

The responses from the Inventory of Writing Strategies were also computed from the perspective that the more frequently students used strategies, the more successful they were. Speaking specifically about the kinds of composing strategies students could use in their writing, a comparison was drawn between what strategies were recommended by teachers (marked as "sometimes" or "usually" recommended), but were neglected by students (marked as "never" used). As the strategies in the inventory were grouped as pre-writing, while-writing, and revising or post-writing strategies, a comparison of these categories was drawn between the four students as to see the percentage of use within each category. This was also compared to what teachers recommended and what students actually reported using in their writing, paying attention to individual strategies that were either weighted highly or considered invaluable.

As in the IELLS, the level of analysis of data obtained from the Inventory of Writing Strategies was taken further to compare the four students' positive and negative appropriation of strategies in their writing process as indicated by the students themselves and in comparison with their teachers' recommendations in the inventory. A "POSITIVE USE" meant that the students used the strategies recommended to use and did not use the strategies that were recommended not to use. A "NEGATIVE USE" meant the students did not use strategies recommended for use, and they used strategies that were recommended not to use. So both the teacher's recommendation and the students' reported use framed the

positivity and negativity of strategy use as explained earlier. Negativity should be understood here as the mismatch between teachers' and students' reported use of strategies. In a sense, it is an index of disagreement between the four students and their teachers' ratings in the inventory, comparing the two ESP students' ratings to that of their ESP teacher, and the two EAP students' with that of their EAP teacher. In addition, the frequency of using strategies across the phases in the writing process was examined to see which strategies were attended to by students and which ones were neglected if any. The teachers' responses to the items as "Never" were coded as "Not Recommended," and "Sometimes" or "Usually" were considered "Recommended" strategies. The students' responses to the items as "Never" were dealt with as "Not Used", and "Sometimes" or "Usually" as "Used" strategies. So, if a student reported using a strategy that their teacher said she recommended for use (sometimes or usually), it is a positive use. If the student said s/he did not (never) use a strategy that was not recommended for use, it was still a positive use. On the other hand, if s/he replied to an item as used (sometimes or usually) while his/ her teacher recommended not for use, it was considered a negative use. If s/he responded that s/he did not (never) use a strategy recommended for use, it was a negative use as well. After identifying negative and positive writing strategy use for the four students, the strategies that were reported to be used negatively by the two students in every class were matched and reported as "an index of agreement in negative strategy use," similar to the way the IELLS results were analyzed, so that negatively-used strategies could be highlighted. The data presented from these two research tools, the IELLS and the Inventory of Writing Strategies were triangulated by the students' and teachers' accounts of strategy use as reported in the interview results and discussion.

4.6.4. Analytic Induction of Interview Data

The gathered qualitative data was analyzed using "analytic induction" (Znanieki, 1928) in order to explore and categorize the associations between the different themes emerging from the data in order to build a theory accounting for strategy use and language development in EAP and ESP courses. According to Smelser and Baltes (2001), "analytic induction (AI) is a research logic used to collect data, develop analysis, and organize the presentation of research findings. Its formal objective is causal explanation; a specification of the individually necessary and jointly sufficient conditions for the emergence of some part of social life" (p. 1). It is operated by the "progressive redefinition of the phenomenon to be explained (the explanandum) and of explanatory factors (the explanans)" (p. 1). The researcher identifies "common factors and provisional explanations" from the study cases in his or her inspection until he or she can no longer find contradictions in case accounts, excluding negative cases so that "all cases of the target phenomenon display the explanatory conditions" (p. 1).

AI was first called for by Znaniecki (1928) and later coined by him in 1934 after scientific inquiry methods in chemistry and physics and as an alternative to statistical sampling methodologies. According to Smelser and Baltes (2001), it is now used in analyzing qualitative data in ethnographic research as a "more scientific approach to causal explanations than enumerative induction that produces probabilistic statements about relationships" (p. 2). The explanandum is first "defined as a discrete act or event" and gradually "redefined to describe a process" (p. 4). The explanans or the "explanatory conditions initially defined from the outside as biographical and ecological background factors, are redefined to specify the interactions through which people, by learning,

recognizing, or becoming aware of features of their pasts and circumstances, in effect set up the motivational dynamics of their own conduct" (p. 5). AI uses 3 types of explanatory mechanisms: "practicalities of action;" "matters of self-awareness and self-regard;" and the "sensual base of motivation in desires, emotions, or a sense of compulsion to act" (p. 5). AI is used in sociology by social scientists in their social research looking for similarities in their broad categories and then developing subcategories (Ragin, 1994).

After transcribing the interviews and applying an AI approach, I identified the themes emergent in every interviewee's talk. I noted down the themes on the margins of each transcript. Then, across the transcriptions, I began to see patterns in the themes. I listed the themes or patterns and then named them as a category and begun to cluster actual text examples under each category heading across the transcriptions. As I met once only for interviews with each participant for almost an hour using semi-structured interview questions, a change in strategy use could not be traced over time. However, AI allowed me to see the interview data through an analytic lens.

CHAPTER FIVE: RESULTS AND DISCUSSION

This chapter reports and discusses the results gathered by the study instruments. Section One reports and discusses the results of: 1) the Teaching Goals Inventory (TGI) and EAP and ESP course outlines obtained from EAP and ESP teachers; 2) the Inventory of English Language Learning Strategies (IELLS); and 3) the Inventory of Writing Strategies. Section Two reports the results elicited by the interviews conducted with teachers and students. Now we turn to the first section outlining the nature of the two EAP and ESP courses, their goals and requirements, as elicited from the teachers' responses to the TGI and from their course outlines.

5.1. Section One: Results and Discussion from Inventories

5.1.1. Teaching Goals and Requirements of EAP and ESP Courses

In order to investigate both instructors' teaching goals in their ESP and EAP courses, I asked the ESP and EAP instructors to respond to the Teaching Goals Inventory (TGI) Self Scorable Version, developed by Angelo and Cross (1993, pp. 20-22). This chapter begins with a report on the results of the teachers' responses to this inventory, classifying the teaching goals by using the goal cluster names and the grid for average item rating by cluster. Using Angelo and Cross's (1993) teaching goal clusters, the goals included: (I) Higher-Order Thinking Skills; (II) Basic Academic Success Skills; (III) Discipline-Specific Knowledge and Skills; (IV) Liberal Arts and Academic Values; (V) Work and Career Preparation; and (VI) Personal Development. The following Table (5) displays the ESP and EAP instructors' goal clusters by mean and rank. It is followed by a discussion of the particular goals in each cluster.

Table 5: EAP and ESP Teachers' Goal Clusters.

Cluster Number and Name	EAP Teacher's Goal Clusters Ranks & Means	ESP Teacher's Goal Clusters Ranks & Means
Higher-Order Thinking Skills	1 (4.8)	1 (4.5)
Discipline-Specific Knowledge and Skills	**2 (4.0)**	**4 (2.9)**
Work and Career Preparation	**3 (3.25)**	**2 (4.1)**
Basic Academic Success Skills	**4 (3.2)**	**3 (3.7)**
Liberal Arts and Academic Values	5 (2.9)	5 (2.5)
Personal Development	6 (2.2)	6 (2.1)

Two important differences can be drawn from the comparison between the clusters of goals in both courses. One difference is that the ESP teacher placed more emphasis on "work and career preparation goals" more than the EAP teacher. Another difference is that the EAP teacher aimed more to develop "discipline-specific knowledge and skills" more than the ESP teacher. This later finding does not make sense if we consider the nature of the EAP and ESP, so it is an odd finding. However, the EAP teacher used sustained-content on the theme of communications that is a discipline on its own, which could explain her high rating for this goal cluster.

As indicated by the ESP teacher in her responses to the TGI, her goals in the ESP course stemmed from her primary role as a teacher in helping students develop "higher-order thinking skills". The goals that she marked as "essential" in the cluster of "higher-order thinking skills" included the following "essential goals": 1) developing the students' abilities to apply principles and generalizations already learned to new problems and situations; 2) developing their analytical and problem-solving skills; and 3) developing their abilities to synthesize and integrate information and ideas, and to distinguish between facts and opinions. Higher-order thinking skills also involved two other "important" goals, namely, developing the students' abilities to 1) draw reasonable inferences from observations, and 2) think holistically, i.e. see the whole as well as the parts. She also marked creative thinking as an "important" ability to develop in her ESP

course. As "higher-order thinking skills" (cluster score = 4.5) were "essential" goals in her ESP course, the other goals varied in importance but could be ranked as follows: second, "work and career preparation" (score = 4.2); third, "basic academic success skills" (score = 3.7); fourth, "discipline-specific knowledge and skills" (score = 2.9); fifth, "liberal arts and academic values" (score = 2.5); and sixth, "personal development" (score = 2.1).

Of particular interest to this study were "work and career preparation goals" rated by the ESP teacher as "essential". They included developing a commitment to accurate work and developing the abilities to follow directions, instructions, and plans, and to organize and use time effectively. Related to work preparation, she also aimed to develop "very important" goals involving the students' abilities to work productively with others and to perform skillfully, as well as improving their commitment to personal achievement. Other "important" goals in this cluster included the development of management and leadership skills in students. In the cluster of "basic academic success skills goals", she aimed to achieve the following "essential" goals: 1) developing the students' skill at paying attention; 2) improving writing skills; and 3) developing appropriate study skills, strategies, and habits. As they are "very important", she also often aimed to improve her students' listening and reading skills. For their "academic success", other important goals in the course included memory and speaking skills, and the ability to concentrate. "Discipline-specific knowledge and skills" were also "important" in her teaching goals whereas she often tried to have students learn terms and facts related to the subject matter, namely, engineering in her ESP course as well as aiming to prepare them for transfer to their academic study. Other "important" goals

related to the students' disciplines involved: 1) learning concepts and theories; 2) understanding the subject perspectives and values; 3) learning techniques and methods used to gain knowledge in this subject; and also 4) evaluating the subject methods and materials.

On the other hand, the EAP instructor's teaching goals, as illustrated in the table, are sequenced in their importance from her perception, ranking the development of "higher-order thinking skills" (score= 4.8) as the first set of goals she aimed to achieve in her EAP course. Notably the other goal clusters were, second, "discipline-specific knowledge and skills" (score= 4); third, "work and career preparation" (score= 3.25); fourth, "basic academic success skills" (score= 3.2); fifth, "liberal arts and academic values" (score= 2.9); and sixth, "personal development" (score= 2.2). In her EAP course, "essential" goals involved application, analytic, problem-solving skills; and the abilities to draw reasonable inferences from observations, synthesize and integrate information and ideas, and think holistically, i.e. see the whole as well as the parts. The other two skills of creative thinking and the ability to distinguish between facts and opinions were also "important" in the course. "Discipline-specific knowledge and skills" were also of significance because the teacher aimed to have her students learn some terms and facts of the major theme of the course as sustained content; learn its concepts and theories; and develop skills in using materials, tools, and/or technology central to it. It was also "very important" for students to learn to understand the subject perspectives, values, techniques, and methods to gain new knowledge; and to learn to evaluate the subject methods and materials. Another "important" goal was preparing these students to transfer to their academic study. For their "work and career preparation", it was "essential" in the

course to develop the students' ability to follow directions, instructions, and plans. Besides, it was "very important" to improve their ability to work productively with others; organize and use time effectively; and perform skillfully. Developing the students' commitment to accurate work was also an "important" goal. However, the EAP teacher indicated that the commitment to personal achievement, and leadership and management skills were unimportant in the course. Another "important" set of goals was the basic academic success skills. "Essential" goals involved developing reading and writing skills. The development of speaking skills and appropriate study skills, strategies, and habits were also "very important" for the students' academic success. While paying attention to ability and listening skills were "important" for this purpose, the EAP teacher indicated that concentration ability and memory skills were not that important.

It is clear that the lowest goals in importance in EAP and ESP courses were personal development, and liberal arts and academic values according to the teachers' scores in the TGI. If we look more closely at the course outlines obtained from the EAP and ESP teachers, we can determine many things about the course including its goals, types of content and skills focus, activities, requirements, classroom organization, and assessment. The teaching goals identified using TGI are not sufficiently context-specific enough to indicate the nature of the two EAP and ESP courses. The teachers' course outlines provided us with the lenses through which we could see the course requirements as well as the goals and teacher expectations.

As described in the EAP teacher's course outline, the EAP course was "an advanced English as a second language course that focused on the acquisition and application of skills and strategies for successful academic study. As such, course

components would center on the language areas of listening, speaking, reading and writing, and on research skills development." The course was a full credit course for 12 weeks, six hours per week and it was required that students achieve a B- (70%), or better to pass the course and thereby fulfill the language requirements for the university. According to the outline, the course was organized in thematic units covering materials and assignments from "a variety of subject areas" that "reflect and represent both content and research dimensions of university study." It aimed to develop "specific language skills and strategies necessary for successful academic study." The course research component developed individual academic interests and the use of such skills and strategies. It was stressed in the outline that although the course involved paired and group work "to practice speaking and exchange information," the course fostered a "student-centered approach" in completion of task requirements with ongoing teacher follow-up.

Materials recommended in the EAP course were a grammar book and an English-English dictionary as well as stationary required for organizing course materials and thematic units. The rest of the outline introduced students to the course requirements in terms of evaluation. The teacher asserted that the students' progress was assessed "on the basis of individual performance in the various tasks assigned over the term." It was clearly stated that course evaluation depended on the students' application of "language and study skills and research strategies presented and practiced in class to locate, synthesize and communicate information relevant to the assigned tasks." So progress was monitored through writing assignments (40% of grade) done at the end of every thematic unit; reading journals; news journals; a research assignment (20%); participation and

effort (5%); and a final assignment (35%) "designed to evaluate overall ability in terms of the acquisition and application of skills and strategies dealt with in this course."

I was able to analyze the EAP teacher's research assignment (20%) information sheet that she used to inform her students of the goals and requirements expected from doing this assignment over an eight week period. The purposes of the assignment were: 1) development of research and note-taking skills; 2) expansion of knowledge of an issue of an academic interest or relevance to the students' field of study; and 3) expansion of vocabulary to comfortably express themselves in writing and speaking on this same academic issue. This assignment involved three components: presentation (2%); research journal (7%); research essay (6%); and portfolio (5%). The format and content and the nature of skills and strategies to be used as well as the marking schemes were explained in the information sheet. The process approach to writing was emphasized by the teacher as she explained to students that the "writing process involved in producing a research paper is a valuable learning process and the final product will be as good as the amount of effort (the process) that goes into it." The students were expected to work on their research papers which involved "investigating ideas and writing drafts of the various sections. All these efforts [were] part of the writing process and [were] critical steps toward a good final product." Basically, this assignment allowed students to investigate a topic of interest while gaining some knowledge relevant to their disciplinary studies and applying some strategies and skills simultaneously. These skills and strategies were embedded in the following tasks:

- finding a variety of sources such as textbooks, journal articles, magazine articles, newspaper articles, interviews, lecture notes, etc.;
- taking notes from the readings or lectures or interviews;
- discussing the relevance of the sources to the research questions;

- making a glossary of topic-related vocabulary; providing a bibliography of sources in APA bibliographic format or the bibliographic format in the student's disciplines;
- documenting the process of collecting information in a research journal (a minimum of 8 entries) including the previously-mentioned tasks of note-taking, commentaries on readings or information sources as well as the glossary;
- presenting or proposing to do this research in a classroom oral presentation;
- drafting and writing the final product for feedback and final submission; and
- keeping a portfolio to organize the whole process in a chronological order.

This example of the research assignment did not just provide an insight into the EAP course goals and requirements, but also reflected the EAP teacher's skills-integrated sustained-content teaching approach. While students were exposed to content and materials, they also practiced the skills of listening, speaking, reading, and writing as well as being involved in note-taking and research skills.

When looking at the ESP teacher's course outline, I noticed it was structured in a way that provided separate sections distinguishing "exit goals" from "language skills and strategies." The ESP course aimed to develop language proficiency of "English-as-a-Second-Language students currently enrolled in the Faculty of Engineering." So the subject area was engineering technical communication particularly in writing, which set the ground work for the students to "be undertaking realistic engineering tasks and applying appropriate language and formatting to them," so that it helped students to succeed in their academic studies. Exit goals described what students would be able to do in particular tasks within the skills of listening, speaking, reading, and writing, as follows:

1. Listening:
    - understand native speech with little need for clarification or repetition in social and academic situations where they have sufficient knowledge of the subject matter; and
    - take notes appropriate to their needs in engineering.
2. Speaking:
    - produce comprehensible speech at near normal speed on a variety of topics;
    - initiate, maintain and terminate conversations/discussions in social and academic situations; and
    - present clear, well-organized talks/presentations ...
3. Reading:

- read, with good comprehension, text directed toward adult readers in general (newspapers, magazines, etc.) and toward university students in particular (academic texts, journal articles, graphics, etc.) in both general and specific engineering topic areas;
- use research facilities-university and public libraries.

4. Writing:
   - compose summaries, examination answers, reports and other technical texts which demonstrate the ability to select and synthesize information from a variety of sources into well-organized, comprehensible text required for academic/professional purposes; and
   - edit their own work, eliminating those errors which interfere with communication.

In order to achieve these objectives, it was stated in the outline that "the course will focus on the development of the following skills, rhetorical functions and strategies:

1. Discourse Skills:
   - Skimming text to get the gist of the ideas presented;
   - Scanning for specific information;
   - Finding and distinguishing between main and supporting information;
   - Transcoding information to and from non-linear text;
   - Understanding and expressing ideas and their relations within a sentence, between sentences, and between parts of longer texts;
   - Recommending/ making proposals; and
   - Assessing, describing, analyzing.
2. Reference Skills:
   - Understanding and using graphic presentations, tables of content, indices, bibliographies, endnotes, and footnotes.
3. Rhetorical Functions:
   - Understanding and expressing: factual information, chronology, causal relatiohsips, processes, comparison/contrast, recommendations, agreement/argument, definition.
4. Composing Strategies:
   - Analyzing the needs of the reader with regard to information, organization, focus and language, as well as document type required and context;
   - Attending to the process of composing, including drafting; and
   - Revising content, organization and language appropriate to the purpose of the text.
5. Vocabulary and Syntax:
   - Recognizing unfamiliar words using morphological and contextual clues;
   - Understanding and using appropriately the Engineering vocabulary of their field(s); and
   - Recognizing and correcting errors in syntax (grammar) and in mechanics (spelling, punctuation, formatting).

As such, the ESP course used authentic materials typical of engineering tasks and activities. The course was organized to foster communication of ideas by focusing on "language needed for academic and professional study in the field of Engineering." The teacher emphasized in her course outline that the students' needs and interests were taken into account in addressing course topics as well as in "additional individualization of assignments." The course was an integrated-skills theme-based course that addressed all

four skills of reading, listening, speaking, and writing, but focused mainly on reading and writing. There was individual, paired, and group work in the course. Group work was intended to provide chances for cooperation, and speaking and exchanging information for language practice.

The ESP course evaluation consisted of 50% going for assignments (40% for various written and oral reports, 4% for reading summaries and oral presentations, and 6% for reading response journals); a midterm in-class assignment (15%); a final in-class assignment (30%); and participation, attendance, and punctuality (5%). Guidelines for formatting and requirements were provided to students throughout the two terms of study in the course. Generally speaking, the same set of strategies and language practice in the General EAP course were dealt with in classroom activities, journals, readings, and presentations as well as class discussions. Notably, the ESP teacher argued that the reading response journal in particular should be in "two kinds of mini-reports: 1) on the progress they are making in this course, and 2) about events or situations which they have learned about" while reading. It was a chance for students "to practice writing about ideas and feelings without having language ability considered in the evaluation."

The texts required in the ESP course were *Writing for science and engineering: Papers, presentation and reports* by Heather Silyn-Roberts (2001); a grammar reference book; an English-English dictionary; a pocket thesaurus; and necessary stationary. The students were not permitted to have electronic translators or Palm Pilots in class. The teacher recommended to students in the course outline that they subscribe to a variety of engineering journals, whether general or specific to their fields of study. In sum, this ESP

course was advanced English for academic purposes course, but it was specifically targeted for engineering students.

These EAP and ESP courses were designed to develop the English language proficiency of ESL students through an integrated-skills thematic approach to course design and teaching. Although they integrated the four skills, the main focus was on reading and writing skills and the development of language proficiency and learning strategies to prepare students for transition to regular academic study. Both courses emphasized writing as a process as evidenced in the students' gradual movement from information processing in their readings or any other kind of input materials until they arrive at the final product. In this learning process, they practiced language skills and strategies while reading and writing. Content, evaluation, and student population were the main differences between the EGAP (termed here as the EAP course) and ESAP (the ESP course here). Therefore, the research tools in this study, especially the interviews, looked into the students' and teachers' accounts of the course content, evaluation, and some other factors that might affect the students' performance in the course or language skills development as well as academic study in general. As these were the skills and strategies practiced in the two courses, this study investigated the students' reported use of such strategies and their teachers' perceptions of the usefulness of these strategies as reported in the following sections on the results of the IELLS and the Inventory of Writing Strategies. In the next section, we turn first to the IELLS results.

5.1.2. The IELLS Results

5.1.2.1. Results of IELLS from EAP and ESP Classes

This section reports the results of the Inventory of English Language Learning Strategies (IELLS) administered in one EAP and one ESP class[4]. The results were shown as means, clustering strategies according to Oxford's SILL (1999) classification of strategies into metacognitive, social, affective, cognitive, memory, and compensation strategies. These six sets of strategies constituted [5]the first part of the IELLS. The second part of the IELLS involved reading and writing strategies used in the processes of reading and writing, classifying them into general reading or writing behavior, pre-reading or pre-writing strategies, while-reading or while-writing strategies, and post-reading or post-writing strategies. Table (6) compares the ESP and EAP class means of learning strategies reported from the first 50 items (Oxford's SILL) in the IELLS. The results from the IELLS throughout this section are reported using Oxford's cut-off points interpreting the means as a high, medium, or low use of strategies.

Table 6: A Comparison of Means between the ESP and the EAP Class in Language Learning Strategies

Class	Metacognitive Strategies Mean	Social Strategies Mean	Affective Strategies Mean	Cognitive Strategies Mean	Memory Strategies Mean	Compensation Strategies Mean	Average
ESP (n= 11)	3.17	3.38	2.75	3.29	2.79	3.50	3.15
EAP (n= 10)	2.95	3.20	3.12	2.58	2.64	3.46	2.99

[5] The contexts in this study are: one English for General Academic Purposes (EGAP) course that is called (EAP) throughout this thesis, and one English for Specific Academic Purposes (ESAP) course that is called (ESP). Although some researchers (Allison, personal communication, May, 4th, 2006) argue that these courses should be looked at as a continuum, I prefer to look at them as a dichotomy in this thesis as two different course models.

The students in the ESP class reported using language learning strategies as follows: 1) compensation (3.50); 2) social (3.38); 3) cognitive (3.29); 4) metacognitive (3.17); 5) memory (2.79); and 6) affective strategies (2.75). On the other hand, the EAP class reported using strategies from the highest to the lowest as follows: 1) compensation (3.46); 2) social (3.20); 3) affective (3.12); 4) metacognitive (2.95); 5) memory (2.64); and 6) cognitive strategies (2.58). The main difference seemed to be in cognitive strategies as the ESP class claimed to use them more than the EAP class who indicated they used them less than the other strategies. Another difference was in affective strategies, whereas ESP students showed they used them the least in comparison with other strategies. However, all mean uses of the affective strategies were medium in both classes. In both groups, generally, the use of strategies was medium as can be seen in the average (ESP= 3.15; EAP= 2.99) and in the means of the categorized strategies except for the compensation strategies because they were reported to usually be used at a high level by students from both classes.

As the IELLS investigated the use of reading strategies in particular, Table (7) illustrates the means of both classes in reporting their reading strategies.

Table 7: A Comparison of the ESP and EAP Class Means in Reading Strategies.

Class	General Reading Behavior	Pre-Reading Strategies Mean	While Reading Strategies Mean	Post-Reading Strategies Mean	Average
ESP (n= 11)	3.05	3.40	3.20	2.97	3.15
EAP (n= 10)	3.85	3.59	3.19	3.01	3.40

The use of reading strategies in both classes was medium (ESP average= 3.15; EAP average= 3.40), meaning that students in both classes sometimes used most of these strategies in their reading habits. In the ESP class, all strategies were shown to be used at

a medium level. As they reported, ESP students used pre-reading strategies (3.40) more than while-reading strategies (3.20) and post-reading strategies (2.97). Their general reading behavior indicated a medium average (3.05). Their lowest use was in post-reading strategies (2.97).

In the EAP class, the students' general reading behavior mean (3.85) was higher than the ESP class (3.05), probably indicating that the EAP class was exposed to readings more than the ESP class. The second in terms of frequency was the pre-reading strategies (3.585), which was slightly higher than the ESP class pre-reading strategies (3.40). As I am following Oxford's cut-off points, pre-reading strategies were reported to usually be used at a high level by EAP students (3.59) and used at a medium level by ESP students (3.40). Both the EAP students' general reading behavior and the pre-reading strategies were high as students indicated that they usually used them. The third and fourth sets of strategies in frequency were while-reading (EAP= 3.19; ESP= 3.20) and after-reading strategies (EAP= 3.016; ESP= 2.97), which were both medium in use for both classes.

In the last section of the IELLS, students reported their use of writing strategies. Table (8) compared the average uses of writing strategies in the process of writing as reported by students from both classes.

Table 8: A Comparison of the ESP and EAP Class Means in Writing Strategies

Class	General Writing Behavior	Pre-Writing Strategies Mean	While-Writing Strategies Mean	Post-Writing Strategies Mean	Average
ESP (n= 11)	3.14	3.14	3.00	2.99	3.07
EAP (n= 10)	3.25	3.40	3.19	2.85	3.17

Both the ESP (3.07) and EAP (3.17) classes showed a medium level of writing strategy use. Proceeding from the highest to the lowest average uses of writing strategies in the

process of writing, students in both classes reported having: 1) pre-writing strategies (ESP= 3.14; EAP= 3.40); 2) while-writing strategies (ESP= 3.00; EAP= 3.19); and 3) post-writing strategies (ESP= 2.99; EAP= 2.85). Post-writing strategies seemed to be the lowest in use in both classes. EAP students reported using pre-writing strategies more than the ESP students. They both showed a medium use of strategies in their general writing behavior.

5.1.2.2. Results from the IELLS First Level of Analysis of Students' Strategy Use

The previously-discussed tables reported the use of strategies across the two classes involving 11 students in the ESP class and ten students in the EAP class. In the first level of analyzing the IELLS, the four interviewed students' means were compared across the categories and with each other considering their class (EAP or ESP) and first language (Arabic or Chinese). First, Table (9) illustrates their means in compensation, metacognitive, memory, cognitive, affective, and social strategies. As can be seen in the table, their use of language learning strategies was reported to be medium. From the most to the least strategic in the group of four students, the IELLS results revealed that the two Chinese students in EAP and ESP classes showed the same overall average, which was the highest in language learning strategy use (mean= 3.30). While the Arabic ESP student was the second (3.10), the Arabic EAP student came last in her average strategy use.

Table 9: ESP (N= 2) and EAP (N= 2) Students' Use of Language Learning Strategies

Case	Compensation Strategies Mean*	Meta-cognitive Strategies Mean	Memory Strategies Mean	Cognitive Strategies Mean	Affective Strategies Mean	Social Strategies Mean	Average
Chinese ESP Student	3.83	3.89	2.78	3.10	3.17	3.00	3.30
Arabic	3.50	3.67	2.11	3.36	2.83	3.33	3.10

ESP Student							
Arabic EAP Student	1.83	2.11	2.67	2.50	3.67	2.33	2.50
Chinese EAP Student	4.33	3.22	2.44	3.36	3.83	3.00	3.30

*The sums of every student's ratings in response to the questionnaire items were divided by the number of items in every category to derive the means.

As can be seen in Table (9) above, the strategies reported to be used by the Chinese ESP student were as follows from the highest to the lowest: 1) metacognitive (3.89); 2) compensation (3.83); 3) affective (3.17); 4) cognitive (3.10); 5) social (3.00); and 6) memory strategies (2.78). However, in comparison with the other four cases in this study, his use of metacognitive and memory strategies was the highest. His average (3.30) indicated that he had a medium use of language learning strategies as he reported to sometimes use them. Nevertheless, he reported a high use of metacognitive and compensation strategies.

In an average (3.10) use of strategies, the Arabic ESP student reported using strategies arranged from the highest to the lowest: 1) metacognitive (3.67); 2) compensation (3.50); 3) cognitive (3.36); 4) social (3.33); 5) affective (2.83); and 6) memory strategies (2.11). He also revealed a high use of metacognitive and compensation strategies. In comparison to other students, while he reported using social strategies the most as well as the cognitive strategies, his use of affective and memory strategies was the lowest. Again, whereas both ESP students showed a low to medium use of memory strategies, they both used metacognitive and compensation strategies more than the other strategies.

The Arabic EAP student showed a low to medium strategy repertoire average (2.50) involving: 1) affective (3.67); 2) memory (2.67); 3) cognitive (2.50); 4) social

(2.33); 5) metacognitive (2.11); and 6) compensation strategies (1.83). Her social, metacognitive, and compensation strategies were reported to be low in use as she said she generally did not use them. While her means showed a high use of affective strategies, she reported to sometimes use memory and cognitive strategies at a medium level. Compared with the other three students, she reported using compensation, metacognitive, cognitive, and social strategies the least in the group.

The Chinese EAP student indicated using learning strategies in a medium average of strategy use (3.30) as follows: 1) compensation (4.33); 2) affective (3.83); 3) cognitive (3.36); 4) metacognitive (3.22); 5) social (3.00); and 6) memory strategies (2.44). In this group of four students, his means of using compensation, affective, and cognitive strategies were the highest. He actually had the same mean in cognitive strategies as the Arabic ESP student (3.36). However, he said he generally did not use memory strategies. His means showed that he was more strategic than the Arabic EAP student except in memory strategies, whereas the latter reported using them more than the former. A huge difference in strategy use was the use of compensation strategies as the EAP Arabic student reported to use compensation strategies the least, the Chinese EAP student showed he used them the most in this group of four students.

As shown in Table (10) of reading strategies reported by the four students in the IELLS, the Chinese ESP student said he usually used reading strategies at a high level more often than the other three students. The Chinese EAP student reported using reading strategies at a medium level. The Arabic ESP student's average showed a medium use of these strategies that was lower than the two Chinese students, but the Arabic EAP student revealed the lowest use of reading strategies in the group.

Table 10: ESP (N= 2) and EAP (N= 2) Students' Use of Reading Strategies.

Case	General Reading Behavior	Pre-Reading Strategies Mean	While Reading Strategies Mean	Post-Reading Strategies Mean	Average
Arabic EAP Student	1.00	2.71	1.80	2.88	2.10
Chinese EAP Student	2.50	4.14	3.13	3.25	3.30
Chinese ESP Student	3.50	4.00	3.73	3.00	3.60
Arabic ESP Student	3.00	2.71	2.67	2.63	2.80

*The sums of every student's ratings in response to the questionnaire items are divided by the number of items in every category to derive the means.

The Arabic EAP student's average in using reading strategies was reported to be low (2.10), indicating that she generally did not use them. From the highest to the lowest, her reading strategies ranged from 1) post-reading (2.88); 2) pre-reading (2.71); 3) while reading strategies (1.80); and 4) general reading behavior (1.00). Her mean of the general reading behavior was low, probably reflecting her tendency not to read much neither in English, nor in Arabic. Generally, she said she did not use strategies while reading as revealed in her low use. However, she said she sometimes used strategies before and after reading. In comparison with the group here, she showed the lowest means in general reading behavior, pre-reading, and while-reading strategies. Also, her post-reading strategies were reported to be lower than her Chinese counterpart. The other Arabic ESP student revealed average uses in pre-reading, while-reading, and post-reading strategies that were also lower than the other two Chinese students.

The Chinese student in the EAP class showed a medium average (3.30) of the use of reading strategies. Whereas, his averages for 1) the general reading behavior (2.50); 2) while-reading (3.13); and 3) after-reading strategies (3.25) were found to be medium in use, his pre-reading strategies were high in use (4.14) as he said he usually used them. In

addition, his pre-reading and post-reading strategies were reported to be the highest in the group.

The other Chinese student in the ESP class revealed a high average (3.60) of reading strategy use. His averages were 1) pre-reading (4.00); 2) while-reading (3.73); 3) general reading behavior (3.50); and 4) post-reading strategies (3.00). His general reading behavior and while-reading strategies were found to be the highest in the group.

The Arabic ESP student showed a medium average (2.80) in using reading strategies as follows: 1) general reading behavior (3.00); 2) pre-reading (2.71); 3) while-reading (2.67); and 4) post-reading strategies (2.63). He reported using post-reading strategies the least in the group and showed the same lowest use of pre-reading strategies as the Arabic EAP student. His average in using while- reading strategies was also lower than the other Chinese students. Both EAP students' use of while-reading strategies was found to be the least in the reading process. The two Chinese students also reported using pre-reading strategies the most in their reading processes.

Table 11: ESP (N= 2) and EAP (N= 2) Students' Use of Writing Strategies.

Case	General Writing Behavior	Pre-Writing Strategies Mean	While-Writing Strategies Mean	Post-Writing Strategies Mean	Average
Chinese ESP Student	3.00	3.50	3.20	2.78	3.12
Arabic ESP Student	3.50	2.92	2.87	3.33	3.16
Arabic EAP Student	3.00	2.00	2.80	2.44	2.56
Chinese EAP Student	4.00	3.25	3.13	2.67	3.26

*The sums of every student's ratings in response to the questionnaire items are divided by the number of items in every category to derive the means.

All four students showed a medium use of writing strategies as can be seen in Table (11) above. The two Chinese students and the Arabic ESP student had similar averages, but they can be ordered in frequency of strategy use as follows: 1) the Chinese EAP student

(3.26), 2) the Arabic ESP student (3.16), 3) the Chinese ESP student (3.12), and 4) the Arabic EAP student (2.56). The Arabic EAP student had the lowest average of writing strategy use.

