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Foreword

Welcome to the Summer issue 2012 of *The Asian ESP Journal*!

In the second issue of 2012, we are happy to publish six articles that cover a range of research topics including an ESP course on English listening comprehension of business conferencing, students' needs analysis with a view to improving ESP curriculum design and materials writing, analysis of engineering students' motivation in EFL, and evaluating alignment between a biomedical engineering course and course contents. The studies reported in these papers were conducted in various parts of Asia, including Hong Kong, Japan, Malaysia, and Middle East.

I hope you will enjoy reading the papers and recommend them to your colleagues and students to further disseminate the findings and enhance the impact of the research studies.

Last but not least, I would like to take this opportunity to express my heartfelt gratitude to the professional contribution of our Associate Editors and Academic Editors* whose quality review work has made the current issue possible. I also wish to thank our proof readers for their great work!

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* Details about our Associate Editors, Academic Editors and proof readers can be found on http://asian-esp-journal.com/asian-esp-journal-beta/index.php?option=com_content&view=article&id=90&Itemid=53 .



Investigating the Academic English Language Target Needs of Undergraduates at the Faculty of Applied Science at Al-Aqsa University: Students' Perceptions

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Abstract

Needs analysis is an essential first step for designing appropriate language courses to help students absorb the knowledge in their academic study. Starting from this view, the current study seeks to identify the academic English language target needs of the undergraduates of the Faculty of Applied Science (FAS) at Al-Aqsa University (AU). Guided by Hutchinson and Waters' (1987) framework of needs analysis, this study surveyed the perceptions of 180 FAS students at AU about their present academic English language proficiency, the academic English language skills necessary for their academic study, and the English language skills they desire to learn. To collect the data, an adapted questionnaire was used. The findings of

the study show that the English language is largely used in the process of learning/teaching at the FAS of AU. The students evaluate themselves as average in academic English writing and reading comprehension skills and as weak in academic English speaking and listening comprehension skills. The results also indicate that, according to students' perceptions, the most important academic English language skill for the FAS students' study is reading comprehension, followed by listening comprehension, and then writing. In addition, the most important academic English language subskills for the FAS students' study are as follows: reading textbooks; reading to understand text and exam questions; following and understanding class lectures; understanding lectures in order to take notes; writing class notes, and writing test and exam answers. FAS students at AU want to improve their ability in the four English language skills, and they most desire to improve their speaking skills, especially how to discuss the materials of lectures.

Keywords: English for Academic Purposes, Needs Analysis, and Target Needs

1. Introduction

At the college and university level, mastering the English language is of paramount importance for students to succeed in learning their subjects through the medium of English textbooks and lectures (Hyland & Hamp-Lyons, 2002). In this paper, by "students" we refer to the undergraduate students of the Faculty of Applied Science (hereafter FAS) at Al-Aqsa University (hereafter AU). The FAS, which is one of the five faculties of AU located in the Gaza Strip, includes six academic departments: chemistry, physics, biology, technology and applied sciences, mathematics, and computers. FAS offers bachelor programmes only (Dallil Al-Jami'ah, 2006). In 2007/2008, the overall number of students at FAS was 2,331.

In the Gaza Strip, despite have learned English as a foreign language for eight years in school, Palestinian students enter the university with low English language proficiency (Al-Masri, 1993; Mourtaga, 2004). Alastal & Shuib (2010) described the students of the FAS at AU as low-competent in the four English language skills. At AU, for the purpose of improving their proficiency, all students from all departments take only one English Language course, coded as Engl. 1350. This course is General English of three credit hours (Dallil Al-Jami'ah, 2006). However, this course of English language does not help the students of the FAS at AU to overcome the language difficulties they face in studying their

major courses (Alastal & Shuib, 2010). This is because it is not designed according to students' needs; the decision of designing and choosing the syllabus for this course has been left to the English Department at AU (Dallil Al-Jami'ah, 2006).

Many researchers (e.g. Hutchinson & Waters, 1987; Nunan, 1988; Robinson, 1991; West, 1994; Dudley-Evans & St John, 1998; Kavaliauskiene & Uzpaliene, 2003; Alastal & Shuib, 2010) asserted that identifying students' needs should be the first step in designing an appropriate ESP (English for Specific Purposes) syllabus. To identify the students' academic English language target needs, as in the case of the present study, Needs Analysis (hereafter NA) has been regarded as the most appropriate method (Hutchinson & Waters, 1987; Dudley-Evans & St John, 1998) for it "can tell us a lot about the nature and content of the learners' target language needs" (Hutchinson, 1988, p. 71). NA has been used for identifying the types of the academic activities and tasks of different disciplines and the students' needs of academic English language skills to effectively study their majoring courses (e.g. Ferris & Tagg, 1996, ; Basturkmen, 1998; Ferris, 1998; Chia et al., 1999; Verikaite, 2005; Evans & Green, 2007; Bacha & Bahous, 2008; Alastal & Shuib, 2010; Al-Tamimi & Shuib, 2010).

Based on the stated problem, the present study attempted to identify the academic English language target needs of the FAS students at AU. It took into account the learners' subjective and objective target needs as it explored their wants, lacks, and the necessary English language for their academic study. Therefore, the findings are strongly expected to help course designers to create an appropriate English language course for the FAS students. The following three questions guided the research reported in this paper:

1. What is the present academic English language proficiency of the students of the Faculty of Applied Science at Al-Aqsa University, from the point of view of the students?
2. What are the academic English language skills necessary for the academic study of the students of the Faculty of Applied Science at Al-Aqsa University, from the students' point of view?
3. What are the academic English language skills which the students of the Faculty of Applied Science at Al-Aqsa University desire to learn?

2. Literature Review

2.1 Theoretical Studies

Theoretically, several approaches to NA have been provided by different scholars. The first important approach to NA is named as Target Situation Analysis (TSA hereafter) (Robinson,

1991). The TSA, according to Jordan (1997), is related to any NA focusing on the learners' needs at the end of learning a language course; its main concern is to prepare materials for designing the communicative syllabus. This approach to NA is represented by Munby's (1978) model of needs analysis.

Another important approach to NA is called Present Situation Analysis (PSA hereafter). The PSA is based on identifying students' control of the target language at the beginning of the language course (Jordan, 1997); it seeks to estimate students' present strengths and weaknesses in the language, in skills, and in experience of learning (Dudley-Evans & St John, 1998). In the PSA approach, there are three basic sources for collecting information: the learners themselves, the language teaching establishment, and the user institution. From each of these sources, information is sought regarding levels of ability, resources, and views on language teaching and learning. Therefore, according to this approach, the success in learning an ESP course is based on learners' identification of their learning objectives and learning objectives set out by the teaching establishment and the user-institution. This approach to NA was suggested by Richterich & Chancerel (1980) through their model of NA.

As a natural development of the TSA and the PSA, Hutchinson & Waters (1987) proposed their approach to NA, in which they advocated that materials and methodology of an ESP course are to be determined by learners' needs. Their approach, which includes the TSA, the PSA, and objective needs as well as subjective needs (Robinson, 1991), divides learner's needs of the language into two types: target needs and learning needs. The former is related to what knowledge and abilities the learner needs to have in order to function effectively in the target situation, and the latter refers to what the learner needs to do in order to learn. In addition, Hutchinson & Waters (1987) divided target needs into three parts: necessity (needs identified by the requirements of target situation), lacks (the necessary proficiency for the target situation minus what the students already know), and wants (what the students desire to learn).

In the approach suggested by Dudley-Evans & St John (1998), NA was broadened largely to encompass not only the TSA and the PSA, but also deficiency analysis, linguistic analysis, discourse analysis, genre analysis and means analysis. According to their NA approach, in order to analyze and identify the learners' needs, all of these multifaceted approaches to NA should be applied.

The present study adopted Hutchinson & Waters' (1987) approach to NA because in comparison with approaches to NA suggested by other scholars, it provides "a more manageable framework for analyzing the target situation and also a parallel framework for analyzing learning needs" (Mason, 1994, p. 1) and is comprehensive and clear as it includes the TSA, the PSA, objective needs, and subjective needs by dividing the learners' target needs into necessity, lacks, and wants. Moreover, Hutchinson & Waters' approach has been recommended and adopted by many scholars and researchers (e.g. Mason, 1994; West, 1994; Al-Haddad, 2005; Azmira, 2006; Alastal & Shuib, 2010; Al-Tamimi & Shuib, 2010).

2.2 Empirical Studies

Internationally, several empirical NA studies reveal that the skill of taking class notes was necessary for students' success in studying their courses and that the academic listening/speaking requirements were different according to the academic discipline, the nature of the university, and the class type (Ferris & Tagg, 1996). Ferris (1998) showed that class discussion and participation were often required for students' academic study; that note-taking and having discussions with instructors in their offices were necessary skills for the students' success in studying science and engineering courses; and that there were significant differences among the students' responses across their fields of study.

Verikaite (2005) concluded that the vast majority of the students of the Faculty of Physics and Technology and the Faculty of Natural Sciences at Vilnius Pedagogical University wanted to study an English course, and about half of the students desired the materials of the course to be related to their study. Evans & Green (2007) revealed that the students of the six departments, including Applied Science and Textiles, at The Hong Kong Polytechnic University face English writing and speaking difficulties in studying their majoring courses. Their study also indicated that some writing and speaking sub-skills, such as linking sentences, speaking fluently, and pronouncing clearly, were the most problematic for the students. However, to the best knowledge of the researchers, none of the international empirical NA studies have conducted a comprehensive study of the FAS students' needs as they are mixed group studies and some of them focus only on some language skills.

Concerning the Arabic context, a few empirical NA studies have been carried out. In Yemen, Al-Tamimi & Shuib (2010) explored the English language needs of petroleum engineering students at Hadhramout University of Science and Technology. Their study indicated that the four English language skills were important for the students' study and that

the students were lacking proficiency in all four English language skills, with speaking as the weakest. It also showed that the students wanted to improve their speaking skill the most. In Kuwait, Basturkmen (1998) investigated the English language needs of the undergraduates in the College of Petroleum and Engineering at Kuwait University. His study showed that the English language subskills of reading textbooks, writing lab reports/lab assignments, following lectures, listening to instructions for labs and assignments, and note-taking in lectures were important for the students' study. In Lebanon, Bacha & Bahous (2008) explored the English writing needs of the students of the Business Department at the Lebanese American University. Their study indicated that the students need to improve their English writing subskills of note-taking in class, essay assignments, research papers, and note-taking from the Internet.

The empirical NA studies carried out on the FAS students in Arabic countries, to the best knowledge of the researchers, are only Zughoul and Hussein's (1985) and Bacha's (2003) studies. Zughoul and Hussein's (1985) study was conducted on the Jordanian students of all the six faculties at Yarmouk University. Their study indicated that English was used to a large extent, especially in reading, writing, and listening activities and that all the four English language skills were necessary for success at the university level. Their study also revealed that the most important English subskills for the students' study were listening to lectures in order to take notes, understanding and following lectures, reading textbooks, and writing class notes. Bacha's (2003) study was conducted on the Lebanese undergraduates of the four main schools at the Lebanese American University. Her study indicated that all of the four main English language skills were necessary for the students' academic study and professional work. It also showed that the most important tasks for the students' study were listening to class discussions, participating in class discussions, reading required materials, writing essays, and writing summaries. However, these two studies are limited as the participants came from different groups so that the results may not be applicable to a particular group.