The Chinese ESP student revealed a medium use of writing strategies (3.2) involving 1) pre-writing (3.50); 2) while-writing (3.20); 3) general writing behavior (3.00); and 4) post-writing strategies (2.78). While his pre-writing strategies were indicated to be high in use as he said he usually used them, his use of after-writing strategies was found to be the least. On the other hand, although his Arabic counterpart had a medium use of writing strategies (3.16) as well, his averages differed as his general writing behavior (3.50) and post-writing strategy (3.33) uses were found to be higher than the Chinese ESP student's use. The Arabic ESP student said he sometimes used pre-writing (2.92) and while-writing strategies (2.87).

The Arabic EAP student reported having a medium to low use of writing strategies (2.56) as she said she sometimes used some of these strategies in her writing behavior. Her averages across the categories were: 1) general writing behavior (3.00); 2) while-writing (2.80); 3) post-writing (2.44); and 4) pre-writing strategies (2.00). As her pre-writing strategies were reported to be used the least in her writing process, she was found to have the lowest use of these strategies within the group of four students. Generally, her use of writing strategies was shown to be lower than the other EAP student in the group and was the lowest in the whole group.

The Chinese EAP student revealed a medium use of writing strategies (3.26), whereas his general writing behavior (4.00) was reported to be his highest use and his

medium use of post-writing strategies (2.67) was his lowest. He was found to have a medium use of both pre-writing (3.25) and while-writing strategies (3.13).

If we look at the differences between the two students in each group, we notice that the Chinese ESP student reported using pre-writing and while-writing strategies more than the Arabic ESP student. On the other hand, the Arabic ESP student's general writing behavior and post-writing strategies were shown to be higher than the Chinese ESP student. The Chinese EAP student's use of writing strategies across the categories was revealed to be higher than the Arabic EAP student. Clearly, the Arabic EAP student was found to use writing strategies the least in the group. The Chinese EAP student's general writing behavior was revealed to be the highest in the group. While the Chinese ESP student was indicated to have the highest use of both pre-writing and while-writing strategies, the other Arabic ESP student reported using post-writing strategies the most.

5.1.2.3. Results from the IELLS Second Level of Analysis of Students' Strategy Use

At a deeper level of analysis of the IELLS results, I considered the four students' use of strategies looking at the extent to which they used strategies as taught and recommended by their teachers. The results reported in this section reflect the students' positive and negative use of strategies. Negative use of strategies is also emphasized here as it showed that students did not use strategies as they were expected to. You can refer to the methodology chapter for an explanation of how the analysis was done. The results revealed a match between the students' and their teachers' ratings, shown here as a positive use of strategies, but there was also a clear mismatch, which was considered a negative use of strategies. Tables (12) and (13) below present the percentages of negative

and positive strategy use across the categories for the two EAP and two ESP students as reported in their questionnaire responses, classifying the items into positive and negative strategies according to the analysis criteria explained earlier in the methodology section.

Table 12: EAP and ESP Students' (N= 4) Negative Strategy Use from IELLS Results.

Strategy Category	Arabic EAP Student	Chinese EAP Student	Arabic ESP Student	Chinese ESP Student
Negative Strategy Use*	***(n)= 55***	***(n)= 17***	***(n)= 31***	***(n)= 37***
Memory	3.64%, n= 2	5.89%, n= 1	9.68%, n= 3	10.81%, n= 4
Cognitive	12.73%, n= 7	11.76%, n= 2	6.45%, n= 2	10.81%, n= 4
Compensation	7.27%, n= 4	0%	0%	2.70%, n= 1
Metacognitive	7.27%, n= 4	5.89%, n= 1	0%	0%
Affective	1.82%, n= 1	0%	9.68%, n= 3	5.41%, n= 2
Social	7.27%, n= 4	0%	6.45%, n= 2	5.41%, n= 2
General Reading Behavior	1.82%, n= 1	5.89%, n= 1	0%	0%
Pre-reading	5.45%, n= 3	5.89%, n= 1	6.45%, n= 2	2.70%, n= 1
While-reading	14.55%, n= 8	5.89%, n= 1	16.13%, n= 5	13.51%, n= 5
Post-reading	9.09%, n= 5	5.89%, n= 1	6.45%, n= 2	8.11%, n= 3
General Writing Behavior	?*	?	0%	2.70%, n= 1
Pre-writing	16.36%, n= 9	17.65%, n= 3	12.90%, n= 4	10.81%, n= 4
While-writing	14.55%, n= 8	11.76%, n= 2	19.35%, n= 6	16.22%, n= 6
Post-writing	10.91%, n= 6	23.53%, n= 4	6.45%, n= 2	10.81%, n= 4

- "?"= students' ratings could not be compared with that of the EAP teacher because she did not provide responses to the category items.
- Negative and positive strategy uses across the categories were computed by dividing the number of reported negative or positive items by the total number of positive and negative strategies. See every student's negative and positive use in every category with a list of the reported strategies in Appendices M and N.

Table 13: EAP and ESP Students' (N= 4) Positive Strategy Use from IELLS Results.

Strategy Category	Arabic EAP Student	Chinese EAP Student	Arabic ESP Student	Chinese ESP Student
Positive Strategy Use	***(n)= 9***	***(n)= 49***	***(n)= 88***	***(n)= 82***
Memory	11.11%, n= 1	2.04%, n= 1	6.82%, n= 6	6.10%, n= 5
Cognitive	44.44%, n= 4	10.20%, n= 5	13.64%, n= 12	12.20%, n= 10
Compensation	0%	8.16%, n= 4	6.82%, n= 6	6.10%, n= 5
Metacognitive	0%	6.12%, n= 3	10.23%, n= 9	10.98%, n= 9
Affective	0%	2.04%, n= 1	3.41%, n= 3	4.88%, n= 4
Social	11.11%, n= 1	8.16%, n= 4	4.55%, n= 4	4.88%, n= 4
General Reading Behavior	0%	2.4%, n= 1	2.27%, n= 2	2.44%, n= 2
Pre-reading	0%	10.20%, n= 5	5.68%, n= 5	7.32%, n= 6
While-reading	0%	18.37%, n= 9	11.36%, n= 10	12.20%, n= 10
Post-reading	22.22%, n= 2	8.16%, n= 4	5.68%, n= 5	4.88%, n= 4
General Writing Behavior	?	?	2.27%, n= 2	1.22%, n= 1
Pre-writing	0%	10.20%, n= 5	9.09%, n= 8	9.76%, n= 8
While-writing	0%	12.24%, n= 6	10.23%, n= 9	10.98%, n= 9
Post-writing	11.11%, n= 1	4.08%, n= 2	7.95%, n= 7	6.10%, n= 5

As can be seen in Table (12) above, there were discrepancies in negative strategy use across the categories for the four students. For the Arabic EAP student, within the negative use of language learning strategies, she reported using cognitive strategies (12.73%) more negatively than the other sets of strategies. She also revealed a negative use in compensation, metacogntive, and social strategies (7.27%). In her reading process, she reported using the following reading strategies from the most negatively-used to the least: 1) while-reading (14.55%), 2) post-reading (9.09%), and 3) pre-reading strategies (5.45%), indicating a major problem in while-reading and after-reading processes. The negative use of writing strategies that she reported involved: 1) pre-writing (16.36%), 2) while-writing (14.55%), and 3) post-writing strategies (10.91), which revealed more negative use in pre-writing and while-writing strategies.

The Chinese EAP student reported a negative use of cognitive (11.76%), and metacognitive and memory (5.89%) strategies. In his reading process, he showed an equivalent negative use in all the stages of the reading process (5.89%). He reported using writing strategies as follows: 1) post-writing (23.53%), 2) pre-writing (17.65%), and 3) while-writing (11.76%) strategies, which showed that he had more mismatches in post and pre-writing stages.

For the Arabic ESP student, his negative use was also shown to be mostly in memory (9.68%) and affective strategies (9.68%), but also with a less negative use in cognitive and social strategies (6.45%). In his reading, he reported having a negative use of strategies while reading (16.13%), but also using strategies before and after reading (6.45%) less negatively. In writing, it was indicated that he had a negative use while writing (19.35%) more than before and after writing (10.81%).

The Chinese ESP student reported a negative strategy use of memory and cognitive strategies (10.81%) more than affective and social strategies (5.41%). In terms of the reading process, his ratings indicated a negative use of reading strategies as follows from the more to the less negatively-used: 1) while-reading (13.51%), 2) post-reading (8.11%), and 3) pre-reading (2.70%) strategies. This revealed that he had more negative strategy use while and after reading. In the writing process, his most negative use was reported to be while writing (16.22%) more than before and after writing (10.81%).

Appendix (N) illustrates the two EAP students' percentages of positive and negative strategy use within every category along with a listing of the reported items or strategies. As can be seen in the table, the Arabic EAP student reported that she mostly used the following strategies negatively: compensation, metacognitve, and affective strategies (100%). It was also shown that she had a negative use of social (80%), memory (50%), and cognitive (42.9%) strategies. In her reading process, it was shown that she used 100% of pre-reading and while-reading strategies more negatively than post-reading strategies (60%). In her writing process, it was found that she had a negative use of strategies before and while writing (100%) more than post-writing (83.3%).

The Chinese EAP student showed a negative use of strategies that was lower than the Arabic EAP student. He reported negative use of memory (50%), cognitive (28.6%), and metacognitve (25%) strategies. In the reading process, it was found that he had a negative use of strategies in post-reading (20%), pre-reading (16.7%), and while-reading (10%) strategies. In the use of writing strategies, he reported a negative use in post-writing strategies (66.7%) more than pre-writing (37.5%) and while-writing (25%)

strategies. Concerning their general reading behavior, the two EAP students showed that they both used the two strategies negatively (100%).

Appendix (O) also illustrates the two ESP students' percentages of positive and negative strategy use within every category along with a listing of the reported items or strategies. As can be seen in the table, the Arabic ESP student revealed a negative strategy use as follows: affective (50%), social (33.3%), memory (33.3%), and cognitive (14.3%) strategies. In reading strategies, he showed a negative use of while-reading strategies (33.3%) more than pre-reading and post-reading strategies (28.6%). In his writing strategies, he reported a negative us while writing (40%) more than pre-writing (33.3%) and post-writing (22.2%).

For the Chinese ESP student, his negative use of strategies was shown to be in: memory (44.4%), affective (33.3%), social (33.3%), cognitive (28.6%), and compensation (16.7%). In the reading process, it was found that he used strategies negatively mostly after reading (42.9%), and while reading (33.3%), but there was also a negative use in pre-reading strategies (14.3%). In his use of writing strategies, he reported using post-writing (44.4%) and while-writing (40%) strategies more negatively than pre-writing strategies (33.3%).

After identifying how every student used strategies, whether negative or positive, I matched the two EAP students' and two ESP students' negative use of strategies. Table (14) summarizes the matching of negative strategy use for the two EAP and two ESP students, highlighting only the percentages of the negatively-used strategies as reported by the four students. The match was called an "index of agreement of negative strategy

use." Some of the four students' responses were then contrasted with their rhetorical accounts of strategy use in the interview results and discussions section.

Table 14: Index of Agreement[1] between EAP (N= 2) and ESP Students' (N= 2) in Negative Strategy Use from the IELLS Results

ESP Students' Negative Use (N= 2)	EAP Students' Negative Use (N= 2)
• **Cognitive= 21.1%; n[3]= 4** • **Compensation= 21.1%; n= 4** • **Metacognitive= 21.1%; n= 4** • **Negative[2]= 15.8%; n= 3** • **Affective= 10.5%; n= 2** • Social= 5.3%; n= 1 • Memory= 5.3%; n= 1	• **Metacognitive= 30.8%; n= 4** • **Cognitive= 23.1%; n= 3** • **Compensation= 15.4%; n= 2** • **Social= 15.4%; n= 2** • **Memory= 15.4%; n= 2** • Negative= 0% • Affective= 0%
Reading Strategies • **While-reading= 66.7%; n= 2** • **Post-reading= 33.3%; n= 1** • General reading behavior= 0% • Pre-reading= 0%	Reading Strategies • **General reading behavior= 33.3%; n= 1** • **While-reading= 33.3%; n= 1** • **Post-reading= 33.3%; n= 1** • Pre-reading= 0%
Writing Strategies • **Pre-writing= 40%; n= 4** • **While-writing= 40%; n= 4** • **Post-writing= 20%; n= 2** • General writing behavior= 0%	Writing Strategies • **Pre-writing= 37.5%; n= 3** • **Post-writing= 37.5%; n= 3** • **While-writing= 25%; n= 2** • General writing behavior= 0%

[1] It should be noted that this index of agreement between the 2 students from each class describes the match of the students' negative use across the categories. The classification of cognitive, compensation, metacognitive, negative, social, affective, and memory strategies covers all items in the IELLS and not just the first 50 items from Oxford's SILL (1990). Refer to Appendices (M & N) for a list of items or strategies that were reported to be used negatively by every student across the categories. See Appendix (L) that lists items or strategies that were used negatively in the various categories.

[2] "Negative" is a term that Baker and Boonkit (2004) used in their reading and writing questionnaire to mark items that they considered negative in reading and writing processes. However, it was used in this table to keep the same classification they have used in their questionnaire for ease of analysis. So, it should be looked at here as a category.

[3] "n" refers to the number of negative strategies reported by participants in every category.

As noted in the index of agreement of negative strategy use above, the two EAP students showed a negative use of metacognitive, cognitive, social, and memory strategies more than the two ESP students. The two ESP students also revealed a negative use in compensation, negative, and affective strategies, more than the two EAP students. The

two ESP students reported using while-reading strategies more negatively than the two EAP students. Negative use of post-reading strategies was reported by the four students. When it comes to writing, while the two ESP students showed a negative use in pre-writing and while-writing strategies more than the EAP students. However, EAP students used post-writing strategies more than the ESP students.

According to the IELLS index of agreement above, the two ESP students used writing strategies more negatively than reading strategies, indicating a possible problem in the writing process. The reading strategies that were shown to be appropriated negatively by the two ESP students were:

- asking about the purpose of texts (pre-reading);
- breaking sentences into words and phrases (while-reading);
- predicting while reading (while-reading); and
- making inferences (post-reading).

The writing strategies that were reported to be used negatively by the two ESP students were:

- outlining or planning in 1st language (pre-writing);
- outlining or planning in English (pre-writing);
- not planning for writing (pre-writing);
- scheduling for writing (pre-writing);
- preferring to write one draft only (while-writing);
- using dictionaries after finishing a draft (while-writing);
- using a grammar book to check things before or while writing (while-writing); using English-English dictionaries (while-writing);
- editing writing (post-writing); and
- remembering writing feedback (post-writing).

As can be seen in the index of agreements, the two EAP students' negative use of reading and writing strategies was elicited by the IELLS, showing a more negative use of writing strategies than reading strategies. The reported negatively-used reading strategies included:

- reading in English (General reading behavior);
- using English-English dictionaries (while-reading); and
- making inferences (post-reading);

In their writing process, the two EAP students reported using the following strategies negatively:

- doing extra work to improve English (pre-writing);
- discussing what to write with teacher and others (pre-writing);
- brainstorming (pre-writing);
- doing two or more drafts (while-writing);
- editing writing (post-writing);
- changing organization of writing when editing (post-writing);
- discussing with teacher and students (post-writing); and
- remembering feedback (post-writing).

5.1.3. Writing Strategy Use in ESP and EAP Classes from the Inventory of Writing Strategies Results

The Inventory of Writing Strategies (See Appendix I) required the two EAP and ESP teachers to rank strategies students should use to help them write better as Never, Sometimes, and Usually. The four interviewed students also responded to this inventory in terms of how frequently they used writing strategies as Never, Sometimes, or Usually. It should be noted that while the EAP teacher responded to the inventory according to her teaching of writing essays in her EAP class, the ESP teacher responded to it according to her teaching of technical reports for engineering students in her ESP class. The following Table (15) contrasts the teachers' and students' strategy repertories. The items marked as "Not Used" by students is equivalent to "Not Recommended" by teachers and is listed in the table as Never, and 2) the items responded to as Sometimes or Usually meant "Used" for students and "Recommended" for teachers[6]. The table shows the percentages of writing strategy use that were reported to be employed by the four students and their teachers' perceptions of how often they should employ such strategies.

[6] Negativity of strategy use represents the mismatches reported in the index of disagreement between teachers' and students' strategy repertoires. However, this does not mean that teachers know best as students might hold different views of strategy use that best suit them.

Table 15: Percentages of Frequency of Writing Strategy Use for Students and Teachers

Respondent	Recommended/ Used		
	Never	Sometimes	Usually
ESP Teacher	25.5%, n= 12	59.6%, n= 28	14.9%, n= 7
Arabic ESP Student	21.3%, n= 10	53.2%, n= 25	25.5%, n= 12
Chinese ESP Student	12.8%, n= 6	55.3%, n= 26	31.9%, n= 15
EAP Teacher*	20.6%, n= 7	14.7%, n= 5	64.7%, n= 22
Arabic EAP Student	29.8%, n= 14	34%, n= 16	36.2%, n= 17
Chinese EAP Student	34%, n= 16	34%, n= 16	32%, n= 15

* The EAP teacher did not provide responses to 13 questions in the inventory (items: 4, 10, 15, 28, 29, 30, 31, 33, 34, 43, 44, 46, and 47).

As shown in the table above, the students' and teachers' percentages in their responses to the inventory scale differed. Both classes revealed a mismatch in the student's use of strategies and the teachers' recommendations of what was useful to them. Although the Arabic ESP student reported usually using 25.5% of the writing strategies listed in the inventory, he said sometimes he used 53.2% of these strategies in his writing. However, he never used 21.3% of them. The Chinese ESP student said he usually used 31.9%, sometimes used 55.3%, but never used 12.8% of these writing strategies. From the ESP teacher's responses to the inventory, she recommended that students sometimes use 59.6% of these writing strategies listed in the inventory; usually use 14.9%; and never use 25.5% of these strategies. The ESP teacher was also asked to comment further on writing strategies in her ESP course and did so on a separate sheet attached to the Inventory of Writing Strategies (See Appendix I). She commented that:

> one of the difficulties with engineering writing is that students need to understand *purpose, *audience(s), and *focus very well. Also, as professionals they will have to learn to get to the point, clearly and with necessary technical data as required often in a short period of time (little time for drafts). Non-prose data also needs to be managed and clearly presented. Professional expectations about/regarding formatting and language can often be very rigid (almost templated in some contexts/companies).

The EAP teacher responded to the Inventory of Writing Strategies, but did not provide a response to 13 items of the inventory of 47 items as "it was a little difficult to answer the questions because they are aimed at a person who actually writes not at the person who

teaches writing and is going to evaluate it." However, her responses addressed what she taught her students, particularly in the research assignment. Her responses indicated that she usually encouraged 64.7%; sometimes encouraged 14.7%; but never recommended 20.6% of the strategies that students may use in their writing. On the sheet attached to the inventory, she further commented:

> .... I certainly encourage my students to use many of strategies covered by the questionnaire, however, I consider writing a very personal process, and most of the writing of their research paper is done as a homework assignment. I do not know if students use large ... or free write before they go to bed. I encourage process approach to writing. Students produce many drafts and these will be included in their portfolios. They do free write to start their research assignment in order to figure out how much they know about the topic and what they would like to learn. Then they start reading on the topic (one research journal entry per week) and have 2-2.5 weeks to change their research question and even the topic. Presentation is part of the Research Assignment (which is a research proposal/literature review). The research assignment takes 8-9 weeks time. The students are requested to bring in their first draft to class and read it to conference partners who have the obligation to give feedback (either checklist or open-ended questions).

The Chinese EAP student's responses showed that he usually used 32%, sometimes used 34%; but never used 34% of the writing strategies listed in the inventory. As can be seen in the Arabic EAP student's responses, she revealed that she usually used 36.2%; sometimes used 34%; but never used 29.8% of these writing strategies.

Clearly, there was a mismatch between the students and teachers' responses. Therefore, the students' use of writing strategies was reported to be either positive or negative across the writing process stages. The positive use was considered here as the use of strategies that matched the teachers' recommendations. The negative use[7] of strategies was the mismatches between the students' reported strategies and their teacher's recommended strategies. Differences between the two students in the EAP class

[7] Negativity of strategy use represents the mismatches reported in the index of disagreement between teachers' and students' strategy repertoires. However, this does not mean that teachers know best as students might hold different views of strategy use that best suit them.

are drawn in Table (16) with details on positive and negative strategy use across the writing process stages.

Table 16: EAP Students' (N= 2) Negative[1] and Positive Use of Writing Strategies across the Stages of the Writing Process

EAP Teacher's Recommended and Not Recommended Writing Strategy Use	Arabic EAP Student's Writing Strategy Use	Chinese EAP Student Writing Strategy Use
Strategies Recommended by the EAP Teacher = [Pre-writing (n)= 12; While-writing (n)= 7; Revising (n)= 8; Total= 27] Strategies Not Recommended by the EAP Teacher = (Pre-writing (n)= 0; While-writing (n)= 6; Revising (n)= 1; Total= 7]	Positive strategy use (n)= 24: [P[2]= 41.7%, n= 10); W= 29.2%, n= 7; R= 29.2%, n= 7]	Positive strategy use (n)= 20: [P= 45%, n= 9; W= 35%, n= 7; R= 20%, n= 4]
	Negative strategy use (n)= 10: [W= 60%, n= 6; P= 20%, n= 2; R= 20%, n= 2]	Negative strategy use (n)= 14: [W= 42.9%, n= 6; P= 21.4%, n= 3; R= 35.7%, n= 5]
	Pre-writing strategy use (n)= 12: [Positive= 83.3%, n= 10; Negative= 16.7%, n= 2]	Pre-writing strategy use (n)= 12: [Positive= 75%, n= 9; Negative= 25%, n= 3]
	While-writing strategy use (n)= 13: [Positive= 53.8%, n= 7; Negative= 46.2%, n= 6]	While-writing strategy use (n)= 13: [Positive= 53.8%, n= 7; Negative= 46.2%, n= 6]
	Revising or post-writing strategy use (n)= 9: [Positive= 77.8%, n= 7; Negative= 22.2%, n= 2]	Revising or post-writing strategy use (n)= 9: [Positive= 44.4%, n= 4; Negative= 55.6%, n= 5]

[1] Refer to Appendix (M) for more details on the items that are used negatively in the writing process.
[2] "P" refers to pre-writing strategies that are used before writing. "W" means while-writing strategies, which are strategies used while writing. Revising or post-writing strategies are labeled as "R" to refer to strategies used after finishing the writing and before submitting the product. "n" refers to the number of reported items or strategies.

For both EAP students, the negative use of strategies was mostly in the use of while-writing and post-writing strategies. The Chinese student reported using writing strategies more negatively than the Arabic EAP student. From the results shown in the table, the Arabic EAP student used negative strategies mostly while writing (60%) indicating a problem in this stage of writing. The Chinese EAP student also had a negative use of strategies in the while-writing stage of writing (42.9%) more than the other stages. In summary, there were more negatively used strategies in the actual writing itself that

students and teachers should pay attention to. While the Arabic EAP student used 29.4% of the writing strategies negatively, the Chinese EAP student used 41.2% of them negatively. Their positive use ranged from 58.8% for the Chinese and 70.6% for the Arabic student. This indicated a discrepancy in strategy use of recommended strategies for both students.

Turning to the Arabic EAP student's negative use, she reported using the following strategies negatively as she said she did not use them although they were recommended by the EAP teacher for use:

- Using a checklist. (P)
- Spending time putting off starting point before writing. (P)
- Developing new theories. (W)
- Continuing on collecting information. (W)
- Outlining gaps in first draft. (R)

She also reported using some strategies negatively as she used them although the EAP teacher recommended never to use these. These are:

- Writing introduction 1st. (W)
- Editing while writing. (W)
- Constantly rereading while writing. (W)
- Being conscious the topic sentence while writing. (W)
- Revising 1st draft for grammar and vocabulary. (R)

The Chinese EAP student also reported not using strategies that were recommended for use as follows:

- Free-writing. (P)
- Limiting topic focus. (P)
- Using a checklist. (P)
- Taking time off from writing. (W)
- Reading writing to oneself or someone else. (R)
- Reordering ideas. (R)
- Deleting chunks of text. (R)
- Outlining gaps in first draft. (R)

His negative use could also be seen in his use of the following strategies that were recommended by the EAP teacher never to be used:

- Writing introduction 1st. (W)
- Editing while writing. (W)
- Having conclusion in mind when writing. (W)
- Constantly rereading while writing. (W)
- Being conscious the topic sentence while writing. (W)
- Revising 1st draft for grammar and vocabulary. (R)

The following Table (17) also highlights the negative and positive use of strategies for the two ESP students across the writing process stages.

Table 17: ESP Students' (N= 2) Negative[1] and Positive Use of Writing Strategies across the Stages of the Writing Process

ESP Teacher's Recommended and Not Recommended Writing Strategy Use	Arabic ESP Student's Writing Strategy Use	Chinese ESP Student's Writing Strategy Use
Strategies Recommended by the ESP Teacher = [Pre-writing (n)= 11; While-writing (n)= 13; Revising (n)= 11; Total= 35] Strategies Not Recommended by the ESP Teacher = [Pre-writing (n)= 3; While-writing (n)= 7; Revising (n)= 2; Total= 12]	Positive strategy use (n)= 29: [P[2]= 34.5%, n= 10; W= 34.5%, n= 10; R= 31%, n= 9]	Positive strategy use (n)= 33: [P= 33.3%, n= 11; W= 36.4%, n= 12; R= 30.3%, n= 10]
	Negative strategy use (n)= 18: [W= 50%, n= 9; P= 22.2%, n= 4; R= 22.2%, n= 4]	Negative strategy use (n)= 14: [W= 57.1%, n= 8; P= 21.4%, n= 3; R= 21.4%, n= 3]
	Pre-writing strategy use (n)= 14: [Positive= 71.4%, n= 10; Negative= 28.6%, n= 4]	Pre-writing strategy use (n)= 14: [Positive= 78.6%, n= 11; Negative= 21.4%, n= 3]
	While-writing strategy use (n)= 20: [Positive= 50%, n= 10; Negative= 50%, n= 10]	While-writing strategy use (n)= 20: [Positive= 60%, n= 12); Negative= 40%, n= 8]
	Revising or post-writing strategy use (n)= 13: [Positive= 69.2%, n= 9; Negative= 30.7%, n= 4]	Revising or post-writing strategy use (n)= 13: Positive= 79.6%, n= 10; Negative= 23.1%, n= 3]

[1] Refer to Appendix (N) for more details on the items that are used negatively in the writing process.
[2] "P" refers to pre-writing strategies that are used before writing. "W" means while-writing strategies, which are strategies used while writing. Revising or post-writing strategies are labeled as "R" to refer to strategies used after finishing the writing and before submitting the product. "n" refers to the number of reported items or strategies.

The ESP students reported using more of the while-writing strategies negatively (50% for the Arabic student and 57.1% for the Chinese student). From the results shown in Table (....), the two ESP students reported having more negative use of strategies while-writing

(40 for the Chinese and 50% for the Arabic) and post-writing (23.1 for the Chinese and 30.7% for the Arabic). The Arabic ESP student used 61.7% of the writing strategies positively, but 38.3% negatively. While 40.2% of the Chinese ESP student's use of writing strategies was positive, still 29.8% of it was negative. Although there is a lot of positive use of writing strategies, there still existed some negative use that should be accounted for.

For the Arabic ESP student, his negative use was evident in his lack of use of the following strategies although recommended by the ESP teacher for use.

- Writing an outline. (P)
- Linking topic to everyday life. (P)
- Developing new theories. (W)
- Constantly jotting down ideas. (W)
- Free-writing about the topic. (W)
- Continuing collecting information. (W)
- Reordering ideas. (R)
- Outlining gaps in first draft. (R)

He also reported using the following strategies negatively as he used them although recommended by the ESP teacher never to use:

- Thinking through and defining conclusion. (P)
- Spending time putting off starting point before writing. *(P)*
- Writing introduction 1st. (W)
- Starting writing quickly. (W)
- Editing while writing. (W)
- Having conclusion in mind when writing. (W)
- Constantly rereading while writing. (W)
- Being conscious the topic sentence while writing. (W)
- Revising 1st draft for grammar and vocabulary. (R)
- Thinking most of the work is done after 1st draft. (R)

The Chinese ESP student revealed a negative use by his lack of use of the following strategies although recommended by the ESP teacher for use.

- Taking time off from writing. (W)
- Free-writing about the topic. (W)
- Writing on one side of the paper to re-arrange parts. (W)
- Reading writing to oneself or someone else. (R)

His use of strategies that were never recommended for use by the ESP teacher was also negative in the following strategies:

- Thinking through and defining conclusion. (P)
- Spending time putting off starting point before writing. *(P)*
- Reading in references. (P)
- Writing introduction 1st. (W)
- Editing while writing. (W)
- Having conclusion in mind when writing. (W)
- Constantly rereading while writing. (W)
- Being conscious the topic sentence while writing. (W)
- Revising 1st draft for grammar and vocabulary. (R)
- Thinking most of the work is done after 1st draft. (R)

The match in students' negative use of strategies was placed in an index of agreement for the two students in every class. The following Table (18) is an index of agreement that illustrates the two EAP students' and two ESP students' matching of negative writing strategy use.

Table 18: Index of Agreement between EAP and ESP Students in Negative Writing Strategy Use

EAP Students Negative Use (N= 2)	**ESP Students Negative Use (N= 2)**
Pre-writing= 8.3%; n[1]= 1 (item: 11)	Pre-writing= 14.3%; n= 2 (items: 6, 12)
While-writing= 30.8%; n= 4 (items: 16, 21, 23, 24)	While-writing= 30%; n= 6 (items: 29, 16, 21, 22, 23, 24)
Post-writing= 22.2%; n= 2 (items: 45, 36)	Post-writing= 15.4%; n= 2 (items: 36, 38)

[1] (n) refers to the number of items

As can be seen in the index of agreement, students in both classes reported having the most negative use in while-writing strategies, and then post-writing. Their pre-writing strategies were used less negatively than the other strategies. However, the ESP students used pre-writing strategies more negatively than EAP students. The EAP students used post-writing strategies more negatively than the ESP students. The two EAP students negatively used the prewriting strategy of using a checklist to organize the writing. In

their while-writing strategies, they indicated appropriating the following strategies negatively:

- Writing the introduction first;
- Editing while writing;
- Constantly rereading while writing; and
- Being conscious of the topic sentence while writing.

For their revising or post-writing strategies, the two EAP students showed a negative use of the strategies of: outlining gaps in the first draft, and revising the first draft for grammar and vocabulary.

For the two ESP students, their pre-writing strategies that were used negatively were: thinking through and defining the conclusion, and spending time putting off the starting point before writing. The ESP students reported using six strategies negatively while writing, which were:

- Free-writing about the topic;
- Writing the introduction first;
- Editing while writing;
- Having the conclusion in mind while writing;
- Constantly rereading while writing; and
- Being conscious of the topic sentence while writing.

The two ESP students also reported using two strategies negatively after writing, which were: revising the first draft for grammar and vocabulary, and thinking most of the work was done after the first draft.

As Section One highlighted the results of the inventories and discussed the findings, the following Section Two reports and discusses the results of the interviews with the EAP and ESP teachers and students.

5.2. Section Two: Results and Discussion from the Interviews

The qualitative analysis of the data using analytic induction revealed some themes in relation to the students' learning and their use of some strategies and the teachers' beliefs, assumptions, and knowledge in their instructional mediation. Themes that emerged from the interview analyses concerned the following issues:

1. students' learning experiences and background;
2. students' perceived proficiency;
3. teaching goals and students' learning goals;
4. students' learning expectations from the ESL course;
5. students' and teachers' perceptions of the ESL course content and materials;
6. other regular courses requirements, and relevance of ESL courses to them;
7. reading strategies;
8. word-attack and vocabulary strategies;
9. writing strategies, writing requirements in the ESP students' engineering disciplinary areas, and post-writing strategies;
10. course assessment, motivation, sense of progress, and role of the teacher;
11. students' and teachers' perceptions of classroom organization;
12. students' language practice outside of class;
13. transfer or interference from first language into their regular courses or ESL courses;
14. teachers' perceptions of implicit and explicit strategy instruction;
15. teachers' preference between teaching EAP or ESP courses; and
16. course design issues.

This section reports on some themes that were found in the data contrasting the four students from the two courses and the teachers' accounts of the two courses. The data presented comes from the approximately one hour semi-structured interviews with students (See Appendix K) and teachers (See Appendix H); and a follow-up interview questions emailed to the ESP teacher whose time did not allow her to complete the interview questions.

The first question in the interviews with students was intended to elicit a profile of their biographical information including their age; gender; years of formal and informal study of English; and perceived proficiency in the English language skills. Some of this

information is not reported in this section because it was already presented in the previous sections. See methodology section on the students' biographical information in Table (2).

Theme One: Students' Learning experience and background

The Arabic ESP student started learning English formally by taking English as a subject since grade one in an Arabic-medium school in Kuwait. It was all "basic stuff" until grade seven or eight when "it got into great detailed grammar." Starting from an early age has affected his pronunciation and fluency positively, as I could notice his almost native-like accent. So we can say that his speaking is excellent. He did not have work experience related to engineering, but the choice of his major of study was made because of his dad, who was an engineer, so he wanted to "follow steps." He came to Canada to do his undergraduate study in engineering in 2003. Although he did not go through the intensive English language courses, he started with the first EAP course at the language school at his university by passing the language proficiency test called the CAEL. Because it was his first term at university in a foreign country on his own, he didn't pass the course. However, after doing the CAEL again, he got into the next EAP level, which he passed and at the time of the study, he was taking the last ESL course, the present ESP course.