In the Palestinians' context, Alastal & Shuib's (2010) study is the only empirical NA study. It explored the perceptions of the FAS lecturers at AU about their students' needs of English language skills for pursuing their study. Their research showed that at the FAS in AU, academic English is largely used as the medium of instruction, and that the lecturers evaluated their students as lacking proficiency in the four English language skills. Their study also revealed that the lecturers perceived that the most important academic English language

subskills for their students' study were reading textbooks, reading to understand text and exam questions, following and understanding class lectures, understanding lectures in order to take notes, writing class notes, and writing test and exam answers. However, their study is based on the lecturers' perceptions only. According to Hutchinson & Waters (1987), Dudley-Evans & St John (1998), and Kavaliauskiene & Uzpaliene (2003), the main sources of data for NA are the learners themselves. This motivated the researchers of this study to focus on investigating the FAS students' perceptions.

3. Methodology

3.1 Participants

The participants were 180 FAS students at AU (30 students from each of the six academic departments) selected from sophomores, juniors, and seniors by using the strategy of systematic sampling arranged by class. This strategy of sample selection was adopted because it is the most appropriate one for this study. It is not only easy to create but also more accurate than a simple random sample (Fowler, 1993; Babbie, 2005). Moreover, for university students, this strategy implies stratification in which sampling error is reduced to zero level (Babbie, 2005). The freshmen were excluded from the sample of the study because freshmen are less experienced and may not have a clear idea about their academic English language target needs.

3.2 Instrument

In this study, the data were collected by the questionnaire instrument which was developed from Zughoul & Hussein's (1985) and Chia et al.'s (1999) students' questionnaires. It consisted of 26 close-ended items in English-Arabic version and was divided into five sections: A, B, C, D, and E. Section A (items 1 to 5) sought demographic information regarding whether or not the respondents passed the English language course given to the students of the FAS at AU as well as the respondents' age, gender, academic department, and level of study. Section B (items 6 to 9) collected information about the extent and importance of the academic English language use at the FAS of AU. Section C (items 10 to 13) was designed to identify the students' present academic English language proficiency; Section D (items 14 to 23) captured the students' perceptions about their academic English language needs regarding necessity and wants. Section E (items 24 to 26) elicited the students' views about the appropriate English language curriculum, course content and materials.

To test the validity and reliability of the translation, back-translation was done and was pre-piloted by asking three professors from the FAS and three assistant professors of English at AU to comment critically on it, then piloted on 12 students from the FAS, and modified according to the feedback obtained from the pre-pilot and pilot study before being used in the main study.

3.3 Procedure

The data was collected from September 22 to October 5, 2007. For ethical considerations, approval to conduct the study was obtained from the administrations of AU and the FAS. Before distributing the questionnaires to the respondents, the researchers personally explained the nature and objectives of the study and asked the respondents to objectively and without hesitation fill in the items of the questionnaire.

4. Results

This section presents the results of analyzing the respondents' answers to the questionnaire, grouped into the students' evaluations of their present proficiency in the academic English language, the students' perceptions of the academic English language skills necessary for their academic study at AU, and the students' identification of the academic English language skills they desire to learn.

4.1 Students' Present Academic English Language Proficiency

The students' responses to items 10, 11, 12 and 13 of the questionnaire represent their evaluations of their present academic English language proficiency. Table 1 below shows the results of the students' responses to Item 10.

Table 1: Students' Present Proficiency in Academic English Language Skills

Academic English language skills	V. Good		Good		Average		Weak		V. Weak		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Listening	-	-	8	4.4	61	33.9	103	57.2	8	4.4	180	100
Speaking	1	0.6	4	2.2	49	27.2	109	60.6	17	9.4	180	100
Reading	-	-	21	11.7	93	51.7	62	34.4	4	2.2	180	100
Writing	2	1.1	13	7.2	91	50.6	70	38.9	4	2.2	180	100

Table 1 shows that the students evaluate themselves as lacking proficiency in the academic English language skills. In listening and speaking skills, 57.2% and 60.6%

respectively rated themselves as weak. In reading and writing skills, 51.7% and 50.6% respectively assessed themselves as average.

The students' responses to Item 11, in which they were requested to evaluate their proficiency in the academic English language after taking the English language course coded as Engl. 1350, show that the students viewed themselves as not proficient in the academic English language even after taking the present English language course taught to them. 46.7% of the students rated themselves as weak, 43.9% as average, 5.6% as very weak, and 3.9% as good.

In answering Item 12 "I feel that I am proficient enough in academic English language to follow my major courses taught in English", the respondents were asked to choose one of the following answers: "Strongly Agree", "Agree", "Unsure", "Disagree", and "Strongly Disagree". The students' responses indicate that the majority (76.6%) of the students express that they are not proficient enough in the academic English language to study their major course in the medium of English as 67.2% of the respondents chose "Disagree" and 9.4% "Strongly Disagree". In addition, 15.6% of the students considered themselves between proficient and not proficient in academic English as they chose "Unsure". Of all the respondents, only 7.8% viewed themselves as proficient in academic English language to follow their study in English language (6.7% "Agree" and 1.1% "Strongly Agree").

Finally, the students' responses to Item 13 "What English language problems are you currently facing in your academic studies?" indicate that the majority of the students felt that several English language areas cause problems for them in studying their major courses. As shown in Table 2, the reason attributed by the students were "limited vocabulary" (75.0%), "poor listening comprehension skill" (72.8%), "poor reading comprehension skill" (61.7%), "poor speaking skill" (61.7%), "poor writing skill" (55.0%) and "poor grammar" (50.0%).

Table 2: Students' English Language Problems

Language Problems	Yes		No		Total	
	No.	%	No.	%	No.	%
a) Limited vocabulary	135	75.0	45	25.0	180	100
b) Poor grammar	90	50.0	90	50.0	180	100
c) Poor listening comprehension skill	131	72.8	49	27.2	180	100
d) Poor speaking skill	111	61.7	69	38.3	180	100
e) Poor reading comprehension skill	111	61.7	69	38.3	180	100
f) Poor writing skill	99	55.0	81	45.0	180	100

4.2 Students' Perceptions of Academic English Language Skills Necessary for their Academic Study

To capture detailed information in the questionnaire about the students' perceptions of the language skills, the students were asked to answer several items concerning four issues: A) the importance of academic English for students' academic study (Item 7), B) the extent of academic English language use in students' academic study (items 6, 8 and 9), C) the academic English language skills necessary for students' academic study (items 14, 16, 18, 20 and 22), and D) the nature of English language curriculum, course content, and materials (items 24, 25 and 26).

A) The importance of academic English for students' academic study

Regarding the importance of the academic English for their study of their major courses, the students' responses to Item 7 of the questionnaire indicate academic English language was very important (63.9%), important (20%), and somewhat important (13.9%).

B) The extent of academic English language use in students' academic study

The students' responses to items 6 and 8 of the questionnaire provided a general idea about the academic English language use in the FAS at AU. With regard to Item 6, which elicited the students' views about the percentage of the major courses taught in English 37.8% of the students considered 90 to 100 percent; 26.1% 70 to 89 percent; 28.9% 50 to 69 percent, and only 7.2% less than 50 percent. Concerning Item 8, in which the students were asked to identify the percentage of the required English reading materials for the study of their major courses, 33.3%, 31.7%, 11.1%, and 23.9% of the students are of the opinion that 90 to 100 percent, 70 to 89 percent, 50 to 69 percent, and less than 50 percent respectively of the required reading materials are in English.

To obtain more information about the academic English language use in the FAS at AU, with reference to several activities, the students were asked to identify how often they use English in studying their major courses (Items 9). Table 3 shows that the FAS students at AU perform most of their reading and writing learning activities in English and that they almost never use English in their speaking activities.

Table 3: Students' Frequency of English Language Skill Use

Items of Activities	always		often		sometimes		rarely		never		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
a) Ask questions in English	-	-	14	7.8	32	17.8	82	45.6	52	28.9	180	100
b) Discuss materials in English	2	1.1	23	12.8	36	20.0	76	42.2	43	23.9	180	100
c) Give a speech in English	-	-	6	3.3	26	14.4	63	35.0	85	47.2	180	100
d) Present oral reports in English	4	2.2	10	5.6	17	9.4	38	21.1	111	61.7	180	100
e) Read English reference books	20	11.1	62	34.4	27	15.0	38	21.1	33	18.3	180	100
f) Read English textbooks	66	36.7	37	20.6	16	8.9	44	24.4	17	9.4	180	100
g) Read English journals	-	-	7	3.9	20	11.1	44	24.4	109	60.6	180	100
h) Read English texts from Internet	13	7.2	36	20.0	45	25.0	49	27.2	37	20.6	180	100
i) Answer tests & exams in English	46	25.6	45	25.0	32	17.8	40	22.2	17	9.4	180	100
j) Write class notes in English	19	10.6	62	34.4	31	17.2	52	28.9	16	8.9	180	100
k) Write English reports/ assignments	48	26.7	35	19.4	38	21.1	40	22.2	19	10.6	180	100
l) Write research papers in English	23	12.8	24	13.3	26	14.4	41	22.8	66	36.7	180	100

C) Academic English language skills necessary for students' academic study

Items 14, 16, 18, 20 and 22 of the questionnaire explored the students' perceptions about the necessary English language skills and subskills for their academic study. In these items, the students were asked to rank the given skills according to their importance to the students' study of their major courses. First, the students' responses to Item 14, "Which of the following English language skills do you think is more important than the others for your success in the study of your major courses?" are summarized in Table 4 below.

Table 4: Students' Rankings of English Language Main Skills

Skills	No.	Mean	Rank	Std. Deviation
a) Listening	180	2.38	2	.964
b) Speaking	180	3.49	4	.849
c) Reading	180	1.49	1	.829
d) Writing	180	2.63	3	.804

*For each skill, in ranking, 1 is the most important, 4 is the least important. The lower the mean, the more important the skill.

As shown in Table 4, the means of the students' rankings of English language listening, speaking, reading, and writing skills, according to their importance for study of major courses, are 2.38, 3.49, 1.49 and 2.63, respectively. These means of rankings indicate that the students consider "reading skill" to be the most important for their academic study,

and “speaking skill” to be the least important. The students rank “listening skill” in the second place and “writing skill” in the third place.

Table 5 shows the results of the students’ responses to Item 16 “Which of the following English listening comprehension subskills do you think is more important than the others for your study of your major courses?”.

Table 5: Students’ Ranking of English Listening Sub-skills

Listening Sub-skills	No.	Mean	Rank	Std. Deviation
a) Understand questions asked by other fellow students	180	3.45	4	.841
b) Understand lectures in order to take notes	180	2.06	2	.883
c) Follow and understand class lecture	180	1.67	1	.872
d) Understand lab and classroom discussion	180	2.83	3	.933

*For each skill, in ranking, 1 is the most important, 4 is the least important; so the lower the mean, the more important the skill.

As presented in Table 5, the means of the students’ rankings of academic English listening comprehension sub-skills according to their importance for study of major courses are 3.45 for “understand questions asked by other fellow students”; 2.06 for “understand lectures in order to take notes”; 1.67 for “follow and understand class lectures,” and 2.83 for “understand lab and classroom discussion”. These results show that the FAS students at AU are of the opinion that the ability to “follow and understand class lecture” is the most important academic English listening sub-skill for their academic study, followed by the ability to “understand lectures in order to take notes”, then the ability to “understand lab and classroom discussion”, and then the ability to “understand questions asked by other fellow students”.

Table 6 shows the results of the students’ responses to Item 18 “Which of the following English speaking subskills do you think is more important than the others for your study of your major courses?”.