The Chinese ESP student started learning English at school when he was 15 years old in grade 6 of senior school, which involved "just simple words like I, and... it, apple...." In middle school, he "learned grammar but just to use (in) tests, not formal." In high school, it was "more formal," focusing on grammar, which he said he did not like. He had an interesting experience with computers as he used to build computers with his

friends for fun and because the computer parts were cheap in China. He also worked in a public electronics store for almost two to five days per week in China, but due to competition from software engineering students, his chances to continue working there were limited. Such experience gave him background knowledge for his major of study. Also he had the experience of working in a community of his friends, producing computers, in addition to his work in an electronics shop. However, about the use of English in China, he said that the English language is needed in a few public domains and situations such as tourists' attractions and coffee-shops but as he said, "most Chinese at work do not need English." So he came from a cultural background that did not require English in most of its public and job market domains.

The Chinese ESP student complained that the Chinese students struggled to get into university from high school in China because of the large population and students' competition for a better future. In the following excerpt, he presented how Chinese students work so hard in their high school to get to university due to the fact that university admissions depend on high grades. He says:

> ... Because the population is large, we got lots of students. If you do not study hard, you go to the worst university that will be terrible for your future.

After finishing high school in China, he did almost a year of a tour-guiding specialization in a Chinese university. He considered this field of study interesting stating that

> it's interesting because it's easy. You just need to know the places in China and know some famous city ... Sometime you need to learn some English... If you want to work for some foreign corporation company..., you will need the English but if you just want to work in China, you don't need to learn too much English. You just need the name of the place and you know how to introduce the places...

However, he left this major after almost 1 year and came to Canada because of his parents' wish. His varied interests eased him into taking software engineering as a specialization. He explained his choice of his major by saying:

> My parents want me to study here so I truly don't care what major to study so no matter, a tour guide or software or design or architecture because I like all of them so I don't care what major is ...

After that he studied in high school pre-university in Canada to be able to apply for an undergraduate program in a Canadian university. He spent 1 year in grade 12 only because, as he said, his high school and one year university in China gave him 30 credits to allow him to be admitted to his present university. When he entered university in Canada, he first took the first EAP course. After passing the CAEL Test, he moved to his present ESP course. Besides the ESP course, the Chinese ESP student was taking chemistry and calculus as two regular courses at the time of the study.

The Chinese ESP student chose his major of study following his parents' wish. He chose software engineering in particular, which also met his interest in computers. At this point in our interview, this student turned his expert's eye to looking into my problem with my laptop. Interest and enjoyment in dealing with computers seemed to play a role in his acceptance of his parents' choice of software engineering as his major of study. It should be noted that although it is his parents' choice, he has experienced building computers with his friends back in China. The population in China and the increasing demand and competitiveness in the job market contributed to his awareness that he had to work for his future and be distinctive in his higher education so that he had better employment opportunities.

When asked about the role of the English language in dealing with computers, he commented by saying that the language is essential in problem-solving and getting things done. And he went on talking about how to rid my laptop of viruses. For his own use, the operating system in his laptop was in English but he had some applications installed in Chinese. Also he could change the characters on the screen whenever he wanted. He

asserted that English could help him solve some computer problems whether for academic work or just for entertainment and play.

The Chinese EAP student started learning English when he was 13 and continued in high school learning English as a subject with little speaking practice until he entered university in 2003. He started taking intensive courses at the third level in the intensive English program, after which he did the CAEL and moved into the first EAP credit course. He was taking the last EAP course at the time of the study, but reported having GPA problems in his major of study, mass communication. At the time of the study, there was a possibility of being expelled from university if he did not meet the requirements of his field of study. Therefore, he might change to another faculty and then come back to mass communication next year as he was quite interested in this disciplinary area of study.

When it comes to the Arabic EAP student, she learned English since she was a child for almost 20 years in school. She learned English in grades one and two in Egypt and then from the 3rd grade to high school in Kuwait. She commented that her liking to learn the English language should be attributed to her brother's learning experience in an English-medium school, which developed his speaking ability and gave her the "motive to learn English more." After high school, she came to Canada and started studying English at university from the fourth level of intensive English to the present last ESL course. Her failure to adhere to academic writing was revealed in the CAEL test results, which she had to repeat as a result of her test anxiety or getting "like shocked." Success was indicated to her by her grades and comparing them to her high grades of As and A+s

in English back home. She said she had had a bad experience with writing that affected her overall progress or success.

Theme Two: Students' Perceived Proficiency

The following Table (19) illustrates the 4 students' perceptions of their proficiency in writing, speaking, reading, and listening.

Table 19: Students' Perceptions of Their Proficiency

Students	Writing	Speaking	Reading	Listening
Arabic EAP Student	Good	Good	Good	Excellent
Chinese EAP Student	Fair	Fair	Good	Excellent
Chinese ESP Student	Good	Good	Good	Fair
Arabic ESP Student	Fair	Excellent	Excellent	Good

The Arabic ESP student perceived his reading and speaking skills as excellent. He complained of his writing as he thought it was only fair in terms of proficiency because he didn't like writing. He deemed his listening proficiency to be good because in a dialogue with people sometimes, he would follow them, but sometimes there would be communication breakdowns. Then he would ask people to explain what they meant. He linked comprehension to his listening proficiency, arguing that in his perception, to be competent in listening was to be able to comprehend spoken language through negotiation with others. His social personality enabled him to solve communication breakdowns when he did not understand the speakers.

When it came to proficiency, as stated by the Arabic ESP student, he expected to be placed in a level higher to study English when he started at university. In fact, he was not expecting to be taking English courses here at all because he had a high vision of his

proficiency, which he mainly attributed to his speaking skill. He neglected the need for context-specific academic success skills other than speaking. He even regretted not having listened to his dad to do the TOEFL and was "shocked" by the CAEL test. This was evident in his perception of his proficiency, as he said:

> ... A lot of time I will talking to somebody here... They ask me, which courses are you taking? I say the English course, they look at me and say you are kidding... No I am not... and they say you speak English better than I do. But I have to take the English courses.

When the Arabic EAP student was asked about her speaking proficiency, she said that it was good, but she was able to talk well in English in-class more than when talking with native speakers, as she contended:

> ... Like when I speak in class, I feel like I am able to talk. But when I am talking with a native speaker or I feel like the words go from my mind and I keep reacting not talking.

She lost her confidence in herself to speak English in front of native speakers of English although she knew that she had the ability to talk to others, who were mostly ESL non-native students like herself.

When it came to her reading proficiency, she commented that it was in progress or "getting better" but not excellent. Her writing was also good. Her listening skill was excellent, she asserted, because of her constant practice in listening as in watching TV.

About his proficiency, the Chinese EAP student said:

> I generally agree with the evaluation of my proficiencies. For the speaking mostly fair I guess or generally ok.

His "reading is good. His "writing is kind of flowing... Sometimes goes up and sometimes down" depending on what subject he is doing, but generally "fair." However, his "listening is excellent" as he believed due to his independent listening practice especially listening to English music.

Overall, I determined that the Arabic ESP and the Chinese EAP students were more fluent than the other two interviewed students. Students' perceptions of their proficiencies were coupled with their opinions about their practice efforts related to listening, speaking, reading, and writing. The more students reported using the language, the more they thought their proficiency in that particular skill improved. Students were found to have had a bad experience with placement tests before starting their ESL instruction, which influenced their attitudes towards ESL courses, seeing them as obstacles in their path to academic study.

Theme Three: The Present ESL Course (EAP and ESP) Goals and Focus

The Arabic ESP student's immediate goal in taking the present ESP course was to "get rid of English" courses as he thought he should not have been doing all of these courses because his English was good. His attitude towards the ESP course reflected the learning in this class compared to his former two EAP courses that he took in the language school at university. He commented:

> To be honest, this is the first course that I feel it's helping me like I am actually learning stuff. In [the first EAP course], what I was doing most of the work, I was doing was basically look stuff. I am repeating everything... I was always looking for essays, writing essays down. In engineering, we don't write that much essays. We write reports, memos. That's what I am doing in this class. That's why I like this class. I don't feel bored in the class. I don't feel that we are repeating things over and over. For the [the first EAP course], I thought we were repeating stuff ... maybe that's why we were bored in the class. So every time we go, we do the same thing but this class is really nice. I like it. It's like the other course that's called ... (the communications course?) yeah and this is probably an introductory for it so it will give us an idea about what that course will be talking about but this course I am really enjoying the course. The teacher is nice. Every day I am learning new stuff about how to write reports how to write memos. It's really nice. Actually in this course, I feel that we are doing something. I feel that I am doing something. Every single day, we go to class. There is something new that we are learning. There is something new that we are doing... (and it's for engineering?) Yeah the teacher told us from the 1st day. Don't think it's like any other ESL courses that you were taking. It is pure engineering what we will be doing, We will be dealing with engineering. That's why I am liking the course.

Engineering does not require writing many essays but mostly reports and memos, thus he sensed that the ESP course addressed his need of skills to function well in academic study. He liked the ESP class because of the constantly novel and interesting materials the teacher brought to class and their relevance to his specialization, engineering. On the other hand, he disliked the former EAP courses especially the first course that he took at the beginning because they were repetitive and irrelevant to engineering. Mainly his goal in taking this ESP course was to get into academic study as soon as possible. However, he also wanted to be prepared for an upcoming course in communications for engineering students and to be focused on his engineering major, communication engineering. His inclination for new materials and activities in class was probably due to his learning style. His goals for taking the ESP course were merely academic and professional in a sense although the ESP course was also a required course.

The Chinese ESP student linked his goals for learning English and taking the ESL courses to his experience. He also related his goals to his reason for coming here to Canada by saying that his parents wanted him to study in a Canadian university in English and because the population pressure in China forces people to look for a better education to deal with their competitive job market.

> ... Because my parents expect me to study... at university here and I came ...into university to study English, study my major. Then I want to complete the university. Then try to find a job here and work 1 or 2 years to have enough experience. Then I could go back to China... It could be, I find a job easier, you know, the population in China [is] large so people always feel hard to find a good job so I have to work hard here to just work for my future...

Besides, having a varied interest, the Chinese ESP student found himself able to adapt to anything interesting to him and did not mind having to learn anything, whether it was music, cars, etc. as long as it was within his interests.

The Arabic EAP student aimed to improve her lexicon and communications skills in speaking and writing, putting more significance on speaking. So, she said that her goals for learning English were:

> Knowing a lot of vocabulary so I will be able to express myself well like sound not sound like in my voice but sound or speak like a native speaker having no difficulty speaking or using the language especially in speaking because the most thing that people see and also yeah for sure I have to improve my writing skills.

The Chinese EAP student's goals for learning English were to complete the university study and to learn from being in a western culture as he said:

> Basically I would like to study at the university, the first attempt and secondly I would like to experience some western culture. That is potentially I have had for those 2 purposes.

Like the other Chinese student, the Chinese EAP student argued that he might use English on the job in the future but he might not do so if he moves back to China, which reduces the chances of his use of English in his professional life.

> ... I will use the English language for a job or for future uses but I don't think I will kind of ... when I finish university here, I might go back to China.

Theme Four: Learning expectations from the present ESL course (EAP or ESP)

When asked about their learning expectations from the current ESL course they were taking, the students varied in their responses. The Arabic ESP student contended that he would be learning a lot of things in the course and he could see the realization of some learning in the tasks of writing reports and memos, as he asserted:

> ... I will be learning a lot of stuff but so far I am learning how to write reports and memos. Whenever I have something in front of me, how to create something out of it, how to use it... To be specific what I am going to learn from this course, I really can't tell but I know for sure I will [be] learning a lot of stuff.

The Chinese ESP student connected his learning expectations with that of the teacher. He was aware that these were skills that would ease his academic

experience in the long-run, as in writing reports and summaries. He stated what he expected from the course by saying:

> ... I think what [my teacher] is trying to tell us the most useful stuff or skills that can help me to continue my future studies ... We have already used some useful skills to write a report, to write a summary... But now I am not taking first year courses, some courses are simple. You don't need to do some projects or something but I think in the future I will use such skills.

For her learning expectations from the EAP course, the Arabic EAP student put a heavy load on the teacher in determining what to learn that was reflected in the materials provided, as she commented:

> [What to learn from the EAP course] depends on the teacher like in [the first EAP course] I read a lot of things, in [the second EAP course] not that too much. In [the present EAP course] I think it depends on the teacher for the materials that she gave to us... like in [the first EAP course] I learned how to read, write, how to paraphrase. She gave us rules and asked us to follow it and to do it and she marked us. Like there is always feedback but for [the second EAP course] she is good but she always like I can't. I have to ask her the questions 5 times to answer me. She wants me to depend on myself more. Like for me I am in class that's why I am asking for help from her.

The Arabic EAP student seemed to be influenced by her previous experience in the ESL classes and she related learning in the course to the amount of guidance and feedback she could receive from the teacher. She was resistant to independence in learning and argued that she was always asking her teacher questions because she was there to obtain from the teacher what she needed. In a sense, learning expectations for the Arabic EAP student were linked to her acceptance of the course materials and the teacher's amount of guidance.

The Chinese EAP student expected to be practicing essay writing more and doing the major research assignment to prepare him for his academic study, as could be noticed in what he said:

> ... I think [the present EAP course] is more based on the essay writing, the report on writing some kind of long way or high way assignment writing. Big pages and that's what I am looking for because I am doing something in the regular courses for about a semester and I didn't do any kind of big assignments during this kind of period so maybe

> by the end of [the present EAP course], I will be doing probably more focus on the big assignment.

He believed that the course was aimed mainly to prepare for the academic study, which he needed, as he said:

> I think generally it's kind of getting ready for the university study especially for the writing. There are many kinds of writing e.g., the research projects, the proposal..., how to do research, and how to write answers, it was kind of everything at the university.

Compared to the previous EAP courses, the present EAP course was concerned with university major assignments, through making use of the technical and detailed explicit instruction on academic skills that was taken earlier. The Chinese EAP student expressed this well in the light of the kinds of content and writing tasks in the three EAP courses including the present EAP course. The content in the present course had quenched his thirst for knowledge on cultures, as he described:

> For the last semesters for the [the first EAP credit course], it's kind of the teacher doesn't talk about the differences between cultures too much. Sometimes just gives a kind of directions of how to write things, how to do the university writing, how to do research, mostly technical things, but with the current materials, we talk about high context and low context culture. It's quite interesting to me because I can see the differences between low context and high context culture. (It's more meaningful?) Yeah it is. I can see why something can be understood by a Chinese students or instructor or fellow but can not be understood by Canadians. That's why I find it interesting but in [the second EAP credit course], we don't do that kind of thing we just did the ... technical things .... I think [the first EAP credit course] is more focused on how to do research, finding relevant information, and how to use them and paraphrase them. The [first EAP credit course] is more like the technical things to do always with the writing and every kind of writing analysis especially the analysis paper and the [present EAP course] is generally always the university assignments.

The EAP teacher also commented that the goals of the EAP course were to mainly enable students to function well at university as she said:

> Generally they should be prepared to function successfully at [this university] ... in any courses that they take .... But they should be able to perform in English. They should be able to write tests .... Know how to use books, how to use others' sources, how to ask questions. They should be able to go ask profs questions, they never do that because they are too shy... They had 20 years of training when you don't ask questions... Just accept what you have been told... It's a big barrier to allow yourself to ask a proper question ... The idea is they function and they function successfully to the best of their ability.

Although analytical thinking skills involving questioning were aimed for in the course, the EAP teacher expressed her concern about the Chinese students whose Confucian model created cultural differences, which might requires up to five or seven years to be fully acculturated into the academic and social western models of education. She said that

> Analytical skills.... we do this... It's such culturally loaded term, analytical thinking skills because when we have students from Asia and we have many Asian students particularly Chinese, the Confucian model of teaching is very different and Socratic than our tradition... In Western tradition, you question things and you are supposed to learn for the sake of learning and acquire knowledge and in Confucian tradition, you are supposed to work hard on what you have been told ... and the questioning comes later down the road, whereas here in kindergarten, children are encouraged to question, so for our students to question anything written,... that's difficult.. They think they should first learn it and then later down the road they will question it. So very different models of ... education. So this analytic skill I think we teach them but I am sure it will take them years to switch their minds towards allowing themselves to question what their prof says, what the book says and what the website says or whatever. It probably takes longer...This is written by this famous professor, why should I criticize it? ... why do we read it if we are supposed to question it? The same thing with academic English, it takes 5 to 7 years ... Maybe when they finish with [this university], they will be academically fluent ...

As such cultural differences were faced in the process of acculturating students into the demands of the new educational system, a major goal in the EAP course became to develop their learning tools as in academic skills, which were "language skills ... i.e. how to speak, write, understand academic texts, speak academically ... presentations, ... organize information academically, proper language, and also how to write academically." It takes "five to seven years, that's what the research says...." Therefore, the teacher realized how the students' cultures might interfere with their achievement of goals related to analytic and academic skills such as questioning in the Canadian context.

Theme Five: Students' perception of the course content and materials

Regarding the course content and materials used in class, the students revealed some issues related to their level of interest, relevance to their major study, and language difficulty.

The Arabic ESP student perceived the materials to be relevant to his academic life and what he will soon be doing in his engineering profession. However, he indicated that the authenticity of the videos used in class and the speakers' level of expertise made the material difficult. Nevertheless, he stated that as long as he understood the context, he did not have to jot down notes of every single thing from the video. His opinion of the value and lack of necessity of taking notes maybe a matter of a learning style more than a strategy that he had to apply as prescribed by the teacher because he rejected having to take notes all the time.

> ... One of the videos we saw was about 3 companies and they were talking about something... I didn't take any notes. I just listened to the video. I had the main ideas and then took some keywords ... and that was a part of a midterm. Everybody has his notes next to him. My friend looks at me and says where are your notes? ... I understood the video so... if I understand something, I don't really have to go back to my key words, to my notes that I have... Even in [the second EAP course], we used to have this. She used to tell us to sit down and give us some materials and she is like take notes for it... If I understand the context that I have, I don't need any notes. Sometimes, I used to take notes so that I am doing it actually somewhat but most likely I won't take notes... If I understand the context, my notes are in my mind. But if I don't understand something, I go with detailed notes. It's just key words. If I miss something, the keywords will remind me of the whole thing...

When there was a comprehension breakdown or difficulty in reading materials, he said:

> for this class..., if I have difficulty in the article we read, either I go and search about this specific topic on the internet or I just go to [my teacher] in her office hours. I discuss with her about the material.

Extra work on his part, such as by searching about the topics in hand on the Internet and by referring to the teacher in her office hours; enabled him to tackle the difficulty he might face in the readings especially if they were to be the basis of another assignment.

His passion for interesting engineering topics their teacher brought to class, even in the midterm, showed how relevance to his interest and major had made him keen to know more. He asserted that he could bring in topics and materials in his particular major

of study, communications engineering, through researching about it and sharing knowledge with the class. He said:

> ...Sometimes we have to do research about a certain [topic]... For me right now I have to bring an article about what's close to my major communications engineering and I have to make copies out of it for my group that we have in class...and then we have to write a short summary or a short presentation about what's the article is talking about ... and the research we do is relevant to engineering.

Overall, the ESP course dealt with a variety of engineering topics and content. As the Arabic ESP student declared, "it doesn't lead towards any specific major of engineering. It's just talking about engineering in general. It doesn't go into one specific major" because there are students from "all kinds of engineering" in his class. He asserted that it was easier for him to deal with topics that were closer to his sub-discipline although "the first three engineering courses are all the same for all students." He said:

> ...If the article we are dealing with is close to the major that we are studying, we will find it easier than other topics that are not that relevant much or close to our major...

The Chinese ESP student also talked about the content in the ESP course and how it was general engineering but could be focused on software engineering, his specialization e.g. by having to choose from a collection of readings provided by the teacher, as he said:

> The topics [are] related to our major because [our teacher] wants us to practice our skills ... which relate to our major so... she finds different kinds of readings which relate to different majors and she let us to pick up the favorite one from the readings... Sometimes I choose readings which relate to software but sometimes it's hard to understand something... I am interested in cars, something like related to cars, something related to engines. I think that's funny and easy to understand how it works.

His varied interest was also evident here as he liked to learn about cars. The level of difficulty of the topics in the readings evidently mattered to him as well.

The Arabic EAP student talked about the topic and activities they did in their EAP class and how she had a positive attitude towards the course theme and the associated activities in reading, writing, and speaking, as she commented:

> From the beginning of the course, we are discussing the culture and communication. I like her way of using things... She asks us to read, summarize, speak about what we read and I think this is so good.

Although she said that this EAP class was more oriented towards psychology in its thematic focus, she was interested in the field of psychology itself.

> I think it helps me in language in general not only in my specialization. I think it will be good for psychology students because it's more related to psychology. [But] I love psychology.

In the EAP class, the teacher brought in audio lectures on the topic as well, the purpose of which the Chinese EAP student thought was for "just the knowledge of something, explore knowledge" and "doing a kind of an analysis paper for high context culture and low context culture." He considered the types of tasks and activities they did with the course materials as the content and purpose of the course. He argued that doing such an analysis was academic and he was "trained" to do it since the first credit EAP course as he said:

> We used to do these things in [the first credit EAP course] and [the present EAP course] trained me how to do this step by step and what's gonna look like academic writing, what is APA referencing? Something like that things have been listed at that time. In [the present EAP course], kind of writing more.

From this student's accounts, it was indicated that the course content and materials had been shaped by its theme, cross-cultural communications. Content was the springboard for class activities and achievement of the objectives. From the Chinese EAP student's point of view, the current EAP course had been prepared for by the former ESL courses by the development of analytic skills, referencing, and research skills.

If we turn to the ESP course, the ESP teacher in describing the nature of the ESP course said:

> ... We have been all over. The umbrella concept for the course is design. We started what is engineering about? What is engineering writing about? Why is it important? We talk about texts and genres. We talk about the strategies for accessing information and writing summaries about it. They get into design projects. They get input about the different

> kinds of designs, concepts of modeling, and then we could do any kinds of topics, conductors, robotics, nano technology, Cad Cams recently it was in the midterm, aviation, ... design, aircraft, whatever, cars...[etc.]

As she explained, it involved regular EAP strategies but within the framework of engineering-focused input as could be seen in the course main theme, design, and its topics. As the course theme and topics with their content, materials, and activities were the springboard for learning or achievement of objectives, students in the ESP course could focus their learning on their specializations. In materials selection, the students' interests were taken into consideration depending on the associated activities, language level, and the form of texts or videos, as she commented:

> It depends on the students I have got. Sometimes, we talk about software systems. It depends on who they are or if they are interested, I could bring in a variety of videos they were interested in and again do they understand the concepts? We can put it together so we have a lot of different topics. We don't use all of it every year. Sometimes, I allow them free choice. Sometimes, I don't... If I think this particular unit will benefit them because of the activity that is involved or the language level and the multimedia level, it makes more sense to just stick with the topic.

The students did library research as well to familiarize themselves with technical text types, and to analyze the different genres in engineering such as reports, manuals, and the presentation of non-pros data in these genres.

> They also do library research so one of their assignments to find examples of technical texts usually manuals. They analyze their criteria ... It is user-friendly, it is formatted in such a way that is accessible, does it serve the purpose, does it clarify its sections, just sort of analyzing how are the documents and they write a report on that analysis. They can also write a report on the different schematics used in their field and they can do research on how their particular field whether it's civil or software or aerospace or whatever. How it typically presents non-pros data and then write a report on that and use that as part of their own design presentations.

She had them do what she called "the garage door opener" activity, in which they exercised the engineering method in designing, its process, problem-solving nature, and team-work. She explained this activity as an example of "fun stuff" they did in class, as follows:

> We do fun stuff too where we design things using silly stuff, just to get used to the process... Basically we were talking about the engineering method of course which varies from the scientific method. It's not the same at all because engineering solves problems for a purpose. Science analyzes concepts and theories and solves lab experiments and probably usually know what's going on. Just to get them thinking about design and process, I give them like a root goal purpose. When you make one thing connect to the other like in this particular project, they can choose from a variety of things, a sleeping dog, a rabbit, an aquarium, a fish, a hammer, a tack, a gun, whatever, funny little things and they can design to put these things together to such a way that one thing after the other it connects and it has a consequence. The dog wakes up and barks and makes the rabbit run and the rabbit pulling something and makes something else happen. So eventually all of this will open a garage door and it's a very funny thing because they have fun in it and present it in a team. The same components. Everyone has the same and have to come up with a different design because they shuffle the components. They have to present it as a team.

She contended that the benefits of the design process were extended even after the design was completed. When using the engineering method, they did an oral presentation, presented a diagram of the process, and did a report analyzing the process design and evaluating the process of working in a team. She stated this here:

> They do an oral presentation. They have to draw the diagram that relates to the process then in their report they have to do 2 things, they have to analyze what's going on and how is this working. This thing in the design and they have to analyze the process of working in a team to the engineering method, did it work? Did they follow the method and so on? It's a way of getting them introduced to the topic.

She also had students analyze and evaluate design failures asserting the significance of engineering mistakes.

> I usually end the year with design failures because engineering mistakes are also important. There are some interesting videos on that, readings, and they get a case study. Usually something also from an audio tape related to some readings. They have to describe what went wrong and again it's sort of analyzing things and figuring out how processes didn't work or how things didn't work.

A very important component in the ESP course content was the use of videos and audios. The appropriation of such audio and audio-visual materials was aimed at practicing listening. The ESP teacher preferred using videos in-class more than audios because she thought the former more effective.

> ... When they are listening, we do listening practice through video. I do a lot of videos which are more effective I think than audio although I have audio tapes as well talking about engineering topics from something silly like a 5 minutes thing to how much does

> the city weigh and how you analyze it how heavy is the city on the earth and why does the television signal come more slowly to your ear and also when you listen to something on the radio at the same time. Just technical explanations like that short things to full technical videos on complex materials from which they have to draw concepts...

She argued that students found it difficult to plagiarize from videos in ESP, which helped them to actually use the concepts learned from the case studies presented in the videos, as she said:

> ... So on one way it's easier to have them write in the engineering course because they can't really easily plagiarize as them might do in other courses which are heavily text-dependent on the input. What they get from the videos are usually concepts perhaps some case studies but then they have to use that in their own design or their own team project or they have to integrate that with the knowledge they gained from other databases whether they are readings or tables or specifications and draw that together so there is much less an opportunity to plagiarize when you have to go from what you really know that comes from a variety of multimedia input ... rather than reading something or summarizing ... or synthesizing it .. there is nothing wrong with that because we do a lot of synthesis as well but when they do their bigger projects they always get multimedia input and use concept-based to apply it to a different kind of design or a different kind of product...

The Chinese ESP student reported having difficulty in the video activity as he felt he sometimes got lost. His teacher attributed his learning difficulty to his "surface learning", arguing that students did not process information using reading strategies, listening strategies, or note-taking strategies, as she commented:

> Sure they get lost in the content but that's partly because the student isn't applying the basic reading strategies or the basic listening strategies, note-taking strategies (as he said his listening is bad) but they are going to be listening all the time in their engineering courses.... As in many courses now they get a lot of lecture notes downloaded and they don't process it..., they don't listen to process it in their own notes or their own key word forms or have to write a summary on it. They are doing surface learning. it's not gonna stick and I want them to get past that surface stuff so students who say that often find it more challenging because they are not applying the kinds of listening strategies and note-taking that I am trying to force them to learn.

She said that students did not follow instructions because they did not pay attention or they might just have had listening difficulties. However, not paying attention will have bad consequences in their professional life if it continues in their learning performance, as she asserted here:

> I have just handed back a mid-term today and I looked over the commentary that I have written about a similar kind of midterm. It was very similar. Basically they are the same things. They are not following instructions even if I said it was a report, 3 people wrote an essay and even in the class I had said use your own subheadings... not paying attention to such so crucial data but when they are in the workforce and somebody says you need to put KS 55 Steel on that bridge or it's gonna fall down and they don't pay attention, it has consequences more than just getting something wrong in a midterm so it's really part of a matter of youth a matter of maturity, of paying attention to the requirements but also sometimes they have listening difficulties we have to work more on that.

According to the EAP teacher, The EAP course was also a thematic course focusing "on communication, particularly in academic settings in Canada." There was a significant focus on reading and writing in the EAP course. A good example was the research assignment the students did, which should be within the students' interests and their disciplinary study. The EAP teacher explained this as follows:

> ... I would like to expose them to a lot of reading and on the research assignment, I give higher marks for just a little bit higher for reading and for writing itself so the journal is 7 and the essay 6 right so presentation is 2% part of the presentation but I actually ... it involves writing, thinking, which we like to call critical thinking how to evaluate the source from the point of view of writing but they also need to have a glossary...

The allocation of marks to the different components of the research assignment reflected the weight put on the reading and writing cycles or processes arguing that it involved critical thinking in evaluating sources and making glossaries.

In terms of the materials used in class, the use of multimedia in the ESP course depended on videos and audios more than the EAP course that concentrated on readings the most. The EAP teacher used audio lectures sometimes. She contended that perhaps she "should be using it more." However, she said she was planning to use a web-based negotiation system called "Inspire", in which students will be negotiating with real people. They will practice writing in proper polite language in their negotiations, producing negotiation journals, and simultaneously acquiring vocabulary.

Theme Six: Other regular courses and their requirements/relevance of ESL course to them

The students talked about the nature of the other university regular courses they were doing or had already taken in addition to the English language course arguing about their relevance or irrelevance to what they were doing in their respective ESP and EAP courses. At the time of the study, the Arabic ESP student was doing two mathematics courses and a systems course, which is "problem solving. It's C++ the computer language." He argued that the ESP course had not addressed any topics relevant to what he was doing in the other regular courses, arguing that it was more oriented towards physics and chemistry courses. But he anticipated doing so in the future as he said:

> So far ... I didn't get into a topic in English that is relevant to the courses I am taking... probably if I was taking physics or chemistry courses, that will get into it. In the math courses, I am doing a lot of calculations and in the system course a lot of programming in computer. We didn't take that so far. Maybe we will be doing it in the future during this term in English [course].

When asked about his perception of the content in the ESP course, the Chinese ESP student associated the content with the classroom organization that enabled him to know more about the other regular courses in his major study from working with his colleagues in class who had already taken engineering courses in their 2nd year.

> ... I like the content in [the present ESP course] because... it's not hard. Sometimes you should work with your group member ... You take notes or do a presentation together... Actually didn't take deep further software courses so like C++. I haven't taken that so I think that course will be hard so but maybe interesting... My classmates already took that course and they say oh hard crazy.. It drives you crazy ... So that course will bring me some funny things.

He was aware of the kinds of courses he will soon be dealing with in his disciplinary study such as C++ and his more experienced peers in the community of practice formed in the ESP class seemed to keep him informed of the requirements in the later academic study and their difficulty. It was clearly stated by him that the students communicated well in the classroom to learn of each other's academic status and expertise.

> We are in the same group and that group will not be changed. In my group I got 1 software engineering ... I think he is in the 2nd year. The other one is communication or what but he still needs to do take C++. There is ... the computer language course. He took the further courses... He almost finished the 1st year but I am still starting, beginning I will take that later...

As students were grouped according to their respective specializations, they came across topics from their particular majors of study such as software engineering here. The course activities provided a great opportunity for students to get to know their fields of study involving both novices in engineering and those who have already taken some major courses.

The Arabic EAP student was also taking two courses in her major of study, business, at the time of the study, which were accounting and math. The main difficulty she was having was her slow reading and lack of background knowledge in these courses, as in her accounting course. She said:

> ...I think because my English is not that good, the maths one is the one I am able to get high marks in it but the other one which has a lot of talks no it's hard for me...It was accounting. It was. I took it last semester but now so far. There is not any hard courses yet. We are still in the first chapters.

Clearly, her perception of her ability to function well in academic courses was negative. She said that the main difficulty was the language, especially "reading" as she was "slow" in her reading, which was time-consuming. She commented on this problem stating

> I try to concentrate on what I read and I take time so especially if the words in the texts. Yeah following a lot of words. I have to take time to figure out what that means or look into the dictionary.

In order to deal with the problem of slow reading, the Arabic EAP student knew about speed reading and its benefits and had started to use these strategies to help her in her reading, as explained here:

> ...They give us some strategies like when I am reading, I don't have to put my pencil word for word of course also not check the dictionary all the time...Before when I was in intensive, I never ever was able to do the reading without checking every word which I don't know but what she did she gave us a lot of reading. Like I don't like going to class without doing my homework so ... I don't have a lot of time so by force I started to use this strategy then I found it very helpful.

Being given some instructions on speed reading, and the teacher's tendency to give them a lot of reading had forced her to use the strategy to overcome time limitations and do her homework on time. This change referred to learning having taken place by the use of recommended reading strategies. In addition to her slow reading and inability to handle new lexicon in the readings, another language difficulty she was facing in the regular courses was her inability to follow fast speakers. However, she received assistance from her teacher as she has informed her about her learning difficulties. She said:

> ... I always do most of them time ask about what I don't understand like from the accounting course. I am talking about this course a lot because it really killed me. She speaks very fast. I don't understand anything in the lecture but with the thing that makes me more comfortable that after other students r not taking anything with her. Like she is doing things fast but when I go to her, yeah I do understand. Because she talks slowly. I told her. I always tell for my teacher my problem. I am poor in English so like please help me in that... She helped me a lot this accounting teacher. I always tell her my English is not good and she tries really to help me [in her office hours].

Requesting her accounting teacher to speak slowly with her in private in her office hours has made her overcome her learning difficulty in the course. Nevertheless, she might not be able to survive in academia if she requires her teachers to teach to her level. She will have to adapt to task requirements in her regular courses.

The theme of the EAP course, cross-cultural communications, appealed to the Chinese EAP student who would like to do communications as his major of study and was trying to remain in it if his GPA allows him. In a sense, it matched his interest and was relevant to what he will be doing if he transfers to this specialization. The topic itself was carried over from a previous EAP course as he explained:

> ...The general topic we discuss is communication so probably I am interested in that kind of field of study as well and we are doing the research project. It's based on our fields of studies obviously mass communications for me... interesting I used to learn something about that ... In [the first EAP course], our topic was communication, high context and low context cultures at that time. It's the same thing ... (but different readings probably?) it's different... Everything is related to my interest. It did ... [give me more advantage].