Table 6: Students’ Rankings of English Speaking Subskills

Speaking Subskills	No.	Mean	Rank	Std. Deviation
a) Ask questions in the classroom	180	2.55	2	.976
b) Discuss the materials of the lecture	180	1.57	1	.872
c) Give a speech	180	2.72	3	1.085
d) Present oral classroom reports	180	3.17	4	.875

*For each skill, in ranking, 1 is the most important and 4 is the least important. The lower the mean, the more important the skill.

Table 6 above shows that the means of the students' rankings of English speaking subskills according to their importance for their study of their major courses are 2.55 for "ask questions in the classroom", 1.57 for "discuss the materials of the lecture", 2.72 for "give a speech", and 3.17 for "present oral classroom reports". These results mean that the students rank the ability to "discuss the materials of the lecture" as the most important English-speaking sub-skill for their academic study, followed by the ability to "ask questions in the classroom", then the ability to "give a speech" and then the ability to "present oral classroom reports".

Table 7 shows Item 20, "Which of the following English reading comprehension subskills do you think is more important than the others for your study of your major courses?".

Table 7: Students' Rankings of English Reading Subskills

Reading sub-skills	No.	Mean	Rank	Std. Deviation
a) Reading texts from internet	180	3.48	4	1.023
b) Reading textbooks	180	1.75	1	.775
c) Reading reference books	180	2.72	3	.886
d) Reading professional journals	180	4.46	5	.801
e) Reading to understand test and exam questions	180	2.59	2	1.165

*For each skill, in ranking, 1 is the most important, 5 is the least important; so the lower the mean, the more important the skill.

Table 7 shows that the students believe that the most important English reading comprehension sub-skill for their academic study is "reading textbooks" with a mean of 1.75. This mean score is the lowest among the five English reading comprehension subskills. This is followed by "reading to understand test and exam questions" (2.59), "reading reference books" (2.72), "reading texts from internet" (3.48), and "reading professional journals" (4.46).

Finally, Table 8 shows the results of the students' responses to Item 22, "Which of the following English writing subskills do you think is more important than the others for your study of your major courses?".

Table 8: Students' Rankings of English Writing Subskills

Writing Subskills	No.	Mean	Rank	Std. Deviation
a) Writing correct sentences	180	3.24	3	1.292
b) Writing class notes	180	1.98	1	1.212
c) Writing test and exam answers	180	2.18	2	1.101

d) Writing reports	180	3.48	4	1.116
e) Writing research papers	180	4.11	5	1.103

*For each skill, in ranking, 1 is the most important, 5 is the least important. The lower the mean, the more important the skill.

As shown in Table 8, the means of the students' rankings of the five given English writing subskills according to their importance for their study of their major courses are 3.24 for "writing correct sentences", 1.98 for "writing class notes", 2.18 for "writing test and exam answers", 3.48 for "writing reports", and 4.11 for "writing research papers". These means of rankings indicate that the students regard "writing class notes" as the most important English writing sub-skill for the study of their major courses, followed by "writing test and exam answers", "writing correct sentences", "writing reports", and then "writing research papers".

D) Nature of English language curriculum, course content, and materials

Items 24, 25, and 26 of the questionnaire provide the students' views about the nature of the English language curriculum, the course content, and the materials that are appropriate for the FAS students at AU. First, the results of the students' responses to Item 24 "Should the materials of the English language course be relevant to the field of your specialization?" show that 97.2% of the students supported selecting the materials for the English language course for the FAS students at AU from those which are relevant to their field of study. Only 2.8% viewed that there is no need of selecting the materials according to their field of specializations.

Table 9 shows Item 25 "What percentage of English materials in the English language course should be relevant to your field of specialization?".

Table 9: Students' Views of the Nature of English Course Materials

Percentage of English course materials should be relevant to students' field of specialization	No.	%
90- 100%	50	27.8
70- 89%	76	42.2
50- 69%	35	19.4
30- 49%	12	6.7
Less than 30%	2	1.1

Table 9 shows that the overwhelming majority of the students believe that most of the materials of the English language course for the FAS students at AU should be relevant to their field of study. Of the respondents, 42.2%, 27.8% and 19.4% are of the opinion that 70 to

89 percent, 90 to 100 percent, and 50 to 69 percent respectively of the materials of their English language course should be relevant to their major courses study. Only 6.7% and 1.1% think that 30-49 percent and less than 30 percent respectively should be related. 2.8% of the respondents did not give an answer because, as it is shown in their responses to Item 24 of the questionnaire, they consider that the materials of the English language course are not necessary to be related to their field of study.

Finally, Table 10 shows Item 26 “Which of the following English curricula do you perceive is the best one for you?”.

Table 10: Students’ Views of the Best English Curriculum

Category of Curricula	No.	%
a) 3 credit hours course of English Language for Science	10	5.6
b) 3 credit hours course of General English, no need for specific English for the students	10	5.6
c) 3 credit hours course of General English, and another 3 credit hours of English Language for Science	66	36.7
d) 6 credit hours of two courses of English Language for Science, no General English	10	5.6
e) 3 credit hours course of General English, and another 6 credit hours of two courses of English Language for Science	69	38.3
f) 9 credit hours of three courses of English Language for Science	14	7.8
g) Other (Specify)	1	.6
Total	180	100

Table 10 shows that 38.3% of the students are of the opinion that the best pattern of English language curriculum for them is a “Three- credit-hour course of General English, and another six credit hours of two courses of English Language for Science.” Another 36.7% of the students regarded the pattern of “three-credit-hour course of General English and another three-credit-hour course of English Language for Science” as the best for them. These results reveal that the majority (75.0%) of the students believe that they need to take at least one course of English language related to their field of study besides a course of General English.

4.3 The Academic English Language Skills Students Desire to Learn

This subsection presents the students’ perceptions of the English language skills they strongly desire to learn. The students’ responses to items 15, 17, 19, 21, and 23 of the questionnaire identified the English language main skills and subskills which the FAS students at AU

strongly desire to learn. Regarding the English language main skills, in Item 15 of the questionnaire, the students were asked to rank the four English language main skills according to their want to improve. In their rankings, the students were requested to rank from 1 to 4 by giving number 1 for the most and number 4 for the least they want to learn. So the lower the mean of the students' ranks, the more the students desire to learn the skill. The results of the students' responses to this item are reflected in Table 11.