The Chinese EAP student was aware of the kinds of readings in academic study, which he was already doing as he said:

> We are generally dealing with kind of first textbooks as the priority because we can... and we do online journals... More things are in the internet and another thing is the library, the books in the library. These 3 major things I have to deal with in order to do a research paper and readings as well.

Regarding the present EAP course, he thought it was useful for him and compared it to the former EAP courses favoring it because of its low explicitness and more autonomy and independence on the part of the students. As he said:

> I think yes [the present EAP course is actually helping me in my specialized study]. It's kind of practical work kind of differ from [the first and second EAP credit course]. It's more practical. The instructor doesn't give too much details about how to do it but you have to figure out how to do it and get it marked ... (it's not explicit as it was in previous courses?) yes... but here it's kind of give you a subject or give you requirements what the expectation is and then you can do it by yourself... and at least the instructor sometimes the structure of that assignment how to do that assignment e.g. where is the name, where is the date and what' information have to be there and how to build in the information.

When it comes to task requirements in other major courses, he thought he needed certain skills to succeed academically in these courses. The following excerpt explained what he needed to do in his mass communication course:

> In general for the mass communication study, the professor provides slides and according to the slides, he gives a 2 hour lecture and go over the slides. Somehow from my personal view this doesn't really relate to the text. The text for that course is kind of expanded reading for that course. Everything, the big chunk in the course is in the slides and with the professor ... I take notes every time and sometimes this takes a lot of time to do. I take the notes. It depends on the slides. The professor often provides the slides the day before the lecture. We download the slides, copy what's in the slides. Sometimes I print out the slides and do some margins or fill out other information about the slides.

Therefore, organizing study from the textbook and the professor's slides by taking notes were issues and skills that needed to be taken into consideration in EAP courses.

Theme Seven: Reading strategies

When it comes to reading strategies, the Arabic ESP student would go back to the context or the reading with a preference for a problem-solving or case-study kind of context that was apparent in some books and TV shows.

> ...There is different kinds of contexts that I have. Basically engineering context that what makes me to move back to read it and ... out of school context that I read and to have it in e.g. it's a book that has a mystery and you solve the mystery e.g. the most show that I like to watch on TV ...a crime investigation show. It's really nice. It shows you a case that you need to find out from the clues and everything. I like to watch this kind of shows and also I like reading these kinds of books...

What the Arabic ESP student said he did when reading was basically skimming by looking into the abstract or introduction of the text and the first sentences in each paragraph, and taking notes of the key points for future reference. He jotted down incomprehensible words and by guessing from context or checking the dictionary, he could retrieve their meanings. In the following excerpt, he described what he would do before, while, and after reading.

> What kind of context is it first, a book, a journal, because if it's a journal, I first go for the abstract to have an idea about what is the whole text talking about. I go and read it right away. I just go and read the whole context. I try to read also the first sentences of each paragraph because they will give me an idea about the paragraphs and then I start reading the context. After that if there are many paragraphs,....I prefer to bring each paragraph and just try to find the main point and write it down in a paper so that if I am ever going back to the context that she gave me, I will have my main points that will tell me basically what each paragraph is talking about in the context. First I skim it... too fast and then I go and start reading it into main details to understand everything in it. If there are any words that I don't understand, I just underline it or highlight. I try to guess the meaning for it. I try to guess and write it down on paper and possibly go back to the dictionary to get the specific meaning for it in order to fit it into the sentence but sometimes by just reading the sentence, I can just get the meaning of the word...

The Arabic ESP student's use of strategies in reading were directed by what he termed "the context," which was the kind or type of texts e.g. a journal article, a book, etc., a genre in a sense.

When presented their repertoires of low and high use in strategies from their questionnaire results, the students commented on some strategies and explained their

vision of these strategies and the reasons behind their low or high use. For instance, the Arabic ESP student had a low use of memory strategies, which he attributed to the lack of necessity to memorize stuff as long as he understood it. The main reason for not memorizing was that he performed better when he did not have to go back to the context or refer to the reading while he was writing an essay or a summary based on it.

> I don't use memorizing that much. Memorizing I use it for specific situation but most of the time, ... I have a context in front of me, in order after reading it, if I understood what the context is talking about, I then I have to write an essay ... I will do better than just if I was memorizing what is it saying. I always go for understanding. I try to read it briefly so many times as much as I can until I get it, the whole idea, the point. I understand it very good and then whatever if I have to write a summary about it, I just write it from my understanding ... but if I just memorized it that will make it most likely I will be writing the same thing. I will be summarizing it but I will be going back to the context more often looking at words try to paraphrase most of the sentences but if I understand it, I just write it from my own and it will basically be the same one but it will be in my own words without even the need to go back and check it in the context (because you understand it?) yeah that's why.

This revealed how an input-rich context could help students comprehend its features and respond to relevant tasks more smoothly without having to use memory strategies.

Before reading an article, the Chinese ESP student applied some strategies of skimming to help him understand the reading as he said:

> [I] read the title and subtitle and try some articles come with a picture or a graph... I quickly go through it just like read the topic sentence or come with other 2 or 3 sentences then go to next paragraph. Most of the time I read the last paragraph... because it's a conclusion. It include[s] all the content of the whole [article]... I think that can really help me understand the whole article.

So both ESP students used skimming skills as a pre-reading strategy as they both read the headings, subheadings, graphs, pictures, first sentences in the paragraphs and the conclusion.

Taking an example reading activity, the Chinese ESP student accounted for the kinds of strategies he used in reading. The reading activity involved taking notes, sharing them with others, and summary writing as he stated in the following excerpt:

> The reading if we picked up from her stuff [is for] ... individual study, but she let us to find readings by ourselves. That's our group work... So each person they will find a kind of reading and relate it to the major which in our group. Each time we use one of these readings to do a summary writing ... Discuss fluency exercises. It's not bad, [i.e.] this group because we could communicate with our group member, discuss the notes, understand ... What happened to you major or the latest news related to your major. We introduce this to another group, one member from another group and we exchange opinions to each other. I think that's good... We share the notes... First we should understand the article and then write our own notes and share with other[s] in the same group to make sure we got the same notes ... Before the summary writing, each one of us will go to another group, find another person and I introduce my article to them and they will introduce their article to me.

His engagement in reading an article was influenced by the fact that he needed to take notes and let others understand his article in a knowledge sharing exercise that helped them in their communication skills. Being a member of the discourse community formed by the group he participated in appealed to him because it provided him with a purpose and developed his interest in reading the articles. In addition, he was responsible for making himself comprehensible to the group members and vise versa. However, he complained of the difficulty in understanding other students because their majors were different, a problem which could be solved by exchanging notes and reading summaries in the jigsaw reading.

> Most of the time I understand [my group members], but sometimes I don't understand because different major has a different stuff so sometimes it's hard to understand like aeroplane engineering... It's hard to understand them but it's fine. Sometimes they let us see their notes or their single summary and then we understand them.

So grouping students according to their majors of study could assist them to understand the readings well by socially constructing knowledge in their specific fields. The students were also exposed to varieties in engineering readings by doing the jigsaw reading activity to exchange information with the other sub-disciplines within engineering itself.

When it comes to the ESP teacher' repertoire of reading strategies that she encouraged in her class, she contended that "a lot of them is just the same as the EAP strategies, the usual top-down and bottom-up of headings, ... figures, ... tables, ...

chapters, ... chapter headings or section headings, [and] captions under pictures...," etc. Prediction was also a useful strategy, which she made them use by giving them the first and last paragraphs and first sentences because "having them think intelligently how the data is directed by the writer is important. The first sentence predicting activity is useful because they don't have to give the details of what that paragraph is going to be about but predict the direction of the content, is it likely to be about this or about that ...". When they read, they should not get "stuck on every word." When encountering a new word that reappears, they can "figure out its part of speech first and put it in the context" and before they "go to a dictionary, always it's more helpful to go to a person because a person will put in into a context. A dictionary doesn't always do that...." Although she encourages the use of "monolingual English-English" dictionaries, she discourages "translating dictionaries in the classroom because they become dependent on them." She also discouraged the use of machine translation using iPods, Palm Pilots and the like because they are "usually very poor... especially when it comes to technical materials. A machine translation doesn't necessarily know all the connotations ... of the technical information." They "have to understand the full context so that doesn't help either."

They also did discourse analysis in which they analyzed the relationships between verbs and nouns in a paragraph because as she thought, they "get lost in the little things. Sometimes they see it, they think they know what it means, but they don't always connect it to the right [reference or word]." In addition, they did note-taking on the readings and a speaking exercise in-class as she described here:

> ... We do note-taking.... Once you understood the whole thing, go back and see if you can just see key words out of the paragraph in the margin and just using these key words talk it out load see what do you need to draw out of the paragraph to add to what you are saying to make it comprehensible and that helps them to understand that they have the

> key ideas maybe an example they need supporting idea so that helps them obviously when they note it down. Talking it through is useful.

Therefore, the students in the ESP class used a set of reading strategies, considering them just like EAP strategies, which were: prediction by the use of first sentences in the paragraphs and looking into headings and graphs; figuring out the meanings of words from a person and then the dictionary because of the contextual factor easily attained from socially interacting with people but discouraging machine translation again because of the context issue; applying some discourse analysis to understand the text including its morphology and syntactic relations; and adding a purpose to the reading that would include note-taking and talking it over using the key words noted down while reading to show one's comprehension.

For reading strategies, the Arabic EAP student described a reading activity in which they did a jigsaw in class. In this activity, there was a social interaction and an assessment component in which students assessed or marked each other and formulated something similar to test questions by identifying the main ideas in the reading and asking their partners about them. In the reading strategy of prediction, she didn't use prediction before reading as she commented in the following dialogue:

> ... When I speak with someone who is involved in English or a teacher, they are always saying prediction but until now I can't see the benefit of it... Well it's not of course wasting of time but for me I think I have to start quickly ...
> I: actually not everybody does it in every single situation but sometimes it helps in brining in your background knowledge.
> S: but I don't have background knowledge.

Part of her lack of the use of prediction before reading was associated with her belief that she did not need to do it and part of it was that she had to start the reading quickly because of the reading load. In addition, she had some post-reading strategies in her regular courses as she contended:

> It depends on the course like when I am reading, I put lines and highlight things and then I go back to read it and memorize it and understand it but the thing is that I don't like that I do is like I am in the first chapter and the teacher is e.g. in the third. I have to read all of that like I spend my time for reading not for going back and understand it which is not good. The other thing sometimes when I am walking I read like 3, 4 pages, then I am going back home. In my way, I read and think oh yeah that's interesting just thinking about it in my mind.

Time-management seemed to be an issue in her reading problems. Being a slow reader and at the same time having many readings to do made it difficult for her to go back to understand the text. Such constraints were causing her to lag behind in terms of her reading assignments for her major study.

The Chinese EAP student did not read much in English due to the difficulty and complexity of the English language in the readings, which he attributed to his incomprehension of the cultural aspect or connotations implied in the readings. He said:

> I don't read in English much. Sometimes it maybe tough. It's difficult to understand whether I understand the content or not. The kind of cultural conflicts impact there (how?) I don't know. Sometimes... I know the meaning of the sentence, the meaning of the content but I can not understand why they do this. Sometimes but not always.

Prior to going into the reading, he employed some strategies to familiarize himself with the content and knowledge presented in the assigned reading as well as predicting what was going to be in the reading itself. His highest use in the reading strategies was actually the pre-reading strategies as found in the IELLS results. So, in his reading, he said he would do the following:

> I usually go to the Internet or some other places to something relevant stories or relevant issues about these things and read them or compare to my previous experience with something. If there is a connection between them and then make a kind of prediction to what the content will be and then after that I can start reading the whole context... I try to find sometimes some difficult terms e.g. some vocabulary or some e.g. in psychology I find some –isms you know like ... behaviorism those kinds of big words and try to find the explanations in both Chinese and English and get the answers and then try to understand the key words and then go back to get the big chunk.... Yeah I do highlight things and then try to explain the keywords ... Generally just find some important things e.g. things that relate to the topic not those just sub-theses [i.e.], not those small things, a general idea or the general statements.

He did not decode to understand the text but rather looked for those words and key terminologies that might hinder his comprehension as they were essential to the content. His use of an English-Chinese dictionary and an English-English dictionary were means to get the meaning regardless of the language. He explained that

> for the reading, I generally scan from the textbook and try to find some key information, the key topics, the key words, underline them and try to take some notes on that and try to get exactly the main idea but I don't read word-by-word...

After reading, he also used some strategies as described below:

> I finish reading things generally. I don't go back to the context or the article again. I don't do those kinds of things. I try to figure out if the things can be applying to the real world or not e.g. I try to find something that explains it based on the knowledge or the information that I have observed from the text e.g. in mass communication, we talked about digitalization, different medias. I used the internet a lot ... and I tried to find some interesting issues about the internet based on the textbook and tried to explain it why this happened, what the causes.

Thus, application of the knowledge gained from the readings was a way to benefit from the readings after he finished reading. The level of difficulty in the assigned readings in the EAP class seemed to him reasonable because of his background knowledge on the theme gained from his experience with his major study courses, as he explained here:

> I don't feel really kind of puzzled into those texts because I have been reading some of articles, some novels in English in the previous time e.g. in other courses in mass communication because we have lots of work, a lot of readings to do for the mass communication ... and for the psychology. So compared to those kinds of texts, the material in [the present EAP course] is probably more easier.

He talked about some reading responses he did for his regular course, mass communications.

> ... I am doing reading responses for the mass communications because the evaluation in mass communication differ from other courses e.g. in psychology I am taking this semester, we don't have any assignments. We don't have ... any discussion like that. We just have 3 exams; a combination of the 3 exams into 100% of the course. That's how they evaluate but for the mass communication, we have to be in groups and the lecture as well. The assignment depends on 3 reading reports. 3 out of 7 in this semester I think 11 on next semester and we have to do 3 of them and each of them worths 5% of the final course grade and participation grade for the ... group 5% as well, and the exam is another the rest of them.

It seemed that he needed something related to the kinds of tasks and assignments he was doing in his major study, which were mainly reading responses or reports, group discussions, and test preparation and test-taking strategies to enable him to function well in his academic study. This need was clearly defined as a problem in a test situation, as he illustrated:

> Well for the mass communication exams are the most big problem for me because the exam is too specific. It gives 5 definitions. I mean you have to choose 5 definitions out of 10 words or 10 terms, any 5 of them and you define them in particular requirements and 2 essay questions, you have to select out of 4 and other questions you have to generally explain, synthesize and doing critical thinking and making it specific ... For the definitions, it's ok with me but for the essay questions, it's kind of going to be a problem because I read things into too much details e.g. those kinds of key words and somehow I get puzzled ... especially when I am doing some kind of in-class assignments... I say I am doing really bad at that time... I don't know what's wrong with that kind of assignments but if you give those exactly the same questions to me to take home, I will do a better one mostly. More better one.

This being the problem, not applying speed reading strategies and getting stuck with some key words slowed him down and consumed his test time. Although there are no tests in the EAP class, the in-class assignments were troublesome and exam-like to him as were essay questions in his regular courses. About the lack of dictionary use in examinations or in-class assignments, he said he would not rely on it.

> ... I don't have a dictionary usually but I have a kind of devise, a dictionary in my computer ... Really I don't use it much. I don't' use the dictionary all the time ...

However, he attributed his low performance during exams to the time factor as he explained:

> Maybe it depends on the time ... and another reason I guess is in the class and the purpose for me to do this assignment is get the mark. At home the purpose for me is interest... That's the differences.

This seemed to be such a reflective and a well-thought out analysis of the reasons behind his problems in exams and in-class assignments. The student here expressed his opinion that the purpose or exigency for writing in these testing situations was getting a mark

more than a motive aroused by interest. So, more attention could be paid to time-management techniques and test-taking strategies in the EAP class, showing students how to answer short essay questions within a time limit.

The EAP teacher described the kinds of reading strategies in the EAP course highlighting the importance and benefits of predicting, scanning, and skimming in the readings. She asked students to bring in their research questions for the research assignment in order to give them feedback on the focus of their inquiry. She also asked them to evaluate readings for their research paper looking into subheadings, skimming, scanning, and predicting. Although prediction was highly recommended by the EAP teacher as a reading strategy, students did not apply it as she said:

> ... I also made a point maybe now you understand why prediction content is important because when you do it on short text never mind but if you go to a website, and you want to find a source, you don't want to print everything out because you don't want to pay billions of dollars... you want to quickly scan it to figure out oh that's a good source... they don't have to be so good but at least you do the first quick scan because the time is short and the readings are long and this is when these strategies like predicting, scanning, skimming even come into play naturally more naturally when they are exposed to these readings... 90% of them don't listen...

Another classroom activity that the EAP teacher did in class involved getting students to read, and prepare 3 test items on the readings. The students exchanged test items and responded to them individually in 10 minutes. They then gave each other feedback on what was missing in their answers to the tests. Each question was worth three points and students worked in pairs and discussed their readings and test item responses using learned vocabulary. The EAP teacher talked about this activity and its purpose as follows:

> .... It was only an exercise. The objective was that they focus on main points and I said you don't have much time, what will you do? ... So the idea is to take first sentences because it is from a textbook ... and turn in to a question and that's how you do it. You take subtitles and turn them into questions. This is how your professors prepare exams, so next time you prepare an exam you should be aware you will questioned on subtitles probably some of the first sentences because they are the main points. It is actually

> looking at the content from the point of the view of the person who teaches it so they see what people do when they test them on content ... They ask me should be multiple choice, I say no it will take us a week because multiple choice [questions are] very difficult to write, very easy to mark ... But this was a combination of reading, evaluation, what was involved in evaluation and of course once they have done it they will have very good knowledge of what was in the text because. This is what how I learn what's in the text that I give them, only when I have worked with them ....

The exercise required students to learn from the texts, read, evaluate, and to know how they were to be tested in their academic study and how their professors formulated test questions.

Theme Eight: Word-Attack Strategies or Vocabulary Strategies

Other than guessing from context and or checking on the dictionary, when encountered with unfamiliar engineering concepts and terminologies that were not available in the dictionary, the Arabic ESP student used social strategies to understand these terms as he asked other senior engineering students and his instructor, as he explained here:

> ... There is a lot of technical words. There is a lot of technical phrases in engineering... If I want it straightforward in the dictionary, I won't find it or a synonym for it. I won't find it... Either go back my prof or ask somebody who is more engineering like if I am more first year, I go and ask a 3rd of a 4th year of my friends and they will tell me what that means or I go to my prof to understand what does it mean ... I don't want to write something that I don't know what does it mean...

When encountering new vocabulary items in his readings, the Chinese ESP student went further than vocabulary meaning search to constant use of these new words in a kind of looping by regularly going back to his notebook as he said:

> If in the test, I can not look at the dictionary to get the meaning. If at home or somewhere else I could look into the dictionary or use a translator to find the meaning. Sometimes if it's hard and I think it's very useful and it's a common word, I write it down but sometimes the word you know different kinds of phrases. You can not remember all, just memorize it at this time and after 2 or 3 days you forget... I write it down in a short paper or a notebook where I can see... I got a glossary notebook at home to write down some vocabulary or phrases because when I speak, I don't like to just remember the word or just remember the dictionary stuff from A to Z. It's boring so I try to remember them like 2, 4 phrases and mostly after a few days go through them 4 days and try to make sentences with them.

His deliberate and regular language use aimed at remembering such words to turn them from passive to active vocabulary. This seemed to be a strongly founded strategy that was enhanced by the belief of the need to contextualize and manipulate language, as he said:

> ...I think that will be easier to remember the single word ... and you try to put them into different situations like you imagine you speak with somebody. You can use this word and you try to use this in sentences and you speak it or you write the sentences. Another day you have to use this. Imagine another situation. I think that will help me a lot.

Such a practice was derived from his interest in some language items and in order for him to enhance his memory and retrieval of the items when needed for real life practice. He asserted his regular use of this strategy:

> I do this not quite more but sometimes if I am interested in these phrases I practice a lot not to forget.

As noted earlier, interest in the readings made him refer back to these readings and not just leave them on the shelf after the class reading activity was over. Looping was also clear in his statement that he used such new vocabulary items in his writing saying that

> Most of the time I forget them but if it's interesting reading and we do a lot of attention on it and keep them and sometimes when ... I have free hours, I look at them. I go through them...Sometimes I use them for writing and I keep some of the readings for writing if it's useful. Sometimes some readings you find from magazines or something [are] sometimes not useful for writing. [They] just tell what happened lately and what's going on with someone, something. So I think it's used as a reference. That's good but with this help do the writing? I don't think so.

Moving from reading to writing seemed to be problematic to him as the information presented in the readings sounded as though it were informative news or references on some topics that might not be that helpful for engineering writing.

The Arabic EAP student also reported on the use of dictionaries in checking the meanings of key words that may hinder comprehension.

> I am not trying to take it in the dictionary. It depends if I can not understand what is the meaning of the sentence with this word, I have to check it.

In order to help students handle new vocabulary items and the high level of the language encountered in authentic real readings, audio, and audio-visual input, the ESP teacher

practiced some strategies as in EAP strategies, discourse analysis, morphology exercises, doing a glossary, and class discussions, as well as the cautious use of dictionaries. As emphasized by the ESP students, comprehending the context was the most important factor rather than decoding the text for the meanings of single language items, as she said:

> We do extensive reading, intensive discourse analysis, general academic reading strategies (skimming, scanning, top-down, bottom-up, etc.), as well as morphology exercises. They keep a glossary (part of their journal work), and we discuss new vocabulary that is technically salient for their assignments. Understanding that dictionaries should not be the first recourse is often a challenge but they need to know how to selectively read new vocabulary and not panic about every single new item. Context comprehension is key.

For vocabulary strategies, the EAP teacher made students do a glossary in which they had to provide definitions of terminologies they found in their readings. In the research assignment, the students received feedback from their teacher on their research questions. They also read, took notes, and showed their information processing following exemplars the teacher provided as her expectation of a good product. As she explained here:

> ... [Take] notes so I use an example. Well these are good notes, so the person was processing information. So they say this is cause and effect so you know this is connected to this... these were good notes and I have many of those ... So I just photocopy and show them this is what I expect... I have to understand them..... I don't look at the language here. I look at the content. Will I use [the reading in the research assignment]? ... How will I use it? Is it relevant or is it not relevant. So this one a very good one. I have many. ... I keep telling them I can't evaluate it without a reading. If I see something that doesn't make sense, I go to the titles. ... It takes me time so I am hoping they have interesting topics...

As the students were required to evaluate the references they looked for and read for their discipline-specific research assignment, their teacher also assessed their evaluation and information processing from comparing their notes with their readings.

The EAP teacher reported that part of her in-class practice and what she encouraged students to do is checking the meanings of vocabulary items by asking her or others in-class, and by using a dictionary at home. She argued that class time did not

allow her much chance to decode long texts. She ascertained that the students should develop "survival strategies" to overcome reading difficulties, as she said:

> I usually say ask in class, use dictionaries at home... Ask me or ask others (but not every single word?) no no no they should understand... no never. They have been long enough here to understand with the amount of reading they have ... Let me show you... The texts are too long ...This is the next unit so if we do it lets say in 1 hour and it's in class..., there is no way to check everything in class. The other one is even longer... They have by making it impossible to check they have to develop survival strategies in fact ...So you have 15 minutes to scan and decide which one is a better [reference for your research assignment]... it seems to be and then you go and read it ... If the thing has 20 pages..., nobody will do it but they will come across the words that they will have to check and they should develop the strategy ..., the survival skill ... Some words they want to understand the text like 75% of it because it's academic...

Related to the choice of what dictionary was best to use for checking vocabulary items, a bilingual or a monolingual dictionary, the EAP teacher recommended "as a rule English-English [dictionary] because they will be operating in English ...." However, she saw "no problem that they go and check in their first language e.g. adjectives." About adjectives, she commented that "adjectives are funny. In some languages they don't have smell. They don't have taste ... Many are related to senses. So does it help to check in the first language? Not necessarily because it's the usage that will be used differently in English. It simply takes time. Sometimes it's better to translate something than not to know at all ...." So her view was to understand the meaning in context whether it was in the first language or the English language. This comprehension of context was a key point in understanding new lexicon using appropriate vocabulary strategies.

Theme Nine: Writing Strategies

Writing is a major skill in EAP and ESP classes. Students varied in their attitudes towards writing and the types of writing they were doing in their ESP or EAP courses.

The Arabic ESP student had a negative attitude towards writing essays because of the influence of experience. On the other hand, he liked the current ESP course for engineering because it focused on the writing requirements in the engineering academia and profession.

> ... In my previous courses in [the past 2 EAP courses], I had a hard time in writing the essays and writing summaries and all that. That's why in [the present ESP course], I just like it because basically it is more engineering, so I just write reports, memos for engineering. They will help you more but for me, writing that was my stress since I started. I don't like writing essays even when I was in high school whenever we had... like sometimes, we had to write what's called a composition in which they give you a title and you have to write about it ... an essay. I didn't like that. I don't like writing that much.

He showed how irrelevant essays and the kinds of writing he was doing in the past two EAP courses were to the nature of writing in his disciplinary study. He acknowledged the benefit of the present ESP course in the following excerpt:

> ... For me, if I didn't take this course, I wouldn't even how [how] the report or memo will be... This course helped me to give me information about how this thing should be.... In the other courses, it's basic on how to write an essay. They showed us the different types of essays, argumentative, comparative... My opinion it is for people who are studying political science or journalist or something because it's more into essays ... but this one is specific for engineering. It's helped me a lot.

His acknowledgment of the relevance of the ESP writing tasks and the irrelevance of the EAP essay writing tasks made it clear that interest in the language course was geared by the student's engagement in what he believed was "helpful" for academic study.

The ESP teacher described the various types of genres handled in her ESP for engineering course. They did "some private personal writing." They also wrote reading journals of an engineering-related online textbook chapter, a journal article, a magazine, and a newspaper. In one example of a classroom activity, the ESP teacher described a text analysis activity that engaged students in analyzing her seven to eight pages course outline, identifying its "structure" and "purpose", but "not the content" even though "it's hard for students to describe structure." They also were exposed to sample manuals of

technical products. They looked into abstracts, summaries, and textbook appendices, identifying "diagrammatic" and "schematic information" or data, and figured out how it "can be utilized in different ways for their writing or just get a handle on what the terminology is...."

The Chinese ESP student described his bad performance in writing an in-class assignment or test and how time mismanagement made him mess up his writing, arguing that he could have written better if allowed more time. He also complained of his slow handwriting and writing without a plan, the latter of which is a writing strategy that probably requires more time on his part. The following dialogue explains his views.

> I: What do you do when you write a report or any writing assignment? Give me an example.
> S: a midterm (laughing). Yeah it's kind of hard, yeah a midterm writing a report a technical report...
> I: Do you confuse it with an essay?
> S: not confuse but sometimes I can not catch the main points or I can not specify my idea... I know how to write and I know the format when I was writing, my mind would be mess. So when I was writing, I was oh I should introduce the design, the new products. I write something but you know the time for the midterm is not enough. I think it's not enough but my handwriting is slow. I write very slow and I didn't make a graph just like to prepare for the writing for the report and I just write what I comes out from my mind (d you mean you didn't plan it?) yeah I didn't plan but later... what I should write, but I write down something just like that but in the article when I was writing I just forgot about it and I was writing what I was thinking.
> I: so was it dependent on the reading?
> S: not all dependent on the reading but sometimes I think we need more time. I need more time maybe. Yeah if I got more time, I will go back to check. If I got a whole idea. If I got enough data, I can make the sentences or make the whole paragraph more clearly... I don't have much time so I quickly finish the conclusion and hand it in.

Being familiar with the genre of technical reports and their format did not help the student organize his thoughts when the exigency was a testing situation. The student attributed his bad performance to the factor of time and the stress under which he performed the writing. So even preparing a plan was a tedious task for such a slow writer. He connected his inability to organize and do better in his writing to how time constrains him from revising his report.

For the Arabic EAP student, she was aware that her writing was not that good. Nevertheless, in her ESL journey, she could identify her writing problems and look for ways to improve them. The major factor in which these courses have helped her is developing her writing skills, which was formerly the reason behind her failure in the CAEL test, as she described:

> I think my writing is too much better than before... The reason I failed the CAEL is because of my writing. The other skills was good ... not as now but I passed in them. And the reason why my writing wasn't that good because I was writing in Arabic style like my sentences so long. In Arabic, I don't' know about plagiarism more ... So I am doing these mistakes in my writing. I don't have a lot of vocabulary to paraphrase. Yeah and the words are simple and I am not clear like I am expecting the reader to know what I am talking about so I am not always clear defining things.

I found her comments on her writing were insightful, a result of her constant follow-up with the teacher on her progress, highlighting her weaknesses that were mainly signs of interference of the Arabic language and educational background such as issues of writing style and plagiarism notions. Another weakness she detected was her lack of vocabulary and her inability to account for the audience or reader expectations in her writing. She even said that her ESL teachers had always advised her to read as a response to her question on how to work on her writing and reading weaknesses.

In response to one of her friend's negative criticisms of the EAP course she was taking, she said that her attitude was quite the opposite and she felt that the EAP courses were helping her in her language development. Although she was lagging behind in terms of her regular study, she was "sad" to be finishing the ESL courses as she said:

> ...I like language courses. Like I still I need language courses like. They are very helpful I think.

She actually would like to continue taking these courses as she commented.

> ... Regardless the money I pay for it or the time I take. There are other things that I don't like. I am very limited with the courses that I am taking and now I should be in 3rd year of university back home instead of my first year, but regardless of those things still... in my

> regular course, I can't ask the teacher always what does one mean? This thing. Which verb to use? But in the English course I can do that.

It sounds as though she needed to ask a teacher some questions, which was something she could hardly do in the other regular courses on such a regular basis. Feedback and individual assistance and follow-up with the teacher seemed to play a role in the EAP classes. However, once they join their regular academic study, students will start to depend on themselves more.

In the EAP class, students moved from reading to writing and at the same time socialized with other students. As the Arabic EAP student said:

> She asks us. This is the thing that I also like that she asks us to read and paraphrase and then read what we paraphrase to our partner which makes us mark what I wrote is correct or not and then check with her like she makes us check in different ways to make sure that we got the idea correctly.

She asserted that mostly they did "summarizing and paraphrasing" as classroom writing activities, which she liked as it was a self-assessment approach as well as scaffolding aimed at ensuring they got the point. She also indicated that she liked the process-writing approach and the teacher's follow-up before writing the full research paper. Although it was not due till late in the term, they were working on it by finding relevant readings, taking notes, and evaluating the references in order to include relevant information in their essays. She commented that

> [the research paper] doesn't due now but she asks us to read for 8 times for 8 weeks that I have to read a source, take notes with the word entry for that I put in the computer to find the source. Write about my thoughts about the source. Is the writer an expert? Is he or she support his ideas well? Is the source is recent?

She said that it was helping her to do her work progressively and allowed her to be critical about what she read as in the following excerpt.

> I think it's more time-consuming. If she asks us to give to her the writing before the 30th of March without doing all of that, I will start a week before and I do the same and put it but now like I think a lot about it. I look more than one time about the reading which I have. Does it really answer my questions? Is it really helpful?...I like that too much

> because I think my paper at the end will be good or will be better than if I write it just starting like that.

The research paper was relevant to her specialization, business, as it was supposed to be. Her topic was on "how Canadian companies can motivate employees or can ... make the level of production higher of its employees." As she said, the topic of investigation for the research paper had to be in the students' major of study, but it did not have to be within the course theme, communications.

At the time of the study, she had not yet found any references relevant to her research focus but she was finding some sources for the sake of fulfilling the course requirement of submitting a reading response every week. While she was looking up references for the research paper, she took notes from the readings and also made "a glossary list for the new words... for developing ... words." As these are the tasks associated with the research activity she did, she usually went back to her notes but not her glossary although she put an effort in this task, considering it "a bad thing" not to go back to review the new vocabulary items.

Besides the research paper, the EAP class sometimes did a free-writing activity, which the Arabic EAP student thought was good for prediction and stimulating their background knowledge as she said:

> I think as you said like make us predict or make us know what already know about the topic and before we go through the topic communication, she asks us to write a definition about it like free writing about this topic.

For the Chinese EAP student, he thought he did not pay much attention to pre-writing strategies he may use. He explained this as follows:

> I am not doing so much before the writing. I don't know why because if I sometimes do things step by step, but I don't want to get stuck to the writing, I was confused. I lost everything. So sometimes I just start writing in the very beginning of things and then get the inspirations go on and then step to step from the beginning to the end...

Also, after finishing writing, he revised the mechanics but with little editing and without going back to his teacher or the writing centre service at school. He ascertained:

> I got overview of the content if actually there are any spelling mistakes or grammar issues and then just look at the content if it fits to my strategy or to my plan or something. I don't edit a lot.

However, the teacher's feedback provided him with a better sense of audience and reader. This affected his research focus as he asserted:

> The teacher give some kind of directions for me which will be more specific, which will be more narrow, something like that and which will be of more interest to the audience to the reader. I think it is helpful.

With regards to the nature of academic writing, he was aware that the use of some strategies was essential in this kind of writing compared to "general writing" such as the pre-writing strategies of making outlines and brainstorming, as he said:

> I think [using these strategies is in] every kind of writing but for the academic writing e.g. in essays, sometimes I will be more careful than that. I sometimes make the outlines. At least I make the thesis statement before the writing what I will be explaining what I am going to say. That's for the academic but for the general writing, just start writing without anything ... If it's related to the main topic, I do some kind of brainstorming. ...[I use references]. I go to the library. From textbooks or from internet also. I do go back but just briefly overview everything that's there....

He said he would keep his editing effort to a minimum focusing on spelling mistakes and grammar. For the actual writing itself, when it was based on a reading, the Chinese EAP student complained of his problem in finding himself "confused" as he could not decide what to include or exclude, which led to a time-mismanagement problem in exam or in-class assignment situations, as he declared:

> Generally when I am doing in-class essay, I create a note outline about that specific topic and then try to follow the outline in doing things step by step. Sometimes the problem is I may try to put everything I think it's related into the reading and makes the reading really really long and sometimes when I put much into there, I get myself confused so that's a problem.

The EAP teacher explained what kinds of genres were dealt with in her EAP course. As she said, there were research essays and authentic academic readings taken from "cross-

cultural communication, organizational behavior where they look at the differences in organization and cultural studies." She used texts from the "seminal books in the field" of communications introducing "recent definitions" and theories. She had students apply theory to practice by their analysis of case studies or situations in the context of one of the topics in the EAP course, which was implicit and explicit culture. The students wrote a three-page analysis on this topic, which they would be doing throughout the term on similar topics. The EAP teacher considered the case studies and the research assignments students did in their fields of study as "sustained content."

At the beginning of every unit, the EAP teacher had students free-write on the unit topic as a pre-writing strategy "to focus their minds that this is going to be the topic." At the end of the unit, they wrote about it in response to a writing prompt, and talked about it in pairs, highlighting what they were going to write about and how. They were given 45 minutes for the actual writing after which she had to stop them although she hated doing this. The purpose was to keep them focused and "make sure that nobody missed the topic because ... all of sudden, ... someone goes in a totally different direction." She did this by making them read it to one another to benefit from each other's ideas, which she considered a learning opportunity and a means to "socialize" and "learn from one another too." She gave them direction about the assignments before they wrote, which she called a "reasonable recipe for analysis" in their papers. However, she complained that although she gave instructions on the assignments,

> not everybody hears it... No.... Processing information is a different thing altogether even with [the present EAP course]... It's interesting... better students... and I say take notes of what I say and only the most attuned students who listen and write what I am saying ... and I often say in the introduction, start in general so what would you write next ... and not everybody gets it ... Very actually cognitively very interesting ... I don't know why ... Are they so used to me talking? I try not to talk too much but I obviously do ... You are so used to your mother telling you what to do and what not to do and you disagree and they also sit and ... It's amazing. I should probably make a point, now take notes of what I am saying ...

Her complaint of the students' lack of engagement in taking notes of what she said interested her and she attributed it to her amount of talking or to the students' passive acceptance of whatever she said, just like their mothers.

Post-writing Strategies

A major finding in the study was the students' resistance to the use of post-writing strategies. The Arabic ESP student disliked going back to his writing for editing. The main motive to going back to check his writing was to understand the context. It was bothersome for him to find mistakes and correct them. However, from my experience with Arabic writing, this was probably an interference of the Arabic language writing style whereas it is usually more expressive that people will not often go back to check their writing.

> If I really don't understand the thing I am writing about, I might go back to look for my writing and if I understand it very well, I just write it and I am done. That's me. I am like that I don't like to look back.... If I look back at my writing, I will start finding some mistakes. I am like no... sometimes I do it, sometimes I don't.... if I understand the context that I have..., I just write in my own words. I don't really even have to go back to the context.

The Arabic ESP student believed that most of the time, he doesn't need to go back to the context because as long as he understood it well, he tended not to edit. His conviction of the lack of need for editing his work has been evidenced and supported by his former performance in essay writing. The ESP teacher cautioned students of the dangers of not paying attention to specifics in engineering. These requirements are compelling and require engineers to go back and edit most of the time. Nonetheless, the Arabic ESP student stood against the writing strategy of editing that had been even recommended to them in class and even by the school writing centre. He said, tutors from the writing centre

> came and had a workshop for us in the summer ... Honestly whenever I write something, I just leave it. I don't go back to it. I just do my best. I write whatever I understand. If sometimes, I have my draft next to me. I am writing, I open the computer and change it completely. That's why whenever I write something, I just keep it ... [My teacher] makes us write with pens so I am going to go back, it will be full of scratches... Keep going back, that's my teacher in the last EAP course told me. She wants me to keep going back... I am like if you want to see 5 drafts, ok I am going back. If you are ok with the first draft, ok, but if you don't want it, ok take this. She looks at me amazed and she just gives it to me and leaves ...

In the EAP course, according to the EAP teacher, she preferred drafts in the process approach to writing, which obviously the Arabic ESP student was not a fan of in his EAP classes. This Arabic ESP student just disliked going back. This made it difficult for him to edit his work properly without changing everything in the writing as he complained of. I would say that the students' beliefs of what works better for them were stimulators of most action in their study. However, sometimes, they had to adhere to certain standards in order to just satisfy the teacher and meet the course requirements or basically pass. Being obedient to the teacher was not an indication that the students will use this strategy later on because as was shown here, the students might hold a negative attitude towards strategy use and a strong belief about their uselessness Most teachers would aim to develop long-lasting strategies as these will benefit their students in their academic and professional life, but will students take up such strategies for a life-long practice?

In her process writing, the Arabic EAP student said she does the following:

> Looking for ideas what I am going to write. First I have to look for sources. The idea which I am going to use. While I am writing, I try to make my vocabulary look correct my grammar is correct but I didn't concentrate in it too much or like it depends on the time because a teacher told me a kind of strategy that if I write my paper now, check it after like one day after I can see my mistakes more ... because I see my mistakes in it. It's so helpful. Like while I am writing, I am just concentrating on writing from the source but after yeah I can see this is wrong, this word has to be changed, this doesn't make sense... If I can go [back to edit] 10 times, I will, but it depends on the time of course. I love studying actually and I spend most of my time studying but I am actually editing my writing so I take a lot of time.

The writing process seemed to be time-consuming but it did not matter to her because she liked studying, but she followed her teacher's advice on stepping back from her essay for a while and then later to come back to it afresh in order to be able to notice her mistakes and to produce a better revised paper.

Her current EAP teacher asserted the process approach to writing that she followed in her EAP class as she said:

> They know they have to do drafts. If they give me the final and I see no development, that's basically unacceptable. ... There is a lot of writing in the course. Everything leads to writing. ... I actually explain it to them that anything probably 95% of the work of their evaluation is based on writing ... All their exams are written exams. .. No oral exams like in other countries ... They have a presentation in the course... Everything in the course is either a written assignment or short-answer test or multiple choice ... It's also writing in fact in some ways and everything is written...

The nature of the task requirements in the EAP course required students to do a lot of writing, which explains why students did their writing in a process. This was also connected to the course assessment and how it shaped the course as well as the content and tasks.

Writing Requirements in Engineering Profession and ESP for Engineering

What the ESP student said was that mostly they did reports and memos in their ESP class. When asked about the engineering profession requirements, he described a context in which he may need to write a memo:

> ... If I work in a company and I found something useful, I just write a memo to my manager about this specific thing that I think is gonna help us in our project if we are doing a project in the company, I just send him a memo basically stating in it what I am talking about and what is the thing that I found out about and why we should use it and how it's gonna help us. That will be the memo. And then if I wanna go into details about the object that I found out and thought about, I will be attaching with the memo a report about the specific thing that I found about stating its benefits, its features, some facts about it, some facts from websites from different sources about this program and how it's gonna help us.... We will be dealing with this [in the communications course] because my friend is taking that course and he was writing a report a couple of days ago. It was about finding the other sources of energy and he was making like a connection between our physics course, our chemistry, and our mechanics course. He was relating his topic to them and how they are all related together so probably it's the same thing that we are doing over here, getting information from different places.

As an engineering student, he was aware that he needed to know what a memo is and within a certain context, how he needed to consider the purpose and audience. He seemed to be forming a discourse community with his friends who were engineering students too, but senior to him in their academic study. His socialization with more expert engineering students acculturated him to the nature of the courses he will be doing soon.

It was also clear that he communicated with other engineering students to see what they were doing in their engineering courses as well as the communications course for engineering students that he will have to take after the present ESP course. His social strategy enabled him to anticipate and connect what he was currently learning in the ESP course of memos and their requirements to the kinds of writing and its associated practices in which he will be engaged in his future academic study.

His awareness of the nature of engineering writing and the need to prepare for academia was also manifested in his talk of writing in engineering and the focus of the present ESP course:

> Writing in engineering is not the same as writing in other majors. In engineering, we don't have much as in essays or summaries. It's a report or it's a memo. So not everyone in school knew how to write proper memo or a proper report so if we just came over here and just started writing down without even knowing the basics of how to write it down or how it's supposed to be written, it will be hard for us as engineering students. That's why they are doing this. They are putting the basics for engineering. They are giving these English courses specifically for engineering in order to let engineers understand how everything is supposed to be done....

He recognized that writing in the engineering discipline at university and the engineering profession was supposed to be taught to engineering students. His recognition stemmed from his need to be specific about what he was going to be faced with in the future. More or less it was a preference for such a discipline-specific English language instruction for engineers, which was the function and focus of the present ESP course.

The other ESP student, the Chinese, argued that he would have liked to have been with other students from other disciplines as well and not just have restricted himself to engineering students as was the case in the ESP class. He attributed his performance to the nature of engineering workload and the consequences and risks of not paying attention to the smallest things at work, which sounded scary to him.

> I like to be with other students. I also like their majors because sometimes you feel engineering is boring because engineering is hard. You need to work a lot and they need to cooperate with each other and other sometimes like design, you know design, you can use your full imagin[ation] to think about other designs or something... I applied to other universities with civil engineering because my teacher told me before that civil engineering is very interesting, you just sit on the chair, find a pencil, find a paper and just think. You don't need to do anything. You draw pictures... You do some calculations but when I came to university they told me no no not like that you should work a lot as other engineers... Software I think, it's ok because it also needs workload. You know the computer language like C++, a lot of data, software, and functions you should remember and then you make a little mistake, you go to the beginning so you have to pay full attention when you are doing this part. Oh I can not imagine that ....

High expectations of the demands in engineering tasks were scaring the Chinese ESP student and made him realize that he needed to work hard to fulfill his discipline-specific requirements. Following a teacher's advice on looking for a profession that was not so demanding in its workload was an indication that he would have liked to have found something easy but at the same time his appreciation of imagination and its role in design kept him interested in what he did as a major, software engineering. The ESP teacher also mentioned the risks of not paying attention in the workplace and how it might lead to a disastrous end if engineers do not pay attention to the smallest instructions.

The Chinese ESP student shared the view of the Arabic ESP student about the benefit of the ESP course in their specialization. He contended the course helps them to do things as practiced in the engineering profession.

> [The present ESP course] helps me with my major because [it] is especially for the engineering courses so it teach you how to write an essay as an engineer, how to write reports, how to do memos ... It teach you how to do a presentation or a short summary of

> a presentation ... Everything you do help to do it professional[ly]... You have to do that formally so I think that helped me a lot.

The Chinese ESP student was aware of the types of engineering writing they were to do in their engineering study later on. In addition, in the following excerpt, he showed how engaged he was in a design or problem-solving activity in which he had a writing practice. He said that they wrote a few essays and summarized articles in a short paragraph; wrote memos and reports, and procedures, which he described:

> Different kinds of summary writing like you write up a procedure or something. We do what's it? Garage door opener. So we write the procedure how we open the door, we start with introduction and the first in the paragraph we write first step, second step, how they worked, how they relate to each other,.. and then we write the conclusion and we write ... in the final paragraph something how is your feeling ... How you think your group member works....

The Chinese ESP student said he had fun in this activity and the teacher was also excited about it and she said it was about process and design. When I asked the student about what he thought he learned from the activity on the garage door opener, he said:

> I think that you imagine... So you can imagine everything that may probably happen and then the next day you should do it yourself. Try to make it come true and I think imagining is important because sometimes you are doing a project or something. I think you should do imagining so as far as you can and then try to make them related to the real world and then you design something, introduce the features...

The notion of a design was clear in his statements about the purpose and the benefit of the activity. This included skills like imagination and relating things to each other and applying them in real life situations such as the workplace so that they were of real value.

The ESP teacher described the writing strategies in engineering arguing that using these strategies depend on the purpose and the type of writing to be done. In the following excerpt, she described when an introduction could be done in the writing process, depending on the kind of paper to be written, and differentiating between the engineering technical report and the essay.

> Well it depends. You write the introduction first. Well I don't know. Sometimes that's a good strategy to get students going. Sometimes it doesn't work. I usually recommend they don't write the introduction till they are finished... it depends on the kind of paper you have.... So in that case in an essay style, I would say in an essay, don't write your introduction till you are done because you explore the options in the writing and then you come to a slightly different conclusion that you thought and if have written the introduction first it would have constrained you and not allowed you the flexibility to think in a different way. But in certain kinds of engineering writing an introduction makes sense because you know what you want to say and it's really just getting it done on paper of what the rest of the report involves because there isn't opinion in engineering writing although there is recommendation. You are not really expressing your own opinion; you are expressing an expert's informed knowledge....

For engineering writing, giving students models should be accompanied by their comprehension of the purposes, audience, and genre of the field because models and templates did not solve the engineering problems, it was their "judgments" of the context that do, as she said:

> The trouble is that in any field, a model is only a suggestion about how you might go about something in solving a writing problem e.g. but it doesn't always give you the exact answers. They have to use their judgments so that I resist giving them templates like there is no one way to write a report. You have to know why you are writing, is it the feasibility, is it the recommendations, is it a proposal, is it descriptive? ... There are so many different reasons for writing something up so that a multiple number of readers could access it whether it be another technically expert person or someone who is not technically expert, a technician, a manager, a client, who has no clue but needs to have some sense of what's going on in the project before they give you the money so the whole notion of audience and appreciation of purpose of text and how that changes how you write it and changes how formal or informal you have to be, the kind of vocabulary, the kind of formatting, all these kinds of decisions that have to be made with from an informed database. They have to find out as much as they can about why they are writing and to who and how that reader expects the data presented and then they can start putting the information together and putting it in the right way but unless they understand it ... to analyze that they are gonna be lost and not dealing with things appropriately.

She further explained the nature of the writing strategies students may use depending on the types and purpose of writing; keeping the audience and context in mind emphasizing that a major strategy was what she called "data organizational strategy" or "data management."

> Again it depends on what they are writing and why. Well it varies if they have to write a memo, they should know who they are writing to and why and they have to keep in mind that they have to keep things fairly brief so putting down some key ideas and a draft and an organizational thing is probably enough. If they are doing a full report, I would suggest they do an intensive data organizational strategy that is they would anticipate. Once they have looked at what the purpose of the report is and who is gonna read it and how much data they have available, then they should spend a lot of time putting the right

> data in the right section by key words or even by numbers referring to the data source and go over that and over that until it becomes quite very very much under control... At that stage, the sentences and paragraphs almost write themselves so it's a matter of really getting the data under control. If they are writing a business letter, it will change a little bit too because you change, you incorporate a little bit more of a personal slant. We don't do much business writing anyways except if there is a letter of transmittal into a report... If they are writing summaries, they have to use a different strategy because they have to really prove that they understood the content of the original source ... So their purpose there is to highlight to the reader what it is that they are talking about generally what the focus is within that and right up front in the summary. ... So it depends on why they are writing. Yeah really the purpose and the audience are always so crucial but it always comes back to data management before you actually can handle the summary writing part of it so they do a lot of summary writing for me. They do a lot of talking about information and reports. They don't write essays. Yeah they don't do essays at all for me. They can write some personal commentary on their reading journals. There is a section for that but it's only about a page. It's not really an essay. They can marble. It doesn't matter because it's not marked on language, idea-base.

Theme Ten: Course assessment/motivation/progress

Course assessment was very important to the students for they had to satisfy the English language requirements before they could be regular students and take a full load in their major study courses.

The Arabic ESP student said that they were graded in the course according to their performance in written assignments, midterms, finals, oral presentations as well as their attendance obligation. With regards to the midterms, he said that he liked having them because of his familiarity with the topic and the teacher's effort to ease them into it under the umbrella of the thematic approach and recycling of readings. He asserted:

> Honestly the midterms right now they talk about what we learned... She gave us some things to read. The midterm was about it i.e. about a certain e.g. our midterm was talking about a program called CadCam and we are dealing with it. All the articles she has given to us is relevant to it. It's a different kind of midterm that I took in the previous English courses... because in this one we had to write a short summary and she gave us an article and we had to paraphrase. This is quite similar but the 2 major points about it we have to write a memo... and we have to write a report about CadCam for our manager regarding CadCam and using CadCam and its benefits, features and all that.... The difference is the topic and the topic gets more wider like CadCam topic got a little bit more wider. The first thing we did for the memo and report was about a material used in building. We had to write a memo to my manager regarding using it. I pretend that I am in a car company and I get a memo to my manager regarding using this material for building the car from the interior and then I made a report about it, its purpose, how to use it, its benefits. It's like it affects the weight of the car...

Again, compared with other courses, this ESP course went beyond the paraphrasing and summarizing activities to writing purposeful memos and reports with hypothetical audiences or simulation and engaging students in the expansion of the topic.

Related to assessment was the notion of progress and how well the students thought they were doing in their courses and how they could determine their progress. The Chinese ESP student might have underestimated his progress in the course which he measured from his average grade in the course to that point realizing that it was essential to finish this course to be a regular university student, as explained here:

> [My progress in the course is] not good. Less than B+ or no no B- or I think it's C or C+. I need this course or I will be in trouble. I will take the whole year to take this course... I want to pass to be a regular student and take the courses as much as I can.

His tendency to vision his progress through the lenses of allocated grades made him think that some subjects are difficult as he mentioned about his high school experience here in Canada.

> Physics or chemistry is difficult because the professor just give me 63 as a final grade. Oh I was crazy you know... because in each class, I could get at least 75 or 80 but he just gave me 63 out of a 100.. My average is 80% for the 6 if he could give me 80 for chemistry, my average will go 83, 84, 83 almost.

The Arabic ESP student constantly followed up with his ESP teacher on his progress as he reported:

> I am doing very good in the course. ... I think I am doing very good. I often go to [my teacher] and talk to her about it, my situation in the course. She keeps telling me that I am doing fine ... I follow up with [my teacher] a lot. I need to know my situation... what I like about it, she is honest. If you are not good in class, she will tell you are not good in class. I went to her once and she told me I am doing fine. My grades are good but she said stop slacking off. I slacked off 3 times in the fall term... Keep coming to class. .. She is an easy-going teacher. She is not that harsh.

He contrasted the teacher's treatment with her feedback on his progress. Generally, his liking the teacher and the whole course depended on her way of dealing with students.

> My [last EAP course] teacher was a mess. Just too harsh too harsh.... She was a harsh teacher but [my ESP teacher] she is really easy-going. For my study report, I forgot to hand them in and I went to talk to her. I gave her a response for one of the reading

> journals and then I told her ... She is not a harsh teacher... That's the reason that made me like the course. If I like the prof, I like the course. If I don't like the prof, I don't like the course. ... Teachers play a big role in making the students like the course or not. If the prof makes the course easy. He explains everything. Sometimes he jokes in class, he will make you like the course but if the teacher is just he doesn't laugh he doesn't smile he doesn't do anything. He just comes, in explains everything, explain what he has on the paper he just says it and he leaves, you will feel bored after a while. No facial expressions. Just like that, standing. He is doing his work.

The teacher's character seemed to play a role in this student's life. It could be a cultural trait as in the Arabic culture, the teachers are respected highly. Those who do not distance themselves from students and they usually make their courses enjoyable and interactive are usually the students' favorite. However, those who are followers of the pure transmission model in teaching are not welcomed by students as they become socially inert, not interacting with students and keeping themselves at a distance. Apart from the culture, the tendency to look for a knowledgeable as well as an "easy-going" teacher was common with most students. The students' commitments to the course and its requirements are enhanced as a means to paying off the teacher's effort in making them learn and enjoy at the same time. Knowledge in the field of study is not everything. The Arabic ESP student found his ESP teacher knowledgeable, but what really mattered to him was the treatment more or less.

A noticeable amount of work on the part of the Arabic ESP student was specifically focused on keeping his interest in the course high enough to maintain his motivation for university study. There were factors that have contributed to his overcoming his learning difficulties that stemmed from his beliefs; learning experience; attitude towards the course instructor and his standards of a good teacher; and his learning style. Socially forming a community of practice with other students and keeping himself informed of what goes on in academia were ways to adapt to and prepare for his major of study requirements such as writing and reading within the context of

engineering-focused topics. These factors seemed to ease him into his study as he thought of the extent to which he was doing well in the ESP course; i.e., he was progressing.

His out-going character had enabled him to communicate with others although cautiously, as he commented:

> Most likely if my friends are with me in the class, with my friends. I came here, I didn't have anybody. I like to talk to people. I like to meet new people. I just go by the first impression. If I like the first impression, I talk to him. If not, I just stay away...

In terms of course assessment, the Arabic EAP student liked the way she was assessed in her EAP course because she could make up in other assignments if she did not do well in some.

> I think I do [like the way I am assessed in the course] because some assignments. This one is worth 1%. This is 2. This is 3. The other things which I didn't like in [the second EAP course] one assignment worth 9 the other worth like it eats from my grade a lot but this one so far is good.

Relevant to this was the fact that students did not hand in their research paper for the course without going through a process that was followed up with the teacher and shared with others in the class.

The Chinese EAP student had a low vision of his level and progress in mass communication compared with other students as he said:

> I don't think that I do better than native speaker students because sometimes, even I hate to admit, I stick with Chinese students whatever the course is because every course has Chinese students ... But for the studies, maybe we have difficulty in reading or writing something ... Sometimes, I want to speak with others in English whatever English speaker or whatever the other language is... Kind of the situation is not there.

The Chinese EAP student attributed his tendency to mostly communicate with Chinese students to his inability to find appropriate situations or his feeling of inferiority to native speakers of English because of the language level.

When it came to assessment in the ESP class, the ESP teacher commented:

> I can say that too many are misplaced in terms of their language proficiency. There are a couple who should really be in the [second EAP credit course] level, mostly on the basis

> of poor language control. A couple of others are right at the top, while there are some borderline concerns. Pronunciation and speaking difficulties are particular problems, yet the one with the most difficulty in speaking clearly is also one of the best writers. Only a couple are European in background. The others are coping with both orthographic and wider cultural gaps, which can create difficulty not just in writing but also in understanding and following North American academic expectations to some extent.

Here she mentioned a gap in students' proficiencies reporting a mismatch between their speaking and writing abilities. Nevertheless, she was aware of cultural and orthographic differences that may cause students a coping or an acculturation difficulty, which was a problem that might affect their writing performance and meeting the academic setting requirements.

She also helped students monitor their progress by the "regular grading of frequent small assignments before they do bigger ones," which "gives them constant feedback, as do the scheduled office hours."

When asked about the students' disciplinary differences and whether or not they might account for their progress and success, she commented:

> I think students in disciplines which require more reading (aerospace, environmental) tend to produce better readers/writers than the more numeric-based courses like systems engineering or computer engineering. I haven't really analyzed that though so I wouldn't like to state this as a fact.

She listed the following variables that contributed to the students' success.

> WANTING to be an engineer and enjoying problem-solving and tinkering: paying attention to instructions and following the requirements (too many students don't take the time/effort to understand what is required); giving the tasks sufficient quality time: thinking, planning, drafting. EDITING, carefully; and attempting to understand what professionals need to do and stop trying to get out of work like students try to do too often.

In the EAP course, the EAP teacher said that effort was awarded as in their participation, discussion, and revision of assignments. She ascertained the need to write and assess their writing even in summaries, one of which was almost worth 1% or 2%. The summaries could be on readings or oral presentations. They kept a reading journal as well to show their development and assessment.

She argued that she didn't keep students in a testing situation, but rather engaged them in a learning process, as she said:

> I don't do [tests or teach test-taking strategies]. No no I use every possible opportunity like also when... they do in-class assignments as a learning ... process... and I don't have to (test) because the program doesn't ask me to test them like today we are going to have a test and you answer questions quickly.... I do listening tests, I do but .... for discussion ... lets compare... lets see what you missed and what you didn't .... It's learning ... Even if it's evaluated, I try to use as information gathering vocabulary gathering ... whenever as a learning opportunity.

Assessment was geared towards assessing the students' learning processes through their constant performance. The Chinese EAP student had a problem performing in in-class assignments as he probably felt stressed in such a situation. Their EAP teacher saidthat "if they know it's a test," "they should be stressed."

For students' progress, the EAP teacher provided them with feedback on their writing, required they evaluate their writing in 5 minutes for either language or content. Students who were below 70% mark in their big assignments would have to re-write their papers. Although their grades in the papers would not be marked again, their revision "will be part of their effort and participation. It will mean they are really trying to work on it."

The EAP teacher described how students from specific disciplines might show progress more than others in the language course.

> I think if they study humanities, I think they probably do learn faster because from year 1, if they take sociology or psychology, they are immediately exposed to a lot of reading. If they take English with me and only Calculus, Calculus is the language of math, it doesn't need to ... So I think those who are in courses that require lengthy readings... reading is an incredible input... they need input so I try to give them a lot of reading but I can't measure it honestly. Then there must be a strong correlation... but sciences, they read a lot... Biology, they do a lot of reading, biology is difficult and chemistry. So that's also heavy reading ... Yeah formulas and graphs but a lot of reading but math is not so ... If they go to political science or economics, there are also reading. We get them in the first year usually ... They only have one course and most of them take math but then when they are higher up, they have more language input... introductory English, but then you may lose them because .... The other subjects are so important ... on their record. The responsibility on us is much because you don't want them to go to their academic study

> and fail English ... You want them to work hard on our course because our course does not count as much towards their average.

She argued that students with more readings in their academic study were in fields such as humanities, or were students taking sociology or psychology. However, it was not just the amount of reading input that they had to process in their academic courses but probably the nature of these readings and their requirements. So, probably there were different kinds of readings that they did in their respective disciplines.

Theme Eleven: Classroom organization

Due to way the class was organized, so that students often worked in pairs or groups, the Arabic ESP student interacted with other students in the ESP class.

> Group work not that much but if she gives us an article in class, sure she would like us to deal with it like people together. You can go and discuss it with your partner or the person sitting next to you or another person, but she always makes specific groups for ok these people will be dealing with this part. Sometimes ... she is like everybody can do it with everybody...We are always collecting information from each other. Sometimes she told us specific you deal with this, you deal with this, and you deal with this, with a certain part and whenever you are done with the part that you are dealing with, you just go to the other parts and start it.

Making the students interact with each other, as well as be responsible for informing others of certain materials, increased the chances of the students' socializing with each other and allowed them to construct knowledge together.

As explained earlier, the Chinese ESP student also interacted with his classmates from the same major of study. He also liked working in groups in class as he said:

> I like working in group because we can discuss, share our notes, share our opinions and we can communicate with each other a lot so that helps me a lot.

Outside the classroom and in classes other than the ESP class, the Chinese ESP student sometimes communicated with other students. Working in pairs or groups, his learning and performance were eased in the regular courses as well. Establishing a regular contact

with other classmates, he could construct learning with them regardless of the setting, in-class or outside of class.

> I: Do you usually contact each other in class or even outside of class?
> S: no quite more outside of class. Sometimes we contact with email or phone to discuss some class notes or something not quite a lot.
> I: yeah do u get together to study something? Maybe in your other courses and not just your language course
> S: yes like chemistry in the lab you have to do in pairs. You have to write a report and that will help you and mass I think we just get together and discuss how the question is, how to solve the questions... Actually there are not too many Chinese students... Students in ESL class also take some classes with me. Some of them. We sit in different seats so I don't have a chance to talk to them so I have to talk to the people around me, ask them questions or to discuss the questions with them.

The ESP teacher tried to address the students' disciplinary differences by providing a variety in the readings and putting students in "reading groups" as in jigsaw reading that involved listening, taking notes, summary writing, and speaking with partners. She also asserted that this was needed to ensure students have a good "data management."

> I try to cover a variety in the samples. I bring the short articles but very specifically they are put into reading groups that are linked by their field so all the computer science students will be with the electrical. Sometimes I put the Civil with the Environmental because there aren't enough of them or mechanical with aerospace that kind of stuff and they in fact they are in the middle of doing one now Monday. They have to find articles and they are very focused fields and then they come back and they are supposed to discuss their notes, make sure that each understood the same article the same way. They do this in the standard fluency exercise that tells someone who hasn't read it ... and ... I mark the listener who writes a summary statement and then they write summaries of it and I very firmly believe that if you can articulate it in speaking to somebody, it will help you when you have to write because they will respond by saying I don't understand that term or I am not sure what you meant by that. Maybe you should explain that before so you get a sense whether the organization was helpful to the listener or if ... you got the data under control... Sometimes students think they know what they are going to write but when they find that when they are actually trying to tell somebody about it, they don't really have it under a full control so I call that data management. If they can manage the data orally, then they should be able to manage it in writing and then they get into the things like editing and checking for verb and subject agreement, punctuation all that kind of syntax and word choice and those kinds of things but getting the basic concepts under control and well-organized especially organization getting it cleared because the whole point is helping the reader understand what you wanna talk, about what you wanna present. And unless you define your terms, unless you clarify your topic and your focus, it's not gonna be easy for the reader ... but they do this in their specialized groups reading work.

The ESP teacher thought that she should address the students' disciplinary differences when developing their strategic competence. She emphasized that

> ... even though there are core concepts in their engineering programs, they have different sub-focuses in their disciplines which might require different approaches to their problem-solving activities (and which then may require diff. language learning strategies to best achieve). Besides, whatever interests them personally will encourage a greater engagement--or that's the idea!

In organizing the students' groups, the ESP teacher said she kept these focus reading groups because of the number of students' limitations.

> ...Because they only do this 4 times a year every term, I will keep all the electrical together and all the mechanical and so on ...Because that's focus reading. They do other readings that cover all sorts of topics. Some topics nobody ever heard of and that's fine they will have the same respect...Right now there is 14 (students in the class) I have had classes up to 30 or sometimes I had to make 2 sections. Right now the numbers are low partly it is a reflection of the overall decrease of ESL students but also I think engineering has decrease also in its intake of ESL students and there are more students coming through the high school system who have satisfied 3 years high school where before they needed 4.... It's unfortunate because a lot of them get into university without going through ESP or EAP at all and they go to their other engineering courses or the communications course and they don't do very well. ... Some do but a lot of them ... because they haven't had any kind of additional language support that they would really ... benefit from.

Here the ESP teacher emphasized that students need to go through ESL courses for language preparation before going into their respective specialized courses that tackle many important aspects. There was also a focus on grammar and morphology as awareness-raising exercises that would help them in their monitoring while editing their writing. She did this because she was aware of some cultural differences that were due to their first language influence such as Chinese, as explained here:

> A lot of students from other languages don't have morphological differences e.g. Chinese students don't understand how important morphology is in clarity, the cohesiveness not so much cohesive but comprehensibility of their texts because if they don't have it under better control, it's never perfect, but unless it is under better control, they are going to throw so many different word forms and the reader gets lost in terms of the intention of the utterance they are putting down so morphology becomes important .. In just ad-hoc exercise that comes out of the readings...pick vocabulary that's relevant, that they might be having to use again. They might have to use it in a different form. We do morphology exercises out of that but also it helps them in their editing to fix up some of [their problems]... there is a lot of focus on that.

The morphology exercise focused mainly on the students' problem in recognizing and controlling their comprehension and production in vocabulary use.

The ESP teacher arranged some class activities to be done in pairs and groups, however; the class size did not allow her to do some projects that engineers at work might do together. She said:

> [We do] pair work and group [work]... When I have a small class like this, it's a little more unfortunate because it's harder to do the larger group team projects that you have.

With regards to the EAP course, the course theme seemed to be a cross-cultural topic that related to the students different academic and cultural backgrounds in such a heterogeneous classroom. Thus, the EAP teacher accommodated for the disciplinary differences in her EAP class through the use of the course general theme that might bridge the gap between the students' differences and resolve them. The EAP teacher described how the course theme involved or engaged students to explore communications from different cultures, whether the academic culture or the home country culture.

> Because they are first and second year students here, they come from all over and the choice of topic is communication... Cross-cultural communication and I change it a little bit depending on the group that I have. It's basically the influence of the culture on communication in academic settings meaning verbal and also written communication and how by comparison and contrast of different cultures that are represented in my classes. I try to make a point that this is how things done in [our university] and that's basically it. And we do a bit of comparison topic between implicit versus implicit for the last 2 weeks and one of the little assignments and homework was to check how explicit information is in a university in their country and here at [our university] and they noticed the difference immediately. I mean they went to the website and checked the kind of information... their admission and what it was. Just fascinating to get printout of this. So it's related to academia when you do certain things.

She commented that the students' disciplinary differences were accommodated by the individual research papers on topics from their fields of study, as she said:

> They have to come up with a research question. I accept or reject the research questions because they will all come up with .... if they study economics, it has to be about economics.... I don't mind but it has to be related to their field of study... For example, I am giving their first research journals. Reading journals back. Five of them I didn't accept because there is no relationship what do ever to their field of study. But that's fine because it goes into their portfolio but they have to know ... they have to develop a terminology maybe even interest in their field of study and they go and choose... It's first year. They choose topics that they already know something about because otherwise how will you choose the topic if you don't know anything right? The starting point is they already know something.. if you choose sth of interest to you maybe, but if it doesn't interest you, you can change within the first 2 weeks.

The teacher thought that the topic related to students because they were going through a cultural and language change in which they can adapt to the course content and topics. She found the theme, communications, relevant to their "unaware expertise, as she said:

> I think so [that students enjoy the topics]. You ask them. I think so. I think so because they have unaware expertise yeah because they changed cultures and language and they found themselves. So from talking generally about communication going to specific so the first week was... jobs in communication and cross-cultural communication...., writers, and then we go to different aspects of culture that influences communication. So I select the readings so that from general how culture [is] to specific how it actually works for communication particularly in even teaching.. alright how .... I think they can relate to it they can actually relate to it so I am hoping that these topics are relevant in its appearance at least ... and there is a lot of language you know there is a lot of psychology, sociology, etc, so it's language rich language, rich, i.e. the texts.

Theme 12: Language practice outside the classroom

In a response to my question about their language practice outside the classroom, students reflected a variety of efforts in learning English independently.

The Arabic ESP student used the English language in his everyday life especially in speaking and also reading. He emphasized that "anything that will help [him] finish this course, [he] will do it" indicating an inclination to put the most effort into passing to his academic study as soon as possible.