Table 11: Main English Language Skills Students Desire to Learn

English Main Skills	No.	Mean	Rank	Std. Deviation
a) Listening	180	2.42	2	1.167
b) Speaking	180	2.22	1	1.178
c) Reading	180	2.44	3	1.047
d) Writing	180	2.92	4	.954

The means of the students' ranks of English "listening skill", "speaking skill", "reading skill" and "writing skill" according to their desires of learning are 2.42, 2.22, 2.44, and 2.92, respectively. These means indicate that the English language skill which the FAS students at AU most desire to learn are "speaking skill" followed by "listening skill" then "reading skill", and "writing skill". However, as all the ranking means are between 2.22 and 2.92, it can be observed the students want to improve themselves in the four English language skills.

Concerning the English language subskills, in items 17, 19, 21 and 23, the students were asked to identify the English listening comprehension, speaking, reading comprehension, and writing subskills respectively which they strongly feel they want to improve. Thus, the students are considered to have a desire to learn the sub-skill as pointed out by over 50% of the respondents (Table 12).

Table 12: Students' Responses on English Language Subskills They Desire to Learn

Items	English Language Sub-Skills	No.	%
Listening comprehension sub-skills (Item 17)	Understanding questions asked by other fellow students	23	12.8
	Understanding lectures in order to take notes	84	46.7
	Following and understanding class lecture	131	72.8
	Understanding lab and classroom discussion	63	35.0
Speaking sub-skills (Item 19)	Asking questions in the classroom	78	43.3
	Discussing the materials of the lecture	133	73.9
	Giving a speech	73	40.6

	Presenting oral classroom reports	37	20.6
Reading comprehension sub-skills (Item 21)	Reading texts from internet	80	44.4
	Reading textbooks	104	57.8
	Reading reference books	64	35.6
	Reading professional journals	20	11.1
	Reading to understand test and exam questions	93	51.1
Writing sub-skills (Item 23)	Writing correct sentences	103	57.2
	Writing class notes	67	37.2
	Writing test and exam answers	93	51.7
	Writing reports	65	36.1
	Writing research papers	31	17.2

Table 12 shows that 72.8%, 73.9%, 57.8%, 51.1%, 57.2%, and 51.7% of the FAS students at AU desire to improve their proficiency in the English language skills of “following and understanding class lectures”, “discussing the materials of the lectures”, “reading textbooks”, “reading to understand test and exam questions”, “writing correct sentences” and “writing test and exam answers” respectively.

5. Discussion of findings

This section discusses the results of the current study in terms of the three aspects (Necessities, Lacks, and Wants) of Hutchinson & Waters’ (1987) target needs framework.

5.1 Skills Necessary for the FAS Students’ Academic Study

The study has revealed that there are several academic English language listening, reading and writing sub-skills necessary for the FAS students’ successful study of their major courses at AU. The FAS students consider academic English to be very important for their academic study at AU. This result accords with the findings of Zughoul & Hussein (1985), Evans & Green (2007), Alastal & Shuib (2010), and Al-Tamimi & Shuib (2010) as their studies, which were conducted on non-English native speaking undergraduates studying scientific subjects in their countries, found that academic English is very important for the students’ academic study.

Supporting the results of Zughoul & Hussein’s (1985) and Alastal & Shuib’s (2010) research, this study shows that the English language is largely used in the process of learning/teaching majoring courses of the FAS at AU. Of the FAS students at AU, 65% view that most of the required reading materials for their major courses are written in English. In

addition, 63.9% of the FAS students at AU consider that most of their major courses are taught in English. The study shows that reading and writing have priority whereas oral requirements are almost never used.

As the results of the study showed the FAS students at AU are of the opinion that most of the materials of the English language course taught to them should be related to their field of study. They view that the FAS students at AU must take at least a three credit hours course of English for Science besides another three credit hours course of General English. These views are consistent with the students' perceptions about the extent of English language use in their learning of their major courses. These results are supported by the findings of Alastal & Shuib's (2010) study.

Based on the findings of the study and the discussions presented in this sub-section, it can be stated that the FAS students at AU perceive academic English reading comprehension, listening comprehension, and writing skills as necessary for their successful study of their major courses. Of the academic English language subskills, according to the students' perceptions, the necessary skills for the FAS students' academic study at AU are reading textbooks, reading to understand test and exam questions, reading reference books, reading texts from the internet, following and understanding class lecture, understanding lectures in order to take notes, understanding lab and classroom discussion, writing class notes, writing test and exam answers, writing correct sentences, and writing reports/assignments.

5.2 Lack of Language Proficiency

The results of the study have shown that the FAS students evaluate themselves as lacking much proficiency in the four academic English language skills, but their level at the reading skill is the highest. The FAS students at AU consider their proficiency in the academic English not good enough to study their major courses, due to their poor English vocabularies, poor English reading comprehension, poor English listening comprehension, poor English writing, poor English speaking skills, and poor English grammar. Comparing this present proficiency of the FAS students at AU with the necessary academic English language skills for their academic study, the study shows that the FAS students at AU lack proficiency in all the necessary academic English language skills for their study of their major courses. This is supported by the findings of Alastal & Shuib's (2010) study, which showed that the FAS

lecturers at AU estimate their students in the academic English language skills as weak in listening comprehension, speaking and writing, and as average in reading comprehension.

5.3 Academic English Language Skills FAS Students Want

The results of the study reveal that the FAS students at AU desire to improve their proficiency in the four English language skills as the lowest of their ranking means is 2.22 and the highest is 2.92. However, the results indicate that the English language skill they desire to learn most is speaking, followed by listening, reading, and writing. This strong desire to improve the English speaking skill is not particular only to the FAS students at AU in Palestine, but to other university students in countries where English is considered to be EFL/ESL. Al-Tamimi & Shuib's (2010) study shows that the petroleum engineering Yemeni students at Hadhramout University of Science and Technology desired the speaking skill most.

All of the English language sub-skills, the findings of the study show that the FAS students at AU desire to improve their proficiency in the skills of "Following and understanding class lectures", "Discussing the materials of the lectures", "Reading textbooks", "Reading to understand test and exam questions", "Writing correct sentences" and "Writing test and exam answers". It is observed that, except for the "speaking skill" and the sub-skill of "Discussing the materials of the lecture". All of these skills and sub-skills are almost the same academic English language skills which the study suggests to be the most necessary for the FAS students' academic study at AU.

6. Conclusion

Mastering academic English language is a very serious issue for the FAS students' successful study of their majoring courses at AU. The English language course offered to the FAS students at AU does not meet their English language needs. The students of the FAS at AU should take a special course of English for academic purposes in addition to the course of General English taught to them. This course must be designed according to the FAS students' needs of academic English. It is hoped that the results and the discussions of this study have clearly identified the academic English language target needs of the FAS students at AU and will be useful for course designers to design an effective English academic curriculum and materials for students.

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An Impact Study on Alignment of Biomedical Engineering ESP with Content Subjects

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Abstract

This paper reports the results of a study conducted to evaluate the effectiveness of the alignment of an ESP subject with its corresponding content subjects. The ESP subject, which provides profession/discipline-related language education to undergraduate students studying biomedical engineering in the Department of Health Technology and Informatics (HTI) of a university in Hong Kong, is closely aligned with several HTI subjects in assessments, teaching foci, teaching schedules, and other aspects of the curriculum. The writing performances in laboratory reports and final year project proposals of two student cohorts, one of which took the ESP subject, were assessed by two external biomedical engineering

professionals and one language specialist. Students' perceptions and teachers' reflections on the subject alignment were explored through surveys and interviews. The findings, which were analysed statistically and qualitatively, show how deeper collaboration between language education providers, academic departments and workplace professionals can facilitate the design and implementation of effective ESP courses. It was found that appropriate alignment of the delivery time of the ESP subject and its corresponding HTI subjects led to more effective learning and teaching while mismatch in assessment foci and arrangements affected learners' satisfaction with the subject alignment. Students also worried about a perceived role imbalance between the two academic units; this finding echoes to a certain extent Hyland's (2002) contention that ESP, if seen as a service activity, may be "marginalized as a remedial exercise designed to fix up students' problem".

Keywords: ESP curriculum development, Alignment of ESP and content subjects, Biomedical engineering ESP, Roles of ESP and host department, Collaboration between academics and professionals

1. Introduction

Language for Specific Purposes (LSP) is often connected with terms such as "functional", "needs-based", "content-based", "pragmatic", "accommodationist" and "tailored" (Belcher, 2006). At university level, "ESP has become central to the teaching of English" (Hyland, 2002, p.385) and a general aim of ESP courses is to train students from different disciplines to acquire the ability to perform particular communicative tasks.

ESP prepares students for success in education and for their "imagined futures" (Belcher, 2006). Some ESP courses combine EAP (English for Academic Purposes) and EOP (English for Occupational Purposes), which includes professional English and vocational English (Maria, 2009). An intended outcome is for students to improve their communicative competence and to achieve target competence in both reception and understanding of language use as well as conveyance of their own meanings through the use of appropriate syntactic and semantic features (Engberg, 2006).

The move from EGP (English for General Purposes) to ESP is often triggered by an aspiration to improve language provision through offering a curriculum that can meet learners' needs (Kaewpet, 2009). The specificity in ESP requires the specific consideration of each pedagogical situation and of each group of learners, which results in unique curricula

for students from different disciplines. As Johns states, “central to LSP pedagogy must be the determination of the unique characteristics of each teaching/learning situation, and the exploitation of these characteristics for development of syllabuses, of classroom activities, and of evaluation and assessment” (2006, p.684).

To understand these unique characteristics, ESP lecturers work with different departments to discuss the specific English needs of students, then design and implement specialized curricula to address those needs (Belcher, 2006). In order to help students acquire the language skills needed for particular disciplines or professions, a high degree of authenticity is required in ESP courses, and authentic tasks are set that relate to students’ learning in their disciplines (Maria, 2009). Strevens (1998, p.11) defines ESP authenticity in three ways:

- (i) not seen as wrong or trivial by trained specialists in the subject (i.e. realistic);
- (ii) covering the appropriate combinations of language skills (i.e. communicative);
- (iii) giving opportunities for realistic simulations or role-playing (i.e. operational).

To achieve authenticity, ESP lecturers need to familiarize themselves with the language used in the target discipline (Dudley-Evans and St. John, 1998; Robinson, 1991), but gaining access to natural data in the target professional workplace is often a difficulty (Burns and Moore, 2008, p.323). To compensate for the language teachers’ limited discipline-specific knowledge, language experts and professionals in the discipline, including subject matter experts, collaborate in teamwork (Sullivan and Girginer, 2002). Strategies that can be employed include team teaching with a discipline-area specialist (Dudley-Evans and St. John, 1998), or linking language and discipline-content classes (Johns, 1997). This solution, however, may not be perfect (Goldstein, Campbell and Cummings, 1997), and unwillingness among staff to collaborate as well as other institutional constraints can hinder such partnerships (Belcher, 2006). Those who see this collaboration positively believe that staff in both the language and discipline departments can benefit. While language experts can learn how language is used realistically in the field, content specialists who may not know how to help students with language can depend on the pedagogical expertise of the language staff (Snow, 1997).

Students can also benefit from the partnership between content and language teachers. As students undergo CLIL – Content and Language Integrated Learning (Burston and Kyprianou, 2009), and complete tasks in their content subjects using skills acquired from

their ESP courses, they see the value of ESP in helping them achieve target literacies in their disciplines (Parkinson, 2000). They do not only think and learn science, but also talk, read and write science (Gee, 1994). Without input from language teachers, students will have to acquire the discourse of science on their own; but with training and feedback provided by the language teacher, students can contrast “what a person can achieve when acting alone and what the same person can accomplish with support from someone else” (Lantolf, 2000, p.17). This may be particularly true in the context of Hong Kong, where English, the medium of instruction at university, is not often used by students outside class.

Many students are not well versed in the skills of academic writing but they cannot avoid writing in discipline specific academic English. Survey results have shown that university students need to write assessments that are specific to their discipline, e.g. describing procedures and planning solutions (Casanave and Hubbard, 1992). In the study of science, students need to be familiar with different genres in the context of their disciplines (Jacoby, Leech and Holten, 1995; Lea and Street, 1998; Zhu, 2004); but genre awareness does not come easy for novice students who are new to the academic world (Johns, 2008). ESP pioneers like Swales (1990) and Bhatia (1993) have called for explicit teaching of genre. Content and language lecturers can collaborate on genre-based teaching which empowers students to write effectively (Hyland, 2003) since genre-based pedagogy makes “explicit a writing task’s lexico-grammatical features” (Parkinson et al., 2007, p.445), and help students see the multiplicity of scientific discourse (Bazerman, 1998) in broader social practices (Street, 1995; Lea and Street, 1998).

Some ESP studies advocate going beyond the teaching and learning of grammar (Parkinson, 2000) to include skills and discourses in order to help students develop communication competence in occupational contexts (Maria, 2009). There is increased research in the use of a lexical approach integrated with corpus-based methodology to raise students’ language awareness (Mudraya, 2006). Students can be directed to the acquisition of register (Biber, 2006), lexical clusters (Hyland, 2008) and the important role of noun phrases in scientific/academic writing (Flowerdew, 2003).

One way of helping students develop such language awareness is to situate their learning in genre-based contexts. Research has shown that undergraduate science students have to be competent in at least two essential genres, one of which being the laboratory report. Behrens (1978) found that 93% of the writing tasks that university science lecturers assigned were laboratory reports. Braine (1989) examined the writing tasks given to science

and engineering students and found that 85% of them could be classified as comprehending research/experimental/laboratory reports, whereas Jackson, Meyer and Parkinson (2006) discovered that 60% of the writing assessments given by science faculty were laboratory reports. Although the lab report is a key genre for science students, it may not be easy for the language faculty to teach as the structure of the lab report can differ considerably across different science disciplines (Braine, 1995). At the same time, it may not be easy for science students to learn since most of their assigned reading is from textbooks, which belong to a genre quite different from that of the lab report (Jackson et al., 2006; Parkinson et al., 2007).

The final year project report is another essential genre for undergraduate science students, and there is literature supporting the delivery of final year subjects through collaborative teaching. Barron (1992) argues that collaborative teaching, which is characterized by the integration of content and language skills being monitored by the content specialist and the language expert, is more suitable for English courses considered to be complementary in importance to the corresponding content subjects. Examples are courses focused on dissertation writing and courses preparing students to enter an English-medium university such as the course reported in Johns & Dudley-Evans (1980, cited in Barron 1992). Barron (1992) also reports that the engineering students taking a final-year communication course produced work of better quality and were more motivated when they received team teaching – teaching involving collaboration between a language expert and a subject specialist including the sharing of classroom.

In summary, to help students develop ESP such as writing skills for final year projects and laboratory reports, collaboration and equal partnership between the academic departments and the language teaching units in the teaching of academic literacy through ESP would be ideal. The study reported in this paper aims to evaluate the effectiveness of alignment of an ESP subject with its corresponding content subjects and to explore the partnership between the language teaching unit and the corresponding academic department. The specific aims of the study are stated in the next section.

2. Background of the study

In the Hong Kong Polytechnic University, the content of ESP courses are the results of negotiation between the parent department and the English Language Centre (ELC), and the majority of ESP courses are stand-alone subjects that are not explicitly linked to discipline content subjects. For example, a certain department may schedule an ESP subject in Year 2

Semester 1 on proposal writing and workplace correspondence, but students do not need to write a proposal for their content subjects until Year 3 and will not do any authentic workplace correspondence until after they graduate in 18 months' time.

The situation in one undergraduate programme, BSc in Biomedical Engineering (BME), offered by the Department of Health and Technology Informatics (HTI) is different. Up until the 2006 cohort, BME students had to take one 2-credit stand-alone ESP subject (hereafter referred to as the old ESP) in Year 1 Semester 1 only, in which they learnt how to write reports on patient records and general workplace correspondence, as well as how to present information orally. The assessments were set by ELC staff, who were not content specialists, and the tasks were hardly based on real problems or experiences.

However, after a series of meetings between ELC and HTI, it was decided that there would be closer alignment between ELC and HTI subjects, and starting with the 2007 cohort, BME students would take ESP in different semesters throughout their three years of study and in parallel to some of the content subjects. Table 1 shows how the new ESP is aligned with HTI subjects.

The old ESP and the new ESP were developed with very different levels of ELC-HTI collaboration. While the collaborative efforts made to develop the old ESP was limited to the HTI Department providing some information about what students were expected to include in reports, the scope of collaboration for the development of the new ESP was much broader, ranging from materials development (HTI providing ELC with information about the BME program and past students' assignment scripts as reference for developing the new ESP materials) to, as shown in Table 1, teaching time alignment (T-time), teaching foci alignment (T-foci) , and assessment foci alignment (Ass-foci).

Table 1: Alignments of ESP subject and HTI subjects in teaching time, teaching foci, assessment foci

		New ESP	HTI
Attachment Report	T-time	After some attachment reports have already been submitted	N.A.
	T-foci	Language, writing skills, reflection skills, style, structure	Specification of structure of report and content scope