He had a communicative approach to learning more than the other students who seemed to focus on the receptive skills of listening and reading. He asserted the effect of being in an English-speaking environment as he needed to function and do things in English in his surroundings:

> I speak English all the time, since I came here, I communicate more in English with my friends even though they are Arabs.... It's a kind of the environment over here. That's what made us use English more because obviously. ... When I will be talking to my cell phone company, I will be talking in English. I am going to do an application or something, it's in English. So that's why I got more I am using my English more often than my Arabic. I am using my English more often. That's why I basically use English 24/7.

He was different from the other students who said they did not speak in English much with their friends from the same first language background. It seemed his communication skill through speaking was reflective of his social personality and the fact that his Arabic friends also spoke to him in English most of the time. This had affected his use of Arabic though as he said:

> I sometimes [read in Arabic]. Since I came here, I often read in English.... I am not saying that my Arabic is not good. In my Arabic I am fluent...The whole environment made us use English more than Arabic. When I go back home, I will be using Arabic. I tell my parents and friends that I am not trying to show off but I really got used to speaking English over there. Give me a couple of days and then I will be back to my Arabic.

The Chinese ESP student's learning outside the classroom involved receptive efforts in surfing the Net, reading magazines, and shopping. The environment had a great influence on the way he used language without the real practice in communication. He just stored them in his mind depending on how interesting they were especially things to do with technology it seemed. He explained how he did this on his own for his independent learning:

> I go through websites I think .. Sometimes some magazines which are interesting ... This is except doing my own study for my own homework, I do this ... I go shopping... I sometimes go to the mall or go to a plaza. You go to a store and find something. See how they introduce the new products.. I think that's interesting... You go to Future Shop and you see the mp3 and they will tell you what memory (the features) yeah the features ... You look at the computer, You see the laptop or the desktop. You go to the games, you see how they introduce the games (do you take notes?) no just memorize it... sometimes when it's interesting it's hard to forget ... so you keep it in your mind.

The Arabic EAP student had been influenced by being in an English-speaking country by tending to write in English more than her first language, Arabic, as she commented.

> I don't feel comfortable now writing in Arabic. That's bad but I just prefer to write in English... like going shopping in English.

So even the simplest making of a shopping list was being performed in English due to the effect of the setting. However, nobody forced her to do this as she could do it in Arabic,

but it seemed that she valued the language and believed she should be practicing it as long as she can, as she is Canadian now and had been in Canada for more than 2 years and will probably stay here after finishing her undergraduate degree.

Her practice effort did not involve much of the social interaction and communication with other people because she was shy. Although making friends with non-Arabic speaking people forced her to use the language, she was a good listener because she was shy to speak.

> I don't have a lot of Arabic speaking friends so.. most of them talk in English and also I am a shy person. I don't talk too much but I like to listen. I like watching TV mostly when someone talks, I like to listen than talk. That's why I think my listening is excellent.

For his language practice outside the language classroom, he practiced listening more than speaking as he liked listening to music in English and sometimes watching TV. In speaking, as he mostly socialized with other Chinese students, his communication efforts in English were less.

> Generally I don't practice a lot out of class because I live with 2 other students who are Chinese as well and usually doing practice on some kind of watching TV not too much. I don't' watch TV too much. The most thing I do is listening. I listen to music because I like English music and I try to download ... and what they are saying in that kind of music .... We speak in Chinese mostly. Sometimes we do some short conversations or small talk in English... My 2 roommates are not in [my university]. They are in different majors... We don't help each other exactly in our studies.

Theme 13: Transfer or interference from the 1st language into regular or ESL courses

Regarding the use of the 1st language and its transfer or interference with the students' learning of the English language and or their performance in the academic regular courses, the Arabic ESP student stated that he did not have problems code-switching as e.g. he learned the formulas in Arabic. Amazingly he turned to his Arabic textbooks for a better explanation for his university courses. He explained this:

> Same words same letters it depends. In Arabic we use 2 letters and over here we use an X and Y... and if I don't understand something, I got my high school books with me over

> here so I just go back into Arabic and I understand it more clearly because it's more specific in schools more than over here so I just go back to it.
> I: do you ever write the meanings of some things?
> S: oh yeah sometimes ….. I am not having problems in English.

This was not a translation strategy but a means to understand things that the student knows were better well-explained in his Arabic high school textbooks.

The time spent in an English-speaking country, Canada, had influenced the students' proficiency. Since the Arabic ESP student came in August 2003, he benefited from being in the Canadian setting, as he emphasized:

> Even though in Kuwait, I used to speak English with non-Arabic speakers. I used to communicate with them in English so with the environment everywhere you go; you have to speak in English in order to communicate with people in English. Speak in English to improve my English. I learned new words in the English courses that I took. They improved my writing skills, my speaking even. Mostly they improved my academic language skills or the way my academic language speaking, writing and these things but … I am not saying it didn't affect it, it affected me to be better in order to communicate with people.

His main concern was communication with people, which he has always tried to enhance even in Kuwait. But the academic language skills had also been developed in the ESL courses in Canada.

Theme 14: Explicit and implicit strategy instruction

With regards to the level of explicitness in strategy instruction, the ESP teacher thought that language learning strategy instruction should be taught both implicitly and explicitly. She argued for an explicit approach to strategy instruction for students to monitor their language use. Her argument for implicit instruction relied on the assumption that the types of tasks they do can involve these strategies if they are made to require strategy use; which was rather the EXIGENCE that if students have, they produce what was expected to satisfy task completion.

> Both: explicit instruction helps them understand and then internalize the kinds of rules they need to decipher language and to monitor themselves. Implicit instruction is part of

> everything they do, whether focused on language or on comprehending/communicating appropriate concepts. Strategies can be articulated and modeled, but they also need to be given tasks that inherently require certain strategies for satisfactory completion, whether we focus on the actual strategies or not. Post-task analyses are also useful sometimes.

The EAP teacher preferred implicit teaching to strategies. However, she said that she sometimes taught explicitly to cause students' to pay attention to "recognize" key words they do not understand and might need to use in their paraphrasing exercises. She says that she has found that it was not a good idea to ask them to give synonyms to key words because they actually should learn and use key words and concepts. Therefore, she changed her way and devised "language awareness" exercises in which students recognized how much they knew, understood and also applied or used some of these important key concepts and terminologies. She believed that Chinese students had difficulty conceptualizing morphological differences in English, so she highlighted such differences and required students to put a check mark on a table that had a list of words, indicating what they understood of the list of words and their different endings and affixes. This was an example of explicit instruction. She explained this as follows:

> ... Ask for vocabulary sometimes because we have ... Chinese ... here ... because Chinese does not distinguish between them... It is the same form for all of them so you can understand that it is actually very difficult for them to conceptualize that something is a noun, something is a verb. Different endings. Some of them don't have different endings. That's probably it's a good idea to introduce a little bit of explicit ... sometimes ... it's not the focus... It's one minute. Put a check mark.. that's it. And then we use it in context and explain it. Vocabulary is ... for understanding ... structures but also vocabulary.. your field of study terminology and they give you linguistics texts (so do you think it helps them in their academic study?) That's the hope. It depends on how much they apply themselves really ... I tell them read this again on the bus ... Repetition is a good thing for thinking because it's a skill ... to practice it. ..that would be confusious effort... this is effort.

Theme 15: Preference between teaching EAP and ESP

When asked about her preference in teaching between EAP and ESP, the ESP teacher expressed her passion about both ESP and EAP as she said:

> Oh I love teaching the ESP course but I enjoy teaching the EAP course at the other times as well because I can develop other interests. I have developed units in science. I have boxes and boxes and boxes of materials at home on a great variety of topics ... Fun to be dealing with quite a variety of topics that aren't just engineering-focused... Engineering has its own huge diversity in the topic focuses but the kinds of writings they do are very different but you can do them e.g. innovations, asteroids, hidden dinosaurs, on computers or social sciences topic, or .... Science, ... social sciences with philosophical topics so the materials development component of that is always a lot of fun because you don't get bored of it because types of writing and types of data input that the students need and the kinds of activities they do at the different levels, different kinds of telephone activities, surveys, and things that are not just we don't have time for it or they are not appropriate in advanced levels so you can have fun with different kinds of focuses. I enjoy that as well.

The EAP teacher explained the differences between EAP and ESP course models arguing that the main differences were in materials selection and the nature of the assignments.

> The difference is basically the choice of the materials and the kinds of assignments that you choose for the students. So these are the main differences I think. In terms of teaching methodology, when you teach second language learners, you don't see that much difference. They simply deal with a different material and a different assignment because you are preparing them for their field of study in ESP, but in EAP, it's much more general. You are trying to address everybody's language needs more or less... Back at home I was teaching business English and here I have been teaching business English by correspondence in Montreal ... Part of it to the Cree community coming down for lessons... Part of it was writing proposals... So I definitely selected different materials and prepared different materials and different assignments for them. Also I taught engineering students here at [this university]. So the choice of materials. The choice of the topics. The choice of the assignments they were writing, different kinds of engineering reports for different kinds of units. It was also communication in engineering, robotics and civil engineering field, water tanks, etc., very interesting. Graphics play much a bigger role in engineering teaching because a lot of information is presented in graphic form so it was good. I totally enjoyed it.

In terms of her preference in teaching, she preferred ESP because of the predictability of students' needs although she was currently teaching EAP, as she explained her point of view.

> ... Because you can have much more predictable vision of what your students may need. Of those students' needs. I enjoy teaching EAP... you know, but I think it would be nice. Our numbers do not [allow]... breaking it up. We have been talking about business English but you know we don't have the numbers. Simply it's a small program.... We can't do that because of the numbers. It would be better probably... I don't see why they can not see the broader view of what's happening here and why things are different. I think it's an eye opener. It opens their eyes on their culture. Evaluate their culture... they become much more aware. I don't think it actually hurts them to do something that is related to what they will be studying here but it's not necessarily topic-specific. In every single course, they do research related to their field of study. Therefore, it's double ... parallel and in the first EAP course, they do study skills yeah as strategies and research skills and actually there is anecdotal evidence that they are better prepared to do library research because they actually are told how to do it and tested ... very explicit, where to

> find a journal when you don't know the title ... to search in the library and the internet and how to evaluate sources ....

She also accounted for the lack of availability of ESP programs at the school because of the limited size of the students' population coming into the school ESL program. Even if she would like to have taught EAP, she saw no harm in keeping students open-minded to other cultures especially their academic culture through the explicit instruction of study skills and strategies and research skills. The course theme did not have to be specific in their disciplines as they can still do something in their fields of study as in their research assignments and papers.

Theme 16: Issues in Course Design

In her initial course design, the ESP teacher "misdiagnosed" her student-base or "clientele" because she earlier prepared materials that were so engineering-specific that they were inappropriate to use. At that point as students were still in their first year and not experts or professionals in engineering. Soon, she realized she needed to wait to see her students first and decide from there what materials would suit their academic and professional expertise, as she commented:

> I also realized that I had to incorporate a lot more than I though I would have to of the kinds of learning strategies, reading strategies, writing process strategies of general academic prep like any EAP course so I could focus I could bring that in I had to bring that in and I had to step back and intensely I brought in new materials until they get comfortable with reviewing things like summary writing, presenting orally that kind of stuff. The usual kind of stuff you do in EAP. Now I could bring in engineering topics but it wasn't a matter of not ... I could make it engineering-focused but I couldn't use the highly technical stuff that I had prepared at least not right away. I had to get them prepared to be able to access technical journals, journals from a variety of sources, textbooks. There wasn't much online at that time ... but textbooks and real journals and then popular journals on the top .... So I could bring in those kinds of topics and in the process incorporate a lot of the EAP strategies they will need anyways so that was helpful but it was a learning thing for me...

Her extensive earlier preparation in designing the course was enriched by contacting engineers, professors, engineering professionals, administrative staff such as the Dean of

Engineering, as well as her own extensive reading on engineering. In spite of all this preparation, she said it was inappropriate because she over-anticipated her prospective students.

> You can't over-anticipate clientele, I would say student-base until you meet them. So in subsequent use, I very often wait until I see who they are although I tend to do that more with my general EAP courses. I wait to see who they are and then ..., we negotiate topics and focuses ..., topic areas depending on their needs. If I know they are all in business, it's quite different if they are mostly sciences. I can wait. I know though that in the engineering course that 99.9% of the time, they are going to be engineering so I can predict. I just have to remember that they have to get eased into the concepts.

To accommodate for the students' learning style differences, the ESP teacher asserted that the tasks were varied to suit the students' varied styles of learning but could make them experience other ways of learning as well.

> Learning styles are quite variable, both individually and culturally. The key is to simply offer a variety of opportunities and encourage them to both feel comfortable with their own preferences but also to take a risk with a new way of doing things which might turn out OK too--and if not, that's OK as well. The tasks set for students usually are varied enough that most people complete ... them in the way they prefer but also get a chance to try new approaches.

She also talked about her cooperation with other teachers and how it had helped her in her design:

> Of course we EAP teachers cooperate generally, but since this course is the only specialized language course, I do mostly my own work. I consult with engineering professors and professionals occasionally (not as much as I used to initially) and I continue to read in areas of technology, technical writing as well as ESP.

For the EAP course, although the EAP teacher cooperated with other teachers in the EAP program especially in arranging assessment components, she was autonomous in her content, and materials selection and development.

The following findings could be drawn from every theme or across the themes as these are all related issues and can not be fully separated from each other.

1. Students' Learning Experiences And Background:

Students' learning experiences were shown to have impact on their learning difficulties and process of acculturation into their mainstream courses. The students indicated that their families played a major role in their disciplinary choices and their current language status. Some background issues were found to be of importance to the students' learning as in e.g. the native country educational and job market issues and how they may affect the students' efforts in studying and their choice of their majors of study. Chinese students' background was found to influence the students' learning such as the testing culture and the competitiveness to achieve higher education for a better future in the workplace. Also, work experience was shown to shape some students' interests and increase their motivation to learn in their majors of study.

2. Students' Perceived Proficiency:

The students varied in their perceptions of their proficiency in reading, writing, speaking, and listening, but they linked these perceptions to their practice efforts that were influenced by circumstances, practice opportunities, amount of socialization, learning styles, and personality traits as in being social versus being shy and introverted. Students' socialization with others was found to affect their learning as in the kinds of people they interacted with in their daily life and their in-class activities. It was found that the more students were put in groups to work collaboratively, the better their learning and engagement would be. The students expressed their disappointment with their language school placement test to the extent that they felt they had been misplaced and should have been in a higher level because they had a high academic and language performance back home.

3. Teaching Goals And Students' Learning Goals:

Related to the goals of the EAP and ESP courses, it was revealed that the two courses provided content, activities, and tasks that were aimed to prepare students for their academic study, as emphasized by both teachers. The students were found to aim for preparing themselves for their academic study, which could be reached by building their vocabulary and developing their writing skills. In addition, they had some other goals such as learning more about the western culture, speaking like native speakers of English, and being able to function professionally. It was found that students liked their present ESL courses because of their relevance to their interests and/ or majors of study, which was shown to increase their level of engagement in the course activities and tasks.

4. Students' Learning Expectations From The ESL Course:

As the students' main expectation from the ESL course was preparation for academic study, they were found to have more aspirations for discipline-specific work as outcomes from the ESL courses especially when comparing their earlier experiences in ESL courses with their present ESL courses. Their earlier experiences in the ESL courses revealed that they got more guidance and explicit instruction on how to do research and write different types of essays, but the present courses would bridge the gap between their language difficulties and academic requirements.

5. Students' And Teachers' Perceptions Of The ESL Course Content And Materials:

Students expressed their interests and liked the content and materials used in both courses although they were different. The sustained content used in the EAP class enabled students to see a discipline, communications, and be immersed in its themes, which both interviewed EAP students liked. However, students whose specialization was closer to the EAP course theme, such as mass communications and psychology majors,

might be more advantaged than the other students. We can draw on this that the students' engagement in the content was raised because of their interests in the topics addressed and not necessarily due to their focus on their disciplinary areas. Reading groups and discipline-specific research projects were found to provide discipline-specific work even in ESP for engineering that focused students' discipline-specific work by forming reading groups. The ESP course content was revealed to have more variety as in the use of texts from different engineering genres and videos. Authenticity and complexity of the materials used as input-rich contexts was reported by students in both classes to be troublesome at times. Teachers attributed such difficulties to the students' lack of attention, "surface learning", and lack of use of practiced reading, listening, and note-taking strategies. It was also noted that classroom activities and tasks related to the addressed themes were what students did with the content and materials so that they practiced their language and learning strategies such as note-taking, summarizing, researching, referencing, etc. Therefore, we can sum up that topics and content were the springboard for the activities and achievement of objectives in the two courses.

6. Other Regular Courses Requirements, And Relevance Of ESL Courses To Them:

The interviewed students reported some requirements in their content courses such as the reading load, and writing conventions in their majors of study. They revealed some difficulties with reading speed and listening comprehension due to the fast speaking of regular course instructors. Some requirements in their majors of study involved testing situations such as giving definitions of terminology, reading responses, and taking notes from the professors' slides and lectures. As students were still in their first year, they still anticipated taking more courses that could be difficult because of their language level and/ or their lack of background knowledge and the complex nature of these courses as well. Some students could not relate what they were learning in the ESL courses with the content courses they were doing or have already taken in their majors of study. Being in reading groups and interacting with other students showed that students form a community from which they learned about the requirements of their specialized studies. The amount of wait time in the ESL courses was found to increase the students' fear and maybe motivation to get to know their major of study requirements. So, allowing students to take some other courses in their majors of study reduced this fear and bridged the gap between the two extremes.

7. Reading Strategies:

In their reading activities, the students and teachers indicated that they used certain EAP reading strategies such as prediction, skimming, scanning, making inferences, etc. A specific pre-reading strategy in the ESP class was looking into graphs, subheadings, and organization of texts to arrive at their actual reading of the text. Some individual and cultural characteristics were found to play a role in the students' reading behaviors. The Arabic ESP student underestimated the need for memorization and actually reported a low use of memorization strategies because of his belief and practices that context is the key to comprehension, which indicated the importance of providing input-rich contexts for students to comprehend well. The Arabic EAP student reported her lack of use of prediction in reading and her devaluing of this strategy because of the reading load and time constraints in her study. The students in both classes talked about some reading difficulties such as slow reading and inability to manage the amount of information as a result of the reading load especially in their mainstream courses. Some

cultural differences were also found to play a role in their inability to conceptualize certain morphological and syntactic relations in the discourse and their resistance to question what they read. Students reported liking focused reading groups and peer work in understanding the readings and assessing their usefulness to their research assignments. In jigsaw reading in both classes, the students were involved in knowledge-sharing, social interaction, and construction of meaning in their respective reading groups.

8. Word-Attack And Vocabulary Strategies:

A major finding is the students' use of word-attack and vocabulary strategies to overcome their comprehension difficulties and gain more vocabulary items to use them in speaking and writing. The students did a glossary of terminologies that related to their readings or more generally their course content. They varied in their use of these vocabulary items and making use of their glossaries other than satisfying this component of the course requirements. Three approaches were reported by students: 1) using vocabulary items in their research and writing assignments; 2) using them in speaking and communicating with people; and 3) constantly reviewing them in a looping manner by referring to the note-book or glossary to remember the items from time to time. The students were encouraged by their instructors to check meaning by asking people first and then referring to the dictionary meaning because people can put a term in a context more than dictionaries that are de-contextualized and limited in their technical terms. For the use of either a mono-lingual or a bio-lingual dictionary, the teachers did not state a preference as long as the students achieved an understanding of the meaning, but they cautioned students of the limitations of bio-lingual dictionaries as some languages might not make some morphological distinctions. Generally, context was deemed by both students and teachers to be the key to comprehending new vocabulary items rather than mere decoding of texts word-for-word.

9. Writing Strategies, Writing Requirements In The ESP Students' Engineering Disciplinary Areas, And Post-Writing Strategies:

There were some problems with writing revealed in the interviews. Students reported they disliked going back to edit their writing. Some were found to start writing without a plan and may mess up in their in-class assignments because they can not manage the data or time. It was shown in the study that the ESP students were more aware of the conventions of engineering writing and the different genres they will soon be practicing in their content courses. The EAP students did essays, exam questions, reading responses, and journals. The student in both classes reported having a negative attitude towards writing essays in their past ESL experience because of the irrelevance of these essays to their majors of study. In their writing, the students were provided with constant feedback and directions in their writing process, which they liked because of the guidance in how to write better. Some students indicated their lack of pre-writing activities as they just start writing without a plan. In their discipline-specific research, the EAP students practiced their research skills, note-taking, critical skills in evaluating references and using them in their writing. The ESP students were shown to be more aware of the engineering conventions and the need to consider the context, audience, and purposes in their "data management" or "data organizational strategy" and the differences in their writing processes of the various engineering genres such as reports and essays.

10. Course Assessment, Motivation, Sense Of Progress, And Role Of The Teacher:

It was revealed that the students liked the process approach to writing as it reflected their learning process and divided their grades so that they could do better in later assignments. Also, students' effort and attendance were awarded as well as their revisions of their papers in the EAP class. The students' motivation was found to be high to get through their present ESL courses to finish their ESL requirements and be regular students. In their ESL instruction, the students could identify some learning taking place and sensed progress in e.g. their writing abilities. However, they were afraid of failing the ESL course and having to repeat it. Their progress was indicated to them by the feedback from their ESL teachers and by the grades The teacher was seen by students as the person responsible for their progress and they wanted the instructor to be available to them at all times answering questions and guiding them. Some students were influenced by the way the teacher treated them arguing that their good treatment and personality as well as knowledge made them like their ESL courses and vise versa. In terms of their progress in the course, the students were worried about their grades and the chances of passing the course so that they could be regular students and take a full load. Some students had a low vision of their progress in mainstream courses in comparison with native speakers due to language barriers. The ESP teacher indicated a mismatch in her students' speaking and writing abilities. She thought that such mismatches could be attributed to cultural and orthographic differences students were faced with in North American academic expectations. She indicated that students' success and progress in her course was influenced by the students' desire to be engineers, paying attention to instructions, and satisfying the requirements of tasks by taking the time to think, plan, draft, and edit just like professional engineers do. It was also shown in the study that both teachers thought that students with more readings in their mainstream courses tended to do better than other students taking numeric-based courses.

11. Students' And Teachers' Perceptions Of Classroom Organization:

The interviews revealed that students were usually affected by the way the classroom was organized so that students worked individually, in pairs, and groups. Group work as in reading groups was found to heavily influence the students' learning as they learned from each other and socialized with others. Group work allowed students to share knowledge about their disciplinary requirements as well.

12. Students' Language Practice Outside Of Class:

The students showed a variety in their language practice efforts. Communication was found to be a goal for one case only, and reception of knowledge was found to be across the cases. For communication, it was reflective of the student's social character. For reception of knowledge, it was found in the students' tendency to practice listening by watching TV and listening to music, and it was also seen in their reading behavior and some social behaviors as in going shopping. Being in an English-speaking country was shown to have forced students to use English, but when students formed groups with their friends from their native country they tended to speak in their first language.

13. Transfer Or Interference From First Language Into Their Regular Courses Or ESL Courses:

Signs of transfer were evident in one of the students' use of high school textbooks to illustrate to him what could not be understood fully in his major courses. The use of bilingual dictionaries was also shown as a habit with some students to check the meanings of some words and terminologies.

14. Teachers' Perceptions Of Implicit And Explicit Strategy Instruction:

Both teachers would use explicit and implicit instruction as needed in the classroom. It was shown that they might use explicit in situations to require students to pay attention to some morphological and syntactic features of the language that they might have difficulty with because of their cultural background.

15. Teachers' Preference Between Teaching EAP Or ESP Courses:

The main differences found between the EAP and ESP courses were in materials selection and nature of assignments. Both teachers were experienced in teaching both courses, but would like students to be in ESP courses if possible although EAP had its benefits as well.

16. Course Design Issues:

Both teachers took the students' characteristics into account when designing their courses, but the ESP teacher argued for a consideration of the students. This required needs analysis after she saw them and not just presenting them what she prepared in advance. Cooperation and collaboration between ESL teachers, instructors in mainstream courses, and administrative staff were considered very essential in course design. In their course design, both teachers addressed the students' disciplinary differences and cultural characteristics when developing course content and aimed for students' strategic competence through the organization of reading groups. The EAP teacher addressed the students' different disciplines by the use of the course theme that might bridge the gap between students as they themselves experienced language and cultural change. The research papers they did within their disciplinary areas focused their learning as well. Cultural differences were accommodated by language awareness activities as was explained earlier.

As these were the findings from the interview analysis, now we turn to some concluding remarks and implications of the study results elicited from the participants using the quantitative and qualitative research instruments as explained in the previous sections.

CHAPTER SIX: CONCLUSION

This thesis presented a study that examined the potential of "strategic intervention" in addressing more appropriate and useful sets of learning strategies to ease students' transition into their mainstream courses. A primary research question looked at the extent to which students' strategy repertoires matched their teachers' recommended strategies in EAP and ESP courses[8]. The study also looked at the effects of EAP and ESP courses on the students' use of strategies and their perceived success. One of the main aims of the study was to identify how students' disciplinary studies influenced their strategy repertoires. This chapter draws pedagogical implications for EAP and ESP instruction from the study, discusses the study limitations, and suggests directions for future research.

Overall, the study revealed some differences between EAP and ESP students' reported use of reading and writing strategies in their reading and writing processes. These techniques or strategies that were introduced in Chapter Two in the literature about reading and writing, were identified in the goals and focus of the two courses, the teachers' recommendations for completion of task requirements and academic success, and the students' positive and negative[9] use of these strategies. The use of the teachers' recommended strategies was "filtered" by students to select strategies ostensibly most suitable to them. I call this "filtering" in strategy use an "inappropriate uptake" or

[8] The contexts in this study are: one English for General Academic Purposes (EGAP) course that is called (EAP) throughout this thesis, and one English for Specific Academic Purposes (ESAP) course that is called (ESP). Although some researchers (Allison, personal communication, May, 4th, 2006) argue that these courses should be looked at as a continuum, I prefer to look at them as a dichotomy in this thesis as two different course models.

[9] Negativity of strategy use represents the mismatches reported in the index of disagreement between teachers' and students' strategy repertoires. However, this does not mean that teachers know best as students might hold different views of strategy use that best suit them.

"negative uptake" of the recommended language learning strategies. It was shown in this study that the ways in which students employed certain strategies to overcome their learning difficulties or to maximize their learning were all influenced by their differences, beliefs, and experiences at the individual, academic, and cultural levels. Therefore, I would like to argue that there were "sources of resistance" to the taught strategies shown in students' "negative uptake". These sources of resistance were individual, academic, and cultural and could be attributed to the students' differences, experiences, and beliefs. The notion of "uptake" applies to the students' negative and positive use of strategies as recommended by their teachers for use. As shown in the study, students did not use strategies as intended, indicating a mismatch between what was reported to be used by students and what was reported to be useful to students by their teachers.

"Sources of mismatch" between teachers' intentions and students' interpretations in task-based pedagogy were investigated by Kumaravadivelu (1991), who classified observations of such a mismatch into ten sources: cognitive, communicative, linguistic, pedagogic, strategic, cultural, evaluative, procedural, instructional, and attitudinal. In the study reported in this thesis, a set of mismatches between the teachers' recommended and practiced strategy repertoires and students' reported strategy use repertoires were identified. As argued by Kumaravadivelu (1991),

> mismatches between teacher intention and learner interpretation may be inevitable, but they need not be totally negative. A particular mismatch, if identified and properly handled, can give learners an opportunity to negotiate further in order to tease out a problem in their own way. (p. 106)

Even if there was a negative uptake in strategy use, it could still be identified and more effective strategies could be scaffolded by teachers. The students' uptake in strategy use was negative because it was contrary to the teachers' strategy

repertoires with regard to what the teacher felt would be useful to them. Of course another perspective may be that negative uptake indicated strategy use that was more suitable to students' learning circumstances and individual characteristics.

> As Breen (1987:40) observes, 'any task is, by definition, an intervention upon personal approaches to learning and personal concepts of what language learning is like.' The more we know about the learners' personal approaches and personal concepts, the better and more productive our intervention will be. (as cited in, Kumaravadivelu, 1991, p. 107)

So, to allow for more effective intervention in strategy instruction, teachers need to attend to the students' personal approaches to learning to maximize learning opportunities as in, for instance, organizing appropriate tasks and activities that are associated with the course content.

As revealed in the study, the students reported using strategies negatively in their reading and writing processes. In the literature, it is mentioned that students can employ certain reading and writing strategies to succeed in their academic tasks of reading and writing. In the second language learning writing process, writers could utilize writing strategies, which involve "the use of particular techniques or methods by the writer to improve the success of" his or her writing (Baker & Boonkit, 2004, p. 301). The study reported in this thesis looked at the writing as process teaching approach, which is the primary model of writing instruction approach followed in the study context. In their writing process, students go through seven phases, although not necessarily everyone follows the same sequence. These phases are: 1) the starting point when they choose a topic of investigation and their research question(s); 2) exploration as they research their specific writing topic; 3) incubation in which they think about their writing topic; 4) illumination when they suddenly gain a new insight or knowledge into their topic; 5) composing in which they actually write on the topic; 6) reformulation or revision in

which they modify or change their writing; and 7) editing that involves checking mostly spelling and grammar (Freedman, n.d.).

Researchers (Zamel, 1982; Ferris, 2001; Nunan, 1991) have also highlighted that teaching should be involved in the all phases of the writing process and argued that it should not be just concerned with the final product as in the traditional product-approach. Therefore, teachers could help students in their development of ideas, planning and organization, and delivery or expression of their ideas. "Learners should be aware of and encouraged to use the techniques of successful writers when revising their work" (Baker & Boonkit, 2004, p. 301). Also, teachers' feedback and peer response on earlier drafts can affect the students' writing processes (Ferris, 2001). In addition, the relationship between writing and reading has been researched connecting writing to reading texts so that students are provided with model texts, and could be helped to generate ideas in their writing process (Baker & Boonkit, 2004; Grabe, 1991; Flowerdew & Peakcock, 2001b). Studies in this area have been concerned with examining strategies used to generate ideas and to plan before writing, editing, and using post-writing feedback.

According to Baker & Boonkit (2004), in the reading process, reading strategies "are techniques and methods readers use to make their reading successful" (p. 302). Learners can employ such techniques in the reading process which include: "reading for pleasure in English, skimming and scanning, summarizing information, making guesses, prediction, making inferences, underlining words and phrases, and making notes" (Baker & Boonkit, 2004, p. 303). Also, linking reading to writing tasks "enhances the development of the writing skills" (Stotsky, 1983; Krashen, 1984; as cited in Baker & Boonkit, 2004, p. 303) as in the comprehensible input and recycling of vocabulary items

(Krashen, 1981, 1985; Pally, 2001) in content-based instruction approaches. As shown in the literature, if such reading and writing strategies were employed by students, they could help them in the stages of their reading and writing processes, namely before, while, and after their reading and writing tasks.

Although reading and writing strategies were recommended and practiced by the EAP and ESP teachers surveyed (based on the IELLS and interviews in this study), the 21 surveyed students in this study reported using some strategies negatively. It was found from the surveyed students that EAP students used affective strategies more than the ESP students and their lowest use among strategies was in their use of cognitive strategies. It was also revealed that the surveyed ESP students used affective strategies the least and they used cognitive strategies more than the EAP students. In their use of reading strategies, the surveyed students in both classes reported using pre-reading strategies more than while-reading and post-reading strategies, especially EAP students who had a high level of pre-reading strategies. In writing strategies, both classes used pre-writing strategies more than while-writing and post-writing strategies, especially the EAP students whose pre-writing strategy use was higher than the ESP students. So, EAP and ESP teachers could pay more attention to the development of cognitive strategies, especially given that the development of cognitive skills was shown to be the main goal in both courses. Teachers could also scaffold students' positive use of while-reading and post-reading strategies as well as while-writing and post-writing strategies more often.

As seen in the index of agreement of negative strategy use, the two EAP students showed a negative use of metacognitive, cognitive, social, and memory strategies, higher than the two ESP students. The two ESP students also revealed negative use in

compensation, negative, and affective strategies, higher than the two EAP students. The two ESP students reported using while-reading strategies more negatively than the two EAP students. Negative use of post-reading strategies was reported by the four students. When it comes to writing, while the two ESP students showed a negative use in pre-writing, while-writing, and post-writing strategies, the two EAP students revealed more negative use in these stages. The two ESP students used writing strategies more negatively than reading strategies, indicating a problem in the writing process. For writing strategies in particular, the results of the Inventory of Writing Strategies showed that the four interviewed students had a negative use of strategies mostly while and after writing, pointing to a problem in the writing and revising stages for students in both classes. The two EAP students showed a negative use of while-writing strategies more than the two ESP students. Overall, these negative uses could be unique differences, but the matches between the two students in every class probably indicate that students may have a problem in their reading and writing processes due to their negative use of reading and writing strategies.

As both the ESP and EAP teachers aimed to develop EAP strategies, e.g., reading and writing strategies, both teachers could benefit from the study of the reported mismatches in order to better develop their students' reading and writing proficiencies through their instructional intervention, taking students' personal approaches to learning and their learning difficulties into account. Although the two courses differed in their content, they both addressed academic success skills and practiced the four skills to prepare students for their academic study. Reading and writing strategies were emphasized in the two courses, but as mentioned earlier and as shown in the results,

students did not appropriate these strategies properly, which was contrary to the intentions of their teachers. From the interview analyses, it was found that students' language learning and use of language learning strategies were influenced by many issues related to their learning differences, experiences, and beliefs. The negative uptake of strategies reported in the study may be an indication that students resisted the pedagogical mediation in their EAP and ESP classes. Such resistance may be attributed to the students' academic, cultural, and individual differences, experiences, and beliefs.

At the academic level, students' academic culture was shaped by their experiences in ESL classes and discipline-specific courses and was found to affect their learning and use of strategies. Issues related to their academic experience concerned the students' academic expertise relevant to their genre awareness and content knowledge, and their learning difficulties especially in reading and writing in content courses.

Geisler (1994) presented a model of academic expertise consisting of "the domain content" and "the rhetorical process." In the stages of academic expertise development, rhetorical expertise lags behind the domain content expertise. This explains how content could be accompanied by training and experience to allow students to develop the ability to use abstractions and adapt these to particular cases. It also explains how the rhetorical process expertise with training and experience allows students to "develop the reasoning structures" (p. 84) through which they become able to use abstractions in the context of their disciplinary tasks. So, rhetorical process expertise should be aimed for, so that helping students experience how genres are organized and produced and not just storing genre knowledge. The ESP and EAP courses seemed to aim for developing both content and rhetorical processes. The training and experience EAP and ESP students were

provided with in the two courses developed these two dimensions of academic expertise to prepare them for academic study, making content the springboard for such rhetorical processes. However, there was more variety in the ESP course in terms of engineering genres and the students felt it was more relevant to their majors of study in content and tasks such as writing technical reports and memos. On the other hand, in the EAP class, students wrote essays regardless of what their specializations were. From the student's attitudes towards content and tasks of the two courses, we can conclude that these students' engagement in the courses motivated them. Their engagement was influenced by their enjoyment and the relevance of the content and tasks to their disciplinary studies as well as their individual interests. This finding supports other research studies (Dudley-Evans & St John, 1998; Flowerdew & Peacock, 2001a) that advocate having core EAP work that could be supplemented with discipline-specific and individualized project work. Therefore, their academic expertise was addressed by the two courses in both of its dimensions, i.e. content and rhetorical process. Nevertheless, differences in content and genres indicated that the ESP course introduced engineering students to the requirements of their mainstream courses. It was shown in other studies that genre awareness could aid the development of language skills especially composition skills (Dudley-Evans & St John, 1998). However, EAP students did not have much access to genre-specific instruction, as they were a heterogeneous class.

Freadman's (2002) definition of uptake after Austin (1994, 1962) in genre study considers one's knowledge of the differences between genres as the most important part of one's knowledge of genres. According to Devit (2000), genres need to be understood in terms of what they are and what they are not. Students in the ESP class dealt with

different genres in engineering that they learned in the class including memos, technical reports, essays, and business letters. Thus ESP students should be attuned to the differences between these genres. However, their ESP teacher reported their confusion between reports and essays due to their lack of attention, and to issues of immaturity. In the EAP class, students dealt mostly with essays regardless of what their specializations were.

Other than the students' genre knowledge and expertise, their uptake could be seen in their strategy use. Their strategy use was not a mere intake of what they were supposed to be doing as recommended and practiced in class. The use of certain strategies such as note-taking and editing was governed by their agency. They used such strategies in order to satisfy task requirements although they believed they did not need to use them. Negative strategy use in a sense was an inappropriate uptake that reflected the students' resistance to recommended effective practices.

At the academic level, students were also found to have some difficulty in slow reading and writing, in academic courses in particular. Their reading difficulties stemmed from:

1) Their concern about the lexicon that affected their comprehension and speed;
2) Their negative use of some reading strategies such as prediction and vocabulary strategies;
3) Their unawareness of morphological and syntactic features in the discourse;
4) Their cultural clashes such as inability to question what they read; and
5) The reading load in their academic study and the nature of these readings.

For their writing difficulties, it was found that students were aware of the need for writing in their disciplinary studies, showing more variety and specificity of genres in the ESP class. EAP and ESP students' writing difficulties were shown to stem from:

1) Their previous negative experience with writing in ESL courses related to the relevance and novelty of the topics of writing;
2) Their cultural background related to their notions of writing in-class assignments as revealed in the Chinese students' accounts of such situations as testing situations rather than a learning process, which made them anxious, mismanage time, and therefore, do badly in their writing; and
3) Their beliefs about the need or lack of-necessity to revise after finishing writing a draft, which were supported by some successful attempts to write without revision.

Although the instructional mediation in EAP and ESP courses reinforced the use of reading and writing strategies in the reading and writing processes, students took up what they believed and had experienced to be useful and suitable to their learning processes and circumstances.

Sources of resistance to the use of recommended strategies could also be attributed to and explained at the cultural level. Bourdieu's (1986) conceptualization of cultural capital may be applied to the students' learning experience if we are to explain some of their actions. Cultural capital is a type of symbolic capital in Bourdieu's theory of capital. Cultural capital is "a form of values associated with culturally authorized tastes, consumptions, patterns, attributes, skills, and awards" (Webb, Schirato, & Donaher, 2002, p. x). According to Bourdieu (1986), cultural capital exists in three states: embodied, objectified, and institutionalized. In its embodied state, we acquire cultural capital that it "manages to combine the prestige of innate property with the merits of acquisition" (p. 245). Bourdieu's view of this form of capital considers that people possess different levels of the embodied capital primarily depending on the amount of familial cultural capital. The objectified state of cultural capital refers to the amount of access one can have to cultural tools, or objects, such as textbooks, machines, etc., depending on their access to economic capital. The amount of cultural capital is therefore

affected by one's economic capital as in one's family's ability to finance his or her education. The institutionalized state of cultural capital is characterized by academic qualifications representing institutional recognition of the cultural capital acquired by an individual allowing a change in the cultural and economic capital.

In their embodied or cultural capital, students' choice of learning English and the major of study were influenced by their cultural capital, whereas, for instance, the Chinese students were affected by their testing culture and educational background, as well as the linguistic characteristics of the Chinese language. Their language and academic performance that was marked by their poor performance in testing situations and the morphological differences they had difficulty with were indicative of how their culture played a role in their learning. Another aspect of cultural capital is the influence of the students' families, as they played a role in their choice of the major of study. The Arabic ESP student's father was an engineer, so he wanted to be like his dad. The two Chinese students were also sent by their parents to study in Canada for a better future. The Chinese ESP student's parents even chose his field of study for him.

Further, Chinese students were affected by their Confucian model of learning in its notions of exerting every effort to succeed and the lack of questioning, whereas such notions were manifested in their tendency to study hard, to be passive recipients, and to lack communication with others. As indicated in the study, students were actually going through an acculturation process in their learning of the western Socratic learning approach that opposed their Confucius model of learning. If we look at them briefly, according to Tweed & Lehman (2002), the Socratic western model is characterized by the tendency to question, evaluate, have a high self-esteem for self-generated knowledge,

focus on error to evoke doubt, and search for knowledge and not true beliefs. But the Chinese students in this study were influenced academically by their Confucius tradition that is distinguished from the Socratic model by its teachings of effortful learning, behavioral reform, pragmatic learning, acquisition of essential knowledge, and respect for others (Tweed & Lehman, 2002). Some of the Confucian thoughts evidently had impact on the Chinese students' acceptance of the new Socratic approach to learning in a western country.

Another form of cultural capital was the students' formulation of communities of practice in which they interacted and informed each other of the requirements of their disciplinary studies and also shared knowledge of particular domain content. The academic culture was characterized by the regular courses they were taking or had already taken. It was an enriching experience for them and a point of transition to their academic study, given that EAP courses were viewed as impediments to their progress in their academic study. So, it was an acculturation process and exploration of task requirements in their academic world as they began their journeys in their specializations.

Furthermore, the students' awareness of the job market requirements, their competitive efforts to get better higher education, and the limited need for using English in the workplace settings in China were other cultural factors related to their economic culture. Their awareness of such factors had impacted their pragmatic learning as they aimed for getting good education at university. Their economic capital actually enabled them to have access to institutionalized capital by attempting to get academic qualifications in their disciplinary areas of study. Overall, students' cultural capital shaped their learning differences, experiences, and beliefs.

At the individual level, as shown in the study, students' learning processes could be influenced and shaped by some personal perceptions (beliefs), characteristics, and experiences relevant to individual interests and motivation, learning styles, maturity, personality, self-efficacy and confidence, and practice efforts outside the classroom.

For example, being interested in the course content and tasks could help students accept their disciplinary study choices, which was supported by the feeling of engagement in the EAP and ESP classes. Relevance and interest were shown to be determinants of students' personal motivation and persistence to learn and satisfy the course requirements. It was also found that students' resistance to the use of some strategies such as editing and other post-writing strategies could be attributed to apathy, immaturity, and irresponsibility of these students at that stage of their learning. Learning style could be an issue here because students learn differently, so the lack of the use of memory strategies and note-taking could be seen as a sign of different learning styles, which could not be accounted for in depth, given the limits of this study.

There were some other important individual differences revealed by the interviewed students, related to different personalities and degrees of self-efficacy. For example, one student had a shy personality that limited her interaction with others and, therefore, affected her speaking proficiency. Another student was social and always talking to people, so his speaking ability was excellent due to his social strategies that allowed him to practice his English. How they viewed their abilities was also found to matter to students as they reflected on their learning difficulties, questioning their abilities to handle some tasks. It was shown in the study that students' confidence and perception of their proficiency compared to others (especially native speakers) affected

their self-efficacy, interaction with other people, and their independent language practice outside the classroom.

These academic, cultural, and individual differences, experiences, and beliefs were shown to be interacting with each other as they framed the students' learning and strategy use. In conclusion, the following concluding remarks and implications for instruction could be drawn from this study:

1. Teachers could use the IELLS and the Inventory of Writing Strategies as needs analysis tools to help them diagnose students' use of strategies and explain why students may not use some of the language learning strategies as taught in the course. Towards the middle of the term of study, teachers could also do needs analysis to identify students' learning difficulties in their content courses so that they can address such needs to help students overcome such difficulties. The study indicated that students had some learning difficulties and instances of bad performance in mainstream courses related to their reading load, slow reading and writing, test-taking anxiety, etc. Students' use of some strategies especially reading and writing processes was revealed to be negative, showing a mismatch between pedagogical goals and students' strategy use. Therefore, teachers could address such learning difficulties and scaffold a positive use or uptake of strategies more often for particular students as identified by the suggested needs analysis.
2. The EAP and ESP courses may affect the students' strategy use through engaging students in domain content and tasks and activities that practiced certain skills and strategies such as reading, writing, and vocabulary strategies. The study results showed that this engagement was developed by relevance to students' disciplines and interests. Whereas ESP for engineering was shown to engage students more in disciple-specific academic English, EAP students were found to enjoy the EAP course content and activities as well. Students in both classes could still do discipline-specific work by being engaged in research assignments and reading groups provided that the ESP course also had students from different sub-disciplines within engineering itself. This finding supports the claims for content-based instruction (Shih, 1986), especially the thematic approach (Kasper, 1997; Meyer, 1994) and sustained content (Pally, 2001). Other than content, genre awareness was shown to assist students' learning as found in other studies (Dudley-Evans & St John, 1998) it can aid in improving language skills especially the development of the writing skill.
3. Teachers should be more attuned to the students' metacognitive knowledge or beliefs about language learning, their self-efficacy, attribution of learning success and failure, confidence, and motivation. As emphasized in other studies (Abraham & Vann, 1987; Kalaja & Barcelos, 2003; Yang, 1999), these issues were also shown in this study to play a role in students' learning and strategy use. Teachers

could encourage students to be reflective of their feelings and self-assessment related to their language learning so that they understand what beliefs students bring to class that might hinder their learning such as their vision of writing in-class assignments as testing situations rather than learning processes. Teachers should also keep students aware of the purpose and usefulness of the strategies they teach in their classes, so that students know how useful they could be as sometimes they might not use some strategies because they are ignorant of how beneficial they could be. In other words, students need to know why they practice certain strategies in ESL classes so that they make an informed decision of either accepting or rejecting using such strategies in their language learning performance.

4. This study supports the research trend of taking teachers' and students' strategy repertoires into account. As shown in other studies (Griffiths & Parr, 2001; Peacock, 2001) teachers promote such a learning environment for students where they provide strategy instruction. This needs to be examined from the perceptions of both students and teachers.
5. Unlike the findings in Chu, Kitchen, and Chew (1997), the qualitative results in this study indicated that engineering students had a very positive attitude towards group work as experienced it in their ESP and other courses. This study then encourages teachers to continue grouping students to learn from each other in their communities of practice and to enhance their cultural capital.
6. The teacher-student relationship was shown to play a role in students' learning and attitude towards the ESL course and other content courses. Students reported liking their courses more if their teachers' treatment was good and she was accessible and considerate of their circumstances and learning difficulties. In addition, teachers need to be more aware of individual and cultural differences students may have.

In considering these pedagogical implications however, it is important to acknowledge the limitations of this research study:

1. Classroom observation was not possible to develop a full picture of the contexts of study. Thus I was an outsider in reporting this research and the study reflected mostly teachers' and students' rhetorical accounts of their classroom activities.
2. Oxford's (1990) SILL that was adapted in the IELLS was a de-contextualized inventory as it did not address a specific context for students to consider when they responded to the items. However, the use of Baker and Boonkit's Reading and Writing Questionnaire in the second part of the IELLS provided students with a context represented in prompting them to respond to the items based on their performance in reading and writing tasks as to what they did before, during, and after these tasks. In a sense, it is best to provide students with a specific context so that they report the processes that they go through in carrying out these tasks. However, there were no real tasks to measure students' use of strategies as for example, getting them to talk about what they did in a specific language learning

activity or task in a verbal protocol. The study provided insights or reports from participants of what they thought they did or happened.

3. It is possible that students responded randomly to the Likert-scale inventories used in this study, which made it difficult to envision how often students really used such strategies.
4. The IELLS and Inventory of Writing Strategies were originally meant to reflect students' reported strategy use, but teachers were also asked to comment on how useful strategies were to students and how often they should use them. As the EAP teacher commented, the inventories were meant for students or learners and not teachers. The EAP teacher's responses had to be coded to comply with the scale because she provided other phrases to describe what she thought of the strategies. In future uses of these inventories in teacher versions, these inventories could be revised and their items could be re-worded to reflect the teachers' pedagogical perspective.
5. The study sample was small and insufficient for a significant statistical analysis. Also, as convenience sampling was followed in recruiting participants, only two students volunteered for interviews from the EAP class. Although I had six volunteers in the ESP class, I limited the number of interviewees to two students from every class, which may have restricted the variety of students' native cultures to Chinese and Arabic only. The sample is not representative of all the students in the classes nor are they representative of students from the same cultural background. Also, gender was not considered in this study because of convenience sampling and the limited number of participants, so gender was not accounted for in the study.
6. As I had difficulty accessing the students' actual language proficiency, it was their reports of their performance and what I could identify in the interviews of their listening and speaking abilities from communicating with them that I reported on. But I could not tell if they were successful language learners or not. Also, there was only a one-time interaction with participants, so it was not possible to see change in strategy use over time.

Future research in language learning strategies could take these study limitations into consideration in study design. The following issues could be examined:

1. Effects of individual and cultural differences on students' language learning performance in relation to language learning strategies such as their motivation and persistence to learn, and their learning styles;
2. The features of the students' disciplinary studies or their academic culture especially the first year university courses so that their needs could be addressed more; and
3. A problem that was not resolved in this study, which was examining how instructors and curriculum developers could bridge the gap between their strategy instructional mediation attempts and the students' uptake of this instruction.

To conclude, in its examination of the potential of "strategic intervention" in addressing more appropriate and useful sets of language learning strategies, this research study found that teachers could identify students' LLS uptake and consider such uptake in course design. It was also found that students' negative uptake of strategies was extended to their academic study courses because of the discipline-specific learning difficulties they faced such as reading load, new vocabulary items, testing situations, etc. Sets of useful language learning strategy repertoires could be developed more effectively if students' individual learning difficulties were identified. This would allow ESL (both EAP and ESP) pedagogical practitioners to strategically intervene, targeting individual strategy use in order to more effectively support students' academic success.

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APPENDICES

Appendix A: Language Learning Strategies (Oxford, 1990, pp. 18-21)

Direct Strategies (Memory, Cognitive, and Compensation Strategies)
I. Memory Strategies
A. Creating mental linkages 1. Grouping 2. Associating/elaborating 3. Placing new words into a context B. Applying images and sounds 1. Using imagery 2. Semantic mapping 3. Using keywords 4. Representing sounds in memory C. Reviewing well 1. Structured reviewing D. Employing action 1. Using physical response or sensation 2. Using mechanical techniques
II. Cognitive Strategies
A. Practicing 1. Repeating 2. Formally practicing with sounds and writing systems 3. Recognizing and using formulas and patterns 4. Recombining 5. Practicing naturalistically B. Receiving and sending messages 1. Getting the idea quickly 2. Using resources for receiving and sending messages C. Analyzing and reasoning 1. Reasoning deductively 2. Analyzing expressions 3. Analyzing contrastively (across languages) 4. Translating 5. Transferring D. Creating structure for input and output 1. Taking notes 2. Summarizing 3. Highlighting
III. Compensation Strategies
A. Guessing intelligently 1. Using linguistic clues 2. Using other clues B. Overcoming limitations in speaking and writing 1. Switching to the mother tongue 2. Getting help 3. Using mime or gesture 4. Avoiding communication partially or totally 5. Selecting the topic 6. Adjusting or approximating the message 7. Coining words

8. Using a circumlocution or synonym
Indirect Strategies (Metacognitive, Affective, and Social Strategies)
I. Metacognitive Strategies
A. Centering your learning 1. Overviewing and linking with already known material 2. Paying attention 3. Delaying speech production to focus on listening B. Arranging and planning your learning 1. Finding out about language learning 2. Organizing 3. Setting goals and objectives 4. Identifying the purpose of a language task (purposeful listening/reading/speaking/writing) 5. Planning for a language task 6. Seeking practice opportunities C. Evaluating your learning 1. Self-monitoring 2. Self-evaluating
II. Affective Strategies
A. Lowering your anxiety 1. Using progressive relaxation, deep breathing, or mediation 2. Using music 3. Using laughter B. Encouraging yourself 1. Making positive statements 2. Taking risks wisely 3. Rewarding yourself C. Taking emotional temperature 1. Listening to your body 2. Using a checklist 3. Writing a language learning diary 4. Discussing your feelings with someone else
III. Social Strategies
A. Asking questions 1. Asking for clarification or verification 2. Asking for correction B. Cooperating with others 1. Cooperating with peers 2. Cooperating with proficient users of the new language C. Empathizing with others 1. Developing cultural understanding 2. Becoming aware of the others' thoughts and feelings

Appendix B: Invitation Letter to Course Instructors

Dear Participant,

You are invited to participate in my research study on language learning strategies. The title of my study is "ESL Students' Language Learning Strategy Repertoires in EAP and ESP Contexts: Perceived Success and Pedagogical Mediation." Your participation will be part of my Master's thesis in applied language studies as a partial fulfillment of the Master's of Linguistics and Applied Language Studies at Carleton University.

Purpose:

This study aims to investigate similarities and differences between language learning strategies in English for Academic Purposes (EAP) and English for Specific Purposes (ESP) teaching models.

Procedures:

With your permission, I will introduce my study to your EAP and/or ESP students in the last 5 minutes of your class and leave the questionnaires with your students to fill out provided with an instructions sheet of how to fill them out and return back to me. The questionnaire will take about 40 minutes to complete. I will also leave behind consent forms for students to fill out if they would like to volunteer to have two semi-structured interviews with me to discuss their questionnaire results and their language learning strategies. Each interview will take approximately 30 minutes. If you choose to participate further in the study, I also invite you to have a 30-minutes semi-structured interview and another 30-minutes semi-structured follow-up interview in the Winter term (if needed). The interviews will discuss your course outline asking you about your inclusion of language learning strategies in designing your course outline and what you see are the relationships between developing learning strategies and succeeding academically and professionally. This will be discussed in light of the course outline and the types of strategies encouraged in the course. The themes that might arise will cover language learning strategies in relation to course objectives; course materials; types of classroom activities; language progress and assessment; and students' differences. All interview data will be tape-recorded and then transcribed.

Potential Risk/ Discomfort:

There are no foreseen potential physical or psychological risks in this study.

Anonymity/ Confidentiality:

The data collected in this study are confidential. I can not offer you anonymity while collecting the data for this project because of the small number of potential participants but all data will be coded so that your name is not associated with the data and what you say will be stored, reported and quoted using a pseudonym. Also, the coded data are made available only to the researcher associated with this study.

Right to Withdrawal:

You have the right to withdraw from this study. However, the data that have been collected from you before January 30th, 2006 will be retained for analysis in the study.

Research Personnel:

The following people are involved in this research and may be contacted at any time: Zakiya Al Naddabi (Principal Investigator, zanaddab@connect.carleton.ca); Prof. J. Fox (Faculty Sponsor, 520-2600 ext. 2046, jfox@ccs.carleton.ca). Should you have any ethical concerns about this study then please contact Prof. Antonio Gualtieri (Chair, Carleton University Research Ethics Committee, 613-520-2517). Should you have other concerns about this study then please contact Prof. D. Woods, Graduate Supervisor, 613-520-2600 ext 3932, devon_woods@carleton.ca.

Debriefing Form (Teachers):

Subsequent to the completion of this study, you will be emailed the research results. I would be pleased to meet with you in person to discuss the results.

Signatures:

I have read the above descriptions of the study on " ESL Students' Language Learning Strategy Repertoires in EAP and ESP Contexts: Perceived Success and Pedagogical Mediation" and understand the conditions of my participation. My signature indicates that I agree to participate in this study.

Participant's Name: (Teacher): _____

Participant's Signature (Teacher): _____ Date: _____

Email: _____

(I require your email to contact you.)

If you decide to participate in the study, you can reach me at (zanaddab@connect.carleton.ca) or (613-2620331) to let me know about it.

Appendix C: Teachers' Consent Form

Please read carefully. The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study or not.

Title of research project: ESL Students' Language Learning Strategy Repertoires in EAP and ESP Contexts: Perceived Success and Pedagogical Mediation.

Research Personnel:
The following people are involved in this research and may be contacted at any time:

Researcher:
Zakiya Al Naddabi
E-mail: zanaddab@connect.carleton.ca

Supervisor:
Prof. J. Fox
Telephone: 613-520-2600 ext. 2046
E-mail: jfox@ccs.carleton.ca

Should you have any ethical concerns about this study then please contact
Prof. Antonio Gualtieri, Chair
Carleton University Research Ethics Committee
Telephone: 613-520-2517
E-mail: ethics@carleton.ca

Should you have other concerns about this study then please contact
Prof. D. Woods, Graduate Supervisor
Telephone: 613-520-2600 ext 3932
E-mail: devon_woods@carleton.ca

Purpose:
The purpose of this study is to investigate students' language learning strategies in two different course models: English for Academic Purposes (EAP) and English for Specific Purposes (ESP).

Task Requirements:
As a language teacher, you will have a 30-minutes semi-structured interview to discuss your course outline asking you about your inclusion of language learning strategies in designing your course outline and what you see are the relationships between developing learning strategies and succeeding academically and professionally. This will be discussed in light of the course outline and the types of strategies encouraged in the course. You will also have a 30-minutes semi-structured follow-up interview in the Winter term.

Duration and Locale:
Each interview will take approximately 30 minutes.

Potential Risk/ Discomfort:
There are no foreseen potential physical or psychological risks in this study.

Anonymity/ Confidentiality:
The data collected in this study are confidential. I can not offer you anonymity in the field because of the small number of participants but I guarantee your anonymity in disseminating the results. All data will be coded so that your name is not associated with the data and what you say will be stored, reported and quoted using a pseudonym. Also, the coded data will not be made available to other researchers.

Right to Withdrawal:
You have the right to withdraw from this study. However, the data that have been collected from you before January 30th, 2006 will be used in the study.

Signatures:

I have read the above descriptions of the study on ESL Students' Language Learning Strategy Repertoires in EAP and ESP Contexts: Perceived Success and Pedagogical Mediation and understand the conditions of my participation. My signature indicates that I agree to participate in this study.

Participant's Name: (Teacher): _____

Participant's Signature (Teacher): _____ Date: _____

Email: _____

(I require your email to contact you.)

Debriefing Form (Teachers):
Subsequent to the completion of this study, you will be emailed the research results. I would be pleased to meet with you in person to discuss the results.

Appendix D: Invitation Letter to Students

Dear Student,

My name is Zakiya Al Naddabi and I am an M.A. student in SLALS and I would like to take this time to invite you to participate in my research study on language learning strategies. The title of my study is "ESL Students' Language Learning Strategy Repertoires in EAP and ESP Contexts: Perceived Success and Pedagogical Mediation."

Your participation will be part of my Master's thesis in applied language studies as a partial fulfillment of the Master's of Linguistics and Applied Language Studies at Carleton University. I will be meeting with students in both English for Academic Purposes (EAP) and English for Specific Purposes (ESP).

I would ask that you take the time to complete the enclosed questionnaire. The information you provide will be anonymous unless you would like to review the questionnaire with me and participate in the interview stage of the research. In that case, please complete the last page of the questionnaire. Further instructions on the interview follow.

There is no risk to you for participating in this questionnaire. You are not anonymous while filling out the questionnaire because it is being distributed in a classroom setting. However, your responses are anonymous and will not be attributed to you. The results will not be shared with your course instructors and the final results will appear only in aggregate form. Your participation will not affect your grade.

After completing the questionnaire please place it in the envelope and give it to me outside the classroom right after you finish or before your next class as I will be waiting for you outside the classroom as well.

Interviews:

If you would like to review the results of your questionnaire with me and participate in a 30-mintues semi-structured interview with me asking you about your questionnaire responses and your use of language learning strategies, please fill in the last page of the questionnaire with your contact information. I will contact you for the interview. Should I have more participants than required, I will choose 6-8 students based on the reported frequency of strategy use in their questionnaire results and their classes, whether EAP or ESP.

I will also conduct a 30-minutes semi-structured follow-up interview in the Winter term. Both interviews will be conducted at a time and a place of convenience to you.

All interview data will be tape-recorded with your permission and then transcribed. You will not be identified in the study by your name or any other identifying information. I may directly quote you but I will not associate you with the response. Your participation is risk free and you will not directly benefit from your participation. Your participation will not affect your grades.

All the data collected from this study (questionnaire and interviews) will be securely stored and only I will have access to the raw data. The final results of this study will appear in my M.A. thesis.

This research project has been reviewed and approved by the Carleton University Research Ethics Committee. If you have concerns or complaints about the project please contact the committee chair. If you have any questions about the project please contact me or my supervisor.

Contact Information:

The following people are involved in this research and may be contacted at any time:

Researcher:
Zakiya Al Naddabi
E-mail: zanaddab@connect.carleton.ca
Supervisor:
Prof. J. Fox
Telephone: 613-520-2600 ext. 2046
E-mail: jfox@ccs.carleton.ca

Should you have any ethical concerns about this study then please contact
Prof. Antonio Gualtieri, Chair
Carleton University Research Ethics Committee
Telephone: 613-520-2517

E-mail: ethics@carleton.ca
Should you have other concerns about this study then please contact
Prof. D. Woods, Graduate Supervisor
Telephone: 613-520-2600 ext 3932
E-mail: devon_woods@carleton.ca

Appendix E: IELLS Background Sheet (Students' Version)

1. Age: _____
2. Gender: _____
3. First Language: _____
4. Major of Study: _____
5. Language(s) you speak: _____
6. How long have you been studying English? _____
7. Present English language course: _____
8. How good is your English language as compared with the English language of other students in your class? (Circle one)
   Excellent Good Fair Poor
9. How good is your English language as compared with the English language of native speakers of English? (Circle one)
   Excellent Good Fair Poor
10. How important is it for you to become good in English? (Circle one)
    Very important Important Not so important
11. Why do you want to learn English? (Check (√) all that apply)
    _____ 11.1 Interested in the language
    _____ 11.2 Interested in the culture
    _____ 11.3 Have friends who speak English
    _____ 11.4 Required to take English language course to graduate
    _____ 11.5 Need it for my future career
    _____ 11.6 Need it for travel
    _____ 11.7 Need it for study
    _____ 11.8 Other (specify):
    11.9 What are the most important reasons for learning English?

_____

_____

Appendix E: Inventory for English Language Learning Strategies (IELLS) Students' Version

Directions

The following is a strategy inventory aimed at gathering information about how you, as a student of English as a second language, go about learning this language. It examines the frequency of your use of language learning strategies and your utilization of these strategies in academic reading and writing. On the following pages, you will find statements related to learning the English language. Please read each statement and mark the response (1, 2, 3, 4 or 5) to indicate how true the statement is in terms of what you actually do when you are learning the English language and performing language tasks.

1. Never to almost never true of me
2. Usually not true of me
3. Somewhat true of me
4. Usually true of me
5. Always or almost always true of me

1. *Never or almost never true of me* means that the statement is very rarely true of you.
2. *Usually not true of me* means that the statement is true less than half the time.
3. *Somewhat true of me* means that the statement is true of you about half the time.
4. *Usually true of me* means that the statement is true of you more than half the time.
5. *Always or almost always true of me* means that the statement is true of you almost always.

Answer in terms of how well the statement describes you. Do not answer how you think you should be, or what other people do. **We are all unique. There are no wrong answers to these statements.** ***Circle your response (1, 2, 3, 4, 5) next to each item.***

Please provide the following information if you would like to participate in the interviews (see the Invitation Letter for more details):

Name: _____

Email: _____

Daytime Phone: _____

Appendix F: Students' Consent Form

Please read carefully. The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study or not.

Title of Research Project
ESL Students' Language Learning Strategy Repertoires in EAP and ESP Contexts: Perceived Success and Pedagogical Mediation.

Research Personnel:
The following people are involved in this research and may be contacted at any time:

Researcher:
Zakiya Al Naddabi
E-mail: zanaddab@connect.carleton.ca

Supervisor:
Prof. J. Fox
Telephone: 613-520-2600 ext. 2046
E-mail: jfox@ccs.carleton.ca

Should you have any ethical concerns about this study then please contact
Prof. Antonio Gualtieri, Chair
Carleton University Research Ethics Committee
Telephone: 613-520-2517
E-mail: ethics@carleton.ca

Should you have other concerns about this study then please contact
Prof. D. Woods, Graduate Supervisor
Telephone: 613-520-2600 ext 3932
E-mail: devon_woods@carleton.ca

Purpose:
The purpose of this study is to investigate your language learning strategies. I will be meeting with students in both English for Academic Purposes (EAP) and English for Specific Purposes (ESP).

Task Requirements:
As an ESL student, you filled out a questionnaire about the frequency of your use of certain language learning strategies and at that time you volunteered to participate in a 30-mintues semi-structured interview with me asking you about your questionnaire responses and your use of language learning strategies.
You will also have another 30-minutes semi-structured follow-up interview in the Winter term.

Duration and Locale:
Every interview will take approximately 30 minutes.

Potential Risk/ Discomfort:
There are no foreseen potential physical or psychological risks in this study.

Anonymity/ Confidentiality:
The data collected in this study are confidential. **You will be anonymous in this study.** All the data will be coded so that your name and whom you mention is not associated with the data and what you say will be reported and quoted using a pseudonym.

Also, the coded data **will not be shared with other researchers**.

Your participation in this study will not affect your grades.

Right to Withdrawal:
You have the right to withdraw from this study. However, the data that have been collected from you before January 30th, 2006 will be retained for analysis in the study.

Signatures:
I have read the above descriptions of the study on ESL Students' Language Learning Strategy Repertoires in EAP and ESP Contexts: Perceived Success and Pedagogical Mediation and understand the conditions of my participation. My signature indicates that I agree to participate in this study.

Participant's Name: (Student): _____

Participant's Signature (Student): _____ Date: _____

Email: _____

(I require your email to contact you.)

Debriefing Form (Students)
Subsequent to the completion of this study, you will be emailed a sketch about your accounts of your language learning strategies and ways to improve them. I would be happy to meet with you to discuss the results if you would like.

Appendix G: Inventory of English Language Learning Strategies (IELLS): Teachers' Version

Directions

The following is a strategy inventory aimed at gathering information about how your students of English as a second language, go about learning this language. It examines the frequency of their use of language learning strategies and their utilization of these strategies in academic reading and writing. Please read each statement and mark the response (1, 2, 3, 4 or 5) to indicate how useful these strategies are to your students in their language development and transition into their academic study when they are learning the English language and performing language tasks.

6. *Never to almost never useful to students*
7. *Usually not useful to students*
8. *Somewhat useful to students*
9. *Usually useful to students*
10. *Always or almost always useful to students*

1. *Never or almost never useful to students* means that the strategy is very rarely useful to students.
2. *Usually not useful to students* means that the strategy is useful less than half the time.
3. *Somewhat useful to students* means that the strategy is useful to students about half the time.
4. *Usually useful to students* means that the strategy is useful to students more than half the time.
5. *Always or almost always useful to students* means that the strategy is useful to students almost always.

The statements describe what students do, but answer in terms of how useful such language learning strategies are to your students. **There are no wrong answers to these statements.** Circle your response (1, 2, 3, 4, 5) next to each item.

No.	Item	Answer				
	Part A: Memory Strategies					
1.	I think of relationships between what I already know and new things I learn in English.	1	2	3	4	5
2.	I use new English words in a sentence so I can remember them.	1	2	3	4	5
3.	I connect the sound of a new English word and an image or picture of the word to help me remember the word.	1	2	3	4	5
4.	I remember a new English word by making a mental picture of a situation in which the word might be used.	1	2	3	4	5
5.	I use rhymes to remember new English words.	1	2	3	4	5
6.	I use flashcards to remember new English words.	1	2	3	4	5
7.	I physically act out new English words.	1	2	3	4	5
8.	I review English lessons often.	1	2	3	4	5
9.	I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.	1	2	3	4	5
	Part B: Cognitive Strategies					
10.	I say or write new English words several times.	1	2	3	4	5
11.	I try to talk like native English speakers.	1	2	3	4	5
12.	I practice the sounds of English.	1	2	3	4	5
13.	I use the English words I know in different ways.	1	2	3	4	5
14.	I start conversations in English.	1	2	3	4	5
15.	I watch English language TV shows spoken in English or go to movies spoken in English.	1	2	3	4	5
16.	I read for pleasure in English.	1	2	3	4	5
17.	I write notes, messages, letters or reports in English.	1	2	3	4	5
18.	I first skim an English text (read over the text quickly) then go back and read carefully.	1	2	3	4	5
19.	I look for words in my own language that are similar to new words in English.	1	2	3	4	5
20.	I try to find patterns in English.	1	2	3	4	5
21.	I find the meaning of an English word by dividing it into parts that I understand.	1	2	3	4	5
22.	I try not to translate word-for-word.	1	2	3	4	5

23.	I make summaries of information that I hear or read in English.	1	2	3	4	5
	Part C: Compensation Strategies					
24.	To understand unfamiliar English words, I make guesses.	1	2	3	4	5
25.	When I can't think of a word during a conversation in English, I use gestures.	1	2	3	4	5
26.	I make up new words if I do not know the right ones in English.	1	2	3	4	5
27.	I read English without looking up every new word.	1	2	3	4	5
28.	I try to guess what the other person will say next in English.	1	2	3	4	5
29.	If I can't think of an English word, I use a word or phrase that means the same thing.	1	2	3	4	5
	Part D: Metacognitive Strategies					
30.	I try to find as many ways as I can to use my English.	1	2	3	4	5
31.	I notice my English mistakes and use that information to help me do better.	1	2	3	4	5
32.	I pay attention when someone is speaking English.	1	2	3	4	5
33.	I try to find out how to be a better learner of English.	1	2	3	4	5
34.	I plan my schedule so I will have enough time to study English.	1	2	3	4	5
35.	I look for people I can talk to in English.	1	2	3	4	5
36.	I look for opportunities to read as much as possible in English.	1	2	3	4	5
37.	I have clear goals for improving my English skills.	1	2	3	4	5
38.	I think about my progress in learning English.	1	2	3	4	5
	Part E: Affective strategies					
39.	I try to relax whenever I feel afraid of using English.	1	2	3	4	5
40.	I encourage myself to speak English even when I am afraid of making a mistake.	1	2	3	4	5
41.	I give myself a reward or treat when I do well in English.	1	2	3	4	5
42.	I notice if I am tense or nervous when I am studying or using English.	1	2	3	4	5
43.	I write down my feelings in a language learning diary.	1	2	3	4	5
44.	I talk to someone else about how I feel when I am learning English.	1	2	3	4	5
	Part F: Social strategies					
45.	If I do not understand something in English, I ask the other person to slow down or say it again.	1	2	3	4	5
46.	I ask English speakers to correct me when I talk.	1	2	3	4	5
47.	I practice English with other students.	1	2	3	4	5
48.	I ask for help from English speakers.	1	2	3	4	5
49.	I ask questions in English.	1	2	3	4	5
50.	I try to learn about the culture of English speakers.	1	2	3	4	5
	English Reading Strategies					
General Reading Behaviour						
1.	I often read texts in my native language.	1	2	3	4	5
2.	I often read English texts.	1	2	3	4	5
Pre-Reading: Before Reading A Text in English, I Do The Following:						
3.	I read the topic or heading of the text.	1	2	3	4	5
4.	I look at the pictures or graphs of the text.	1	2	3	4	5
5.	I think about the reasons why I am reading the text.	1	2	3	4	5
6.	I read the first sentence of the text.	1	2	3	4	5
7.	I try to predict what the text will be about.	1	2	3	4	5
8.	I ask myself about the author's purpose for writing the text.	1	2	3	4	5
9.	I read the provided questions (if any) before I read the text.	1	2	3	4	5
While Reading A Text in English, I Do The Following:						
10.	I read the whole text quickly to understand the main idea.	1	2	3	4	5
11.	I translate the sentences into my native language for the main idea of the text.	1	2	3	4	5
12.	I check my predictions about the text while reading.	1	2	3	4	5
13.	I use the vocabulary and the structure to help me understand the main idea of the text.	1	2	3	4	5
14.	I must understand every word in the text in order to get the main idea.	1	2	3	4	5

15.	I split up (break) sentences into phrases or words for my understanding of the text.	1	2	3	4	5
16.	I take notes, highlight or underline the important points while I am reading the text.	1	2	3	4	5
17.	I use my background (world) knowledge to help me understand the text.	1	2	3	4	5
18.	I scan (read quickly) for the answers to some questions provided with the reading.	1	2	3	4	5
19.	I skip words if I don't know their meanings.	1	2	3	4	5
20.	I guess the meaning of some words from context clues.	1	2	3	4	5
21.	I use a bilingual dictionary (translating from English to my native language) whenever I need to get the meaning of an unknown word.	1	2	3	4	5
22.	I use an English-English dictionary if I need to know the meaning of an unknown word.	1	2	3	4	5
23.	I predict what is going to happen next while reading.	1	2	3	4	5
24.	I read the text in detail.	1	2	3	4	5
Post-Reading (After Reading), I Do The Following:						
25.	I make inferences after finishing reading the text.	1	2	3	4	5
26.	I summarize the text after I finish reading it.	1	2	3	4	5
27.	I discuss what I understand with my friends or teacher.	1	2	3	4	5
28.	I go back to read the details of the text for the answers to understand questions on it	1	2	3	4	5
29.	I use a dictionary after I understand the main idea of the text.	1	2	3	4	5
30.	I take notes on all the new words and phrases for my vocabulary bank.	1	2	3	4	5
31.	I apply the knowledge from some texts in my everyday activities.	1	2	3	4	5
32.	I give myself a reward when I have finished.	1	2	3	4	5
English Writing Strategies						
General Writing Behaviour						
33.	I often write in my native language.	1	2	3	4	5
34.	I often write in English.	1	2	3	4	5
Before Writing The First Draft (Pre-Writing), I Do The Following:						
35.	I do extra study outside the classroom to improve my writing.	1	2	3	4	5
36.	I read my lesson notes, handouts, and course requirements before writing.	1	2	3	4	5
37.	I read the feedback from instructors on my previous writing.	1	2	3	4	5
38.	I consider the task or instructions carefully before writing.	1	2	3	4	5
39.	I discuss what I am going to write with other students or my teachers.	1	2	3	4	5
40.	I brainstorm ideas and write notes.	1	2	3	4	5
41.	I use my background (world) knowledge to help me with ideas.	1	2	3	4	5
42.	I make notes and plan in my native language before writing in English.	1	2	3	4	5
43.	I make an outline or plan in English.	1	2	3	4	5
44.	I like to start writing immediately without a plan.	1	2	3	4	5
45.	I make a timetable for when I will do my writing.	1	2	3	4	5
46.	I try to write in a comfortable, quiet place where I can concentrate.	1	2	3	4	5
While Writing (The Writing Process), I Do The Following:						
47.	I like to write a draft in my native language first and then translate it into English.	1	2	3	4	5
48.	I like to write 2 or more drafts.	1	2	3	4	5
49.	I like to write just 1 draft.	1	2	3	4	5
50.	I like to edit my work *as* I am writing.	1	2	3	4	5
51.	I like to edit my work when I have *finished* writing a draft.	1	2	3	4	5
52.	I use a dictionary to check things I am not sure about *before or when* I write.	1	2	3	4	5
53.	I don't use a dictionary until I *finish* writing a draft.	1	2	3	4	5
54.	I use a grammar book to check things I am not sure about *before or when* I write.	1	2	3	4	5
55.	I don't use a grammar book until I *finish* writing a draft.	1	2	3	4	5
56.	I edit for content (ideas).	1	2	3	4	5
57.	I edit for grammar, vocabulary, spelling and punctuation.	1	2	3	4	5

58.	I edit my organization.	1	2	3	4	5
59.	I like to change, or make my ideas clearer as I write.	1	2	3	4	5
60.	I use a bilingual dictionary translating words from English to my native language and from my native language to English.	1	2	3	4	5
61.	I use an English-English dictionary.	1	2	3	4	5
After Finishing My Writing (Editing And Feedback), I Do The Following:						
62.	I go back to my writing to edit and change the content (ideas).	1	2	3	4	5
63.	I go back to my writing to edit and change the grammar, vocabulary, spelling and punctuation.	1	2	3	4	5
64.	I go back to my writing to edit and change my organization.	1	2	3	4	5
65.	I like to discuss my work with other students or teachers when I have finished.	1	2	3	4	5
66.	When I have finished my work, I don't look at it again; it is finished.	1	2	3	4	5
67.	I make notes or try to remember the feedback I get for my work.	1	2	3	4	5
68.	I record the types of errors I made (e.g. grammar, vocabulary, organization, etc).	1	2	3	4	5
69.	I don't usually remember the feedback I get.	1	2	3	4	5
70.	I give myself a reward when I have finished.	1	2	3	4	5

Please provide the following background information:

Name: _____

Email: _____

Daytime Phone: _____

EAP/ESP Course You are Currently Teaching: _____

Teaching experience: _____

Thank you so much
The End

Appendix H: Semi-structured Interview Questions (Teachers)

- Teacher profile: years of teaching experience, nature of this teaching experience (EAP/ESP), teacher education, preference in teaching (EAP or ESP).
- What are the teaching goals in this language course? **Teaching Goals Inventory**
- Information about students: numbers in every specialization, gender, academic status (1st year, 2nd), professional experience (engineering work setting experience).
- Course design (steps in course design).... Type of content (basis of selection), materials (authentic texts (article, ...?) audio and video materials authenticity and discipline-specificity, level of difficulty, task design and the types of skills and learning strategies addressed, specificity of content, classroom activities.
- What types of strategies do you encourage your students to attend to? How do they relate to their academic and professional study?
- Do you ever address the students disciplinary differences?
- Do you cooperate with other teachers or academics in the students fields of study in your teaching and course design?
- In a class activity, what do you guide the students to do as ways to help them learn and process a reading (before, while, and after they read) ?
- In a class activity, what do you guide the students to do as ways to help them learn to write better (before, while, and after they finish writing) ?
- What types of written genres are students learning in this course? How useful are they to their academic and professional performance requirements? How do you assess the students in the course?
- How do you help students monitor their progress and explore their weaknesses and strengths?
- For students to learn and study more efficiently, what strategies do you encourage them to use in their everyday life?
- What do you advice students to do to handle new vocabulary items and the high level of the language encountered in authentic/ real readings, audio, and audio-visual input?
- Do you think learning strategies instruction should be taught explicitly or implicitly?
- Should teachers address the students' disciplinary differences when developing their strategic competence?
- How do you accommodate the students' various learning styles?
- Do students from particular disciplines show more progress in learning than others? What variables would you attribute their success to?
- What are the learning strategies and study skills across the language skills do you aim to develop in your ESL students? Why?
- How do you promote a learning environment that develops the students' strategy repertoires?
- How does the course content or input in general affect the students' production?
- How does your teaching approach and materials selection affect your students' perceived success?
- Do you think the students' construction of particular learning strategies influences their performance academically and professionally? How?
- What do you think of the questionnaire results?

Appendix I: Inventory of Writing Strategies

The Writing Tutorial Service asked a number of Professors at Carleton, "What do you usually do when you are writing a paper"? Compare your writing strategies with the Profs here.
There is no one way to write. If you find however that you are checking "never" most of the time, it may indicate that trying some of the other writing strategies would improve your writing – and possibly make it easier…

No.		Never	Sometimes	Usually
	Pre-Writing Strategies			
1.	Brainstorm, list ideas out loud or in writing	[ ]	[ ]	[ ]
2.	Explore, probe the essay assignment or topic for links with my knowledge and experience; links with other subject areas.	[ ]	[ ]	[ ]
3.	Freewrite (write freely without stopping about the topic)	[ ]	[ ]	[ ]
4.	Read everything connected with the topic even though I have not defined my essay's focus.	[ ]	[ ]	[ ]
5.	Write an outline.	[ ]	[ ]	[ ]
6.	Think through and define the conclusion of the essay.	[ ]	[ ]	[ ]
7.	Look for links between the topic and my everyday life, i.e. draw from the radio, television, newspapers; in conversations with friends, etc.	[ ]	[ ]	[ ]
8.	Talk about my ideas with peers.	[ ]	[ ]	[ ]
9.	Set limits on my focus/topic.	[ ]	[ ]	[ ]
10.	Give myself time off.	[ ]	[ ]	[ ]
11.	Use a checklist for discovering aspects of my essay topic	[ ]	[ ]	[ ]
12.	Spend a lot of time putting off the starting point for actually writing.	[ ]	[ ]	[ ]
13.	Once my research is completed, define my purpose or intent for writing, knowing it may change as I begin to write.	[ ]	[ ]	[ ]
14.	Read through all the journals, articles, texts that I can find searching for directions, leads, ideas – waiting for that one direction that seems the most interesting or promising, look for the question or questions that I want to ask.	[ ]	[ ]	[ ]
	While-Writing Strategies			
15.	Start writing on the aspect/subject area that I understand the most.	[ ]	[ ]	[ ]
16.	Write the introduction first.	[ ]	[ ]	[ ]
17.	Write the conclusion first (knowing it will change by the time I finish the paper).	[ ]	[ ]	[ ]
18.	Just start writing… not knowing where it's going or how it's going to fit.	[ ]	[ ]	[ ]
19.	Discover new ideas/concepts as I write the first draft.	[ ]	[ ]	[ ]
20.	As I write, ask myself leading questions about different aspects of the topic.	[ ]	[ ]	[ ]
21.	As I write, 'edit' at the same time.	[ ]	[ ]	[ ]
22.	Have my conclusion already formulated in my mind when I start writing.	[ ]	[ ]	[ ]
23.	When I am writing the first draft, constantly reread what I have just completed writing.	[ ]	[ ]	[ ]
24.	As I write, I am conscious of my 'topic sentence'.	[ ]	[ ]	[ ]
25.	Discover more about my subject as I write.	[ ]	[ ]	[ ]
26.	Develop new theories as I write.	[ ]	[ ]	[ ]
27.	Give myself 'off time' from writing.	[ ]	[ ]	[ ]
28.	Constantly jot down ideas or write about them and then set them	[ ]	[ ]	[ ]

	aside in different piles or files or physical locations in a room, according to their focus.			
29.	Freewrite about the topic just before I go to sleep at night… 10 or 20 minutes of writing without stopping – and then reread what I have written in the morning.	[ ]	[ ]	[ ]
30.	Always write on only one side of the paper so that I can cut and paste, rearrange parts, etc.	[ ]	[ ]	[ ]
31.	Leave a large margin on one side of the page so that I can add notes about what I am writing.	[ ]	[ ]	[ ]
32.	Continue reading and researching, collecting more information, seeing new angles while I am in the process of writing.	[ ]	[ ]	[ ]
33.	When I get stuck, seem to hit a dead end, follow up and develop those parts of the paper that seem to be the most promising.	[ ]	[ ]	[ ]
34.	Just keep writing even it if seems like I am going nowhere.	[ ]	[ ]	[ ]
	Revising Strategies/Before Submission/After Writing			
35.	Talk about my writing, read sections of passages that seem particularly good, bad or problematic to my colleagues, friends, anyone who will listen.	[ ]	[ ]	[ ]
36.	Revise my first draft for grammar and vocabulary.	[ ]	[ ]	[ ]
37.	Read my work out loud to myself or to someone else.	[ ]	[ ]	[ ]
38.	After the first draft is done, think that most of the work is done.	[ ]	[ ]	[ ]
39.	Reorder my ideas.	[ ]	[ ]	[ ]
40.	Delete chunks of text.	[ ]	[ ]	[ ]
41.	Reformulate my ideas.	[ ]	[ ]	[ ]
42.	Reconstruct my draft.	[ ]	[ ]	[ ]
43.	Take 'off time' from revising.	[ ]	[ ]	[ ]
44.	Cut the paper into paragraphs and check (by reordering and reassembling the pieces) that the organization is clear.	[ ]	[ ]	[ ]
45.	Make an outline of the clean draft after I have written it – to identify gaps, logic, etc.	[ ]	[ ]	[ ]
46.	Allow time at the end to let the writing 'cool off' before it's handed in, so I can take one last look and see the piece objectively.	[ ]	[ ]	[ ]
47.	If the writing doesn't seem right, ask for more time.	[ ]	[ ]	[ ]

Inventory of Writing Strategies Instructions for Course Instructors

Dear teacher,

In class, how do you encourage your students in the present language course your are teaching to use the following writing strategies? This inventory is meant for students to monitor their writing strategies to help them write better. However, it would be valuable to get your perception of how students should/or can use such strategies to write better. Check (never, sometimes, or usually) to indicate your perception of how often such strategies could be used by students. If you have further comments, you can use the space provided here. Thanks

Appendix J: Teaching Goals Inventory, Self-Scorable Version (Adapted from Angelo and Cross, 1993, pp. 20-22)

Instructions: please select ONE course you are currently teaching. Respond to each item on the inventory in relation to that particular course. (Your responses might be quite different if you were asked about your overall teaching and learning goals, for example, or the appropriate instructional goals for your discipline.)

Please print the title of the specific course you are focusing on:

_____

Please rate the importance of each of the fifty-two goals listed below to the specific course you selected. Assess each goal's importance to what you deliberately aim to have your students accomplish, rather than the goal's general worthiness or overall importance to your institution's mission. There are no "right" or "wrong" answers; only personally more or less accurate ones.

For each goal, choose only one response on the 1-to-5 rating scale. You may want to read quickly through all fifty-two goals before rating their relative importance.

In relation to the course you are focusing on, indicate whether each goal you rate is:

(5) Essential	a goal you always/nearly always try to achieve
(4) Very Important	a goal you often try to achieve
(3) Important	a goal you sometimes try to achieve
(2) Unimportant	a goal you rarely try to achieve
(1) Not applicable	a goal you never try to achieve

Rate the importance of each goal to what you aim to have students accomplish in your course.

		Essential	*Very Important*	*Important*	*Unimportant*	*Not Applicable*
1.	Develop ability to apply principles and generalizations already learned to new problems and situations	5	4	3	2	1
2.	Develop analytic skills	5	4	3	2	1
3.	Develop problem-solving skills	5	4	3	2	1
4.	Develop ability to draw reasonable inferences from observations	5	4	3	2	1
5.	Develop ability to synthesize and integrate information and ideas	5	4	3	2	1
6.	Develop ability to think holistically: to see the whole as well as the parts	5	4	3	2	1
7.	Develop ability to think creatively	5	4	3	2	1
8.	Develop ability to distinguish between fact and opinion	5	4	3	2	1
9.	Improve skill at paying attention	5	4	3	2	1
10.	Develop ability to concentrate	5	4	3	2	1
11.	Improve memory skills	5	4	3	2	1
12.	Improve listening skills	5	4	3	2	1

13.	Improve speaking skills	5	4	3	2	1
14.	Improve reading skills	5	4	3	2	1
15.	Improve writing skills	5	4	3	2	1
16.	Develop appropriate study skills, strategies, and habits	5	4	3	2	1
17.	Improve mathematical skills	5	4	3	2	1
18.	Learn terms and facts of this subject	5	4	3	2	1
19.	Learn concepts and theories in this subject	5	4	3	2	1
20.	Develop skill in using materials, tools, and/or technology central to this subject	5	4	3	2	1
21.	Learn to understand perspectives and values of this subject	5	4	3	2	1
22.	Prepare for transfer or graduate study	5	4	3	2	1
23.	Learn techniques and methods used to gain new knowledge in this subject	5	4	3	2	1
24.	Learn to evaluate methods and materials in this subject	5	4	3	2	1
25.	Learn to appreciate important contributions to this subject	5	4	3	2	1
26.	Develop an appreciation of the liberal arts and sciences	5	4	3	2	1
27.	Develop an openness to new ideas	5	4	3	2	1
28.	Develop an informed concern about contemporary social issues	5	4	3	2	1
29.	Develop a commitment to exercise the rights and responsibilities of citizenship	5	4	3	2	1
30.	Develop a lifelong love of learning	5	4	3	2	1
31.	Develop aesthetic appreciation	5	4	3	2	1
32.	Develop an informed historical perspective	5	4	3	2	1
33.	Develop an informed understanding of the role of science and technology	5	4	3	2	1
34.	Develop an informed appreciation of other cultures	5	4	3	2	1
35.	Develop capacity to make informed ethical choices	5	4	3	2	1
36.	Develop ability to work productively with others	5	4	3	2	1
37.	Develop management skills	5	4	3	2	1
38.	Develop leadership skills	5	4	3	2	1
39.	Develop a commitment to accurate work	5	4	3	2	1
40.	Improve ability to follow directions, instructions, and plans	5	4	3	2	1
41.	Improve ability to organize and use time effectively	5	4	3	2	1
42.	Develop a commitment to personal achievement	5	4	3	2	1
43.	Develop ability to perform skillfully	5	4	3	2	1
44.	Cultivate a sense of responsibility for one's own behavior	5	4	3	2	1
45.	Improve self-esteem/self-confidence	5	4	3	2	1
46.	Develop a commitment to one's own values	5	4	3	2	1
47.	Develop respect for one's own values	5	4	3	2	1
48.	Cultivate emotional health and well-being	5	4	3	2	1
49.	Cultivate an active commitment to honesty	5	4	3	2	1
50.	Develop capacity to think for one's self	5	4	3	2	1
51.	Develop capacity to make wise decisions	5	4	3	2	1
52.	In general, how do you see your primary role as a teacher? (Although more than one statement may apply, please choose only one.)					
	1 Teaching students facts and principles of the subject matter					
	2 Providing a role model for students					

	3 Helping students develop higher-order thinking skills					
	4 Preparing students for jobs/careers					
	5 Fostering student development and personal growth					
	6 Helping students develop basic learning skills					

Source: Classroom Assessment Techniques, by Thomas A. Angelo and K. Patricia Cross. Copyright© 1993. Publisher, Jossey-Bass, San Francisco, California.

Appendix K: Semi-structured Interview Questions (Students)

- Learner profile: age, gender, years of formal and informal learning of English, proficiency in other languages, perceptions about language progress/development/signs of success in language learning
  Perceived speaking proficiency (Excellent/Good/Fair/Poor)
  Perceived reading proficiency (Excellent/Good/Fair/Poor)
  Perceived writing proficiency (Excellent/Good/Fair/Poor)
  Perceived listening proficiency (Excellent/Good/Fair/Poor)
- Goals for learning the language/being in the course (Academic, professional, social, etc.)
- What do you expect to have learned by the end of this course?
- Discuss the low and high use of certain strategies and their classification. Discuss negative and positive language learning strategies. Graph the strategies for students and show them their averages. Show them strategies to attend to or strategies they are not using well although they are strategies and study skills recommended to be developed.
- Do you like the content of this course (topics, focus, readings, other materials, writing assignments, classroom activities, etc.)?
- Are the things (e.g. readings, writings, listening to lectures, giving presentation, etc.) you do in the language course relevant to your major of study and future profession?
- Does the course help you in your specialized study by any means? How?
- Indicate how often you use the writing strategies in the Inventory of Writing Strategies when you deal with a writing assignment in class or outside of class.
- When you have a task in which you have a text to read in class or outside of class, how do go about it? What do you do to help you understand and overcome your learning difficulties before you read the text, while you read, and after you finish reading?
- When you have a task in which you have a writing task in class or outside of class, what do you do: before you write, while writing, and after you finish writing?
- What types of writing do you usually do in the language course you are taking now?
- Do you like the way you are graded (assessed) in the course?
- What do you do outside of class to learn and practice English/ or how do you use English outside the classroom in everyday life?

Appendix L: Match in Negative Strategy Use As Reported by the EAP (n= 2) and ESP (n= 2) Students in IELLS

ESP STUDENTS' MATCH OF NEGATIVE STRATEGY USE (n= 2)

General LLS (Oxford's Classification):

(3) Make sound-image connection of words. (MEMORY)
(21) Find meaning of a word by dividing into comprehensible parts. (COGNATIVE)
(23) Summarize received information. (COGNATIVE)
(43) Write my feelings in a learning diary. (AFFECTIVE)
(44) Talk to a person about how I feel when learning. (AFFECTIVE)
(50) Try to learn about culture of English speakers. (SOCIAL)

Reading and Writing Strategies:

(14) Must understand every word to get main idea. (COGNITIVE) WHILE-READING
(23) Predict text flow while reading. (COMPENSATION) WHILE-READING
(25) Make inferences. (COGNITIVE) POST-READING
(42) Make an outline or plan in native language before writing in English. (METACOGNITIVE) PRE-WRITING
(43) Make an outline or plan in English. (METACOGNITIVE) PRE-WRITING
(44) Like to start writing immediately without a plan. (NEGATIVE) PRE-WRITING
(45) Schedule my writing. (METACOGNITIVE) PRE-WRITING
(49) Like to write only 1 draft. (METACOGNITIVE) WHILE-WRITING
(53) Do not use dictionary until finishing a draft. (COMPENSATION) WHILE-WRITING
(54) Use grammar book to check things before or while writing. (COMPENSATION) WHILE-WRITING
(61) Use English-English dictionary. (COMPENSATION) WHILE-WRITING
(66) Do not look again at my writing after finishing. (NEGATIVE) POST-WRITING
(69) Do not remember feedback on my writing. (NEGATIVE) POST-WRITING
Metacognitive strategies, and the general reading and writing behaviors are all positive in use for both ESP students.

EAP STUDENTS' MATCH OF NEGATIVE STRATEGY USE (n= 2)

General LLS (Oxford's Classification):

(1) Link background knowledge with new things learned. (MEMORY)
(36) Look for reading opportunities. (METACOGNTIIVE)

Reading and Writing Strategies:

(2) Read in English. (COGNITIVE)
(22) Use English-English dictionary. (COMPENSATION, WHILE-READING)
(25) Make inferences. (COGNITIVE, POST-READING)
(35) Do extra word to improve writing. (METACOGNTIVE, PRE-WRITING)
(39) Discuss what to write with other students or teacher. (SOCIAL, PRE-WRITING)
(40) Brainstorm ideas and write notes. (METACOGNTIVE, PRE-WRITING)
(48) Like to write 2 or more drafts. (METACOGNTIVE, WHILE-WRITING)
(51) Edit my work after finishing a draft. (COMPENSATION, WHILE-WRITING)
(64) Go back to edit and change my organization. (COGNITIVE, POST-WRITING)
(65) Like to discuss my work with other students and teacher when finished. (SOCIAL, POST-WRITING)
(67) Take notes or remember feedback on my work. (MEMORY, POST-WRITING)

Appendix M: EAP Students' (n = 2) Positive and Negative Strategy Use from IELLS Results

Strategy Category	Arabic EAP Student	Chinese EAP Student
Memory Strategies	N= 50%; n= 1 (item, 1) P= 50%; n= 1 (item, 8)	N= 50%; n= 1 (item, 1) P= 50%; n= 1 (item, 8)
Cognitive Strategies	N= 42.9%; n= 3 (items: 15, 17, 22) P= 57.14; n= 4 (items: 16, 18, 21, 23)	N= 28.6%; n= 2 (items: 18, 23) P= 71.4%; n= 5 (items: 15, 16, 17, 21, 22)
Compensation Strategies	N= 100%; n= 4 (items: 24, 25, 26, 27) P= 0%	N= 0% P= 100%; n= 4 (items: 24, 25, 26, 27)
Meta-cognitive Strategies	N= 100%; n= 4 (items: 30, 31, 36, 38) P= 0%	N= 25%; n= 1 (item: 36) P= 75%; n= 3 (items: 30, 31, 38)
Affective Strategies	N= 100%; n= 1 (item: 40) P= 0%	N= 0% P= 100%; n= 1 (item: 40)
Social Strategies	N= 80%; n= 3 (items: 45, 47, 49, 50) P= 20%; n= 1 (item: 46)	N= 0% P= 100%; n= 4 (items: 45, 47, 49, 50)
General Reading Behavior	N= 100%; n= 1 (item: 2)	N= 100%; n= 1 (item: 2)
Pre-reading Strategies	N= 100%, n= 3 (items: 3, 4, 9) P= 0%	N= 16.7%, n= 1 (item: 8) P= 83.3%; n= 5 (items: 3, 4, 5, 6, 7)
While-reading Strategies	N= 100%; n= 8 (items: 11, 12, 16, 17, 18, 19, 20, 22) P= 0%	N= 10%; n= 1 (item: 1) P= 90%; n= 9 (items: 10, 11, 12, 16, 17, 18, 19, 20, 23)
Post-reading Strategies	N= 60%; n= 3 (items: 25, 28, 31) P= 40%; n= 2 (items: 26, 27)	N= 20%; n= 1 (item: 26) P= 80%; n= 4 (items: 25, 27, 28, 31)
General Writing Behavior	? Missing because of teacher's missing response	? Missing because of teacher's missing response
Pre-writing Strategies	N= 100%; n= 9 (items: 35, 36, 37, 38, 39, 40, 41, 42, 43) P= 0%	N= 37.5%; n= 3 (items: 35, 39, 40) P= 62.5%; n= 5 (items: 36, 37, 38, 41, 43)
While-writing Strategies	N= 100%; n= 10 (items: 47, 48, 49, 50, 51, 54, 56, 57, 58, 59) P= 0%	N= 25%; n= 2 (items: 48, 51) P= 75%; n= 6 (items: 47, 54, 56, 57, 58, 59)
Post-writing Strategies	N= 83.3%; n= 5 (items: 62, 63, 64, 65, 67) P= 16.7%; n= 1 (item: 68)	N= 66.7%; n= 4 (items: 64, 65, 67, 68) P= 33.3%; n= 2 (items: 62, 63)

*"N" stands for "Negative Use" and "P" refers to "Positive Use". "n" refers to the number of reported items or strategies.

* Numbering of items from 1 to 50 starts from Memory Strategies and ends at Social Strategies (Oxford's classification) and then it starts again from 1 to 70 from General Reading Behavior to Post-writing Strategies (Baker and Boonkit's Classification). See Appendix (G) for the IELLS items.

Appendix N: ESP Students' (n= 2) Positive and Negative Strategy Use from IELLS Results

Strategy Category	Arabic ESP Student	Chinese ESP Student
Memory Strategies	N= 33.3%; n= 3 (items: 3, 5, 8) P= 66.7%; n= 6 (items: 1, 2, 4, 6, 7, 9)	N= 44.4%; n= 4 (items: 3, 4, 7, 9) P= 55.6%; n= 5 (items: 1, 2, 5, 6, 8)
Cognitive Strategies	N= 14.3%; n= 2 (items: 21, 23) P= 85.7%; n= 12 (items: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22)	N= 28.6%; n= 4 (items: 17, 20, 21, 23) P= 71.4%; n= 10 (items: 10, 11, 12, 13, 14, 15, 16, 18, 19, 22)
Compensation Strategies	N= 0% P= 100%; n= 6 (items: 24, 25, 26, 27, 28, 29)	N= 16.7%; n= 1 (item: 26) P= 83.3%; n= 5 (items: 24, 25, 27, 28, 29)
Meta-cognitive Strategies	N= 0% P= 100%; n= 9 (items: 30, 31, 32, 33, 34, 35, 36, 37, 38)	N= 0% P= 100%; n= 9 (items: 30, 31, 32, 33, 34, 35, 36, 37, 38)
Affective Strategies	N= 50%; n= 3 (items: 41, 43, 44) P= 50%; n= 3 (items: 39, 40, 42)	N= 33.3%; n= 2 (items: 43, 44) P= 66.7%; n= 4 (items: 39, 40, 41, 42)
Social Strategies	N= 33.3%; n= 2 (items: 46, 50) P= 66.7%; n= 4 (items: 45, 47, 48, 49)	N= 33.3%; n= 2 (items: 46, 50) P= 66.7%; n= 4 (items: 45, 47, 48, 49)
General Reading Behavior	N= 0% P= 100%; n= 2 (items: 45, 47, 48, 49)	N= 0% P= 100%; n= 2 (items: 45, 47, 48, 49)
Pre-reading Strategies	N= 28.6%; n= 2 (items: 8, 9) P= 71.4%; n= 5 (items: 3, 4, 5, 6, 7)	N= 14.3%; n= 1 (item: 8) P= 85.7%; n= 6 (items: 3, 4, 5, 6, 7, 9)
While-reading Strategies	N= 33.3%; n= 5 (items: 10, 11, 15, 23, 24) P= 66.7%; n= 10 (items: 12, 13, 14, 16, 17, 18, 19, 20, 21, 22)	N= 33.3%; n= 5 (items: 14, 15, 16, 22, 23) P= 66.7%; n= 10 (items: 10, 11, 12, 13, 17, 18, 19, 20, 21, 24)
Post-reading Strategies	N= 28.6%; n= 2 (items: 25, 29) P= 71.4%; n= 5 (items: 26, 27, 28, 30, 31)	N= 42.9%; n= 3 (items: 25, 26, 31) P= 57.1%; n= 4 (items: 27, 28, 29, 30)
General Writing Behavior	N= 0% P= 100%; n= 2 (items: 33, 34)	N= 50%; n= 1 (item: 33) P= 50%; n= 1 (item: 34)
Pre-writing Strategies	N= 33.3%; n= 4 (items: 42, 43, 44, 45) P= 66.7%; n= 8 (items: 35, 36, 37, 38, 39, 40, 41, 46)	N= 33.3%; n= 4 (items: 42, 43, 44, 45) P= 66.7%; n= 8 (items: 35, 36, 37, 38, 39, 40, 41, 46)
While-writing Strategies	N= 40%; n= 6 (items: 49, 53, 54, 55, 56) P= 60%; n= 9 (items: 47, 48, 50, 51, 52, 57, 58, 59, 60)	N= 40%; n= 6 (items: 47, 49, 53, 54, 60, 61) P= 60%; n= 9 (items: 48, 50, 51, 52, 55, 56, 57, 58, 59)
Post-writing Strategies	N= 22.2%; n= 2 (items: 66, 69) P= 77.8%; n= 7 (items: 62, 63, 64, 65, 67, 68, 70)	N= 44.4%; n= 4 (items: 66, 67, 68, 69) P= 55.6%; n= 5 (items: 62, 63, 64, 65, 70)

- "N" stands for "Negative Use" and "P" refers to "Positive Use". "n" refers to the number of reported items or strategies.
- Numbering of items from 1 to 50 starts from Memory Strategies and ends at Social Strategies (Oxford's classification) and then it starts again from 1 to 70 from General Reading Behavior to Post-writing Strategies (Baker and Boonkit's Classification). See Appendix (G) for the IELLS items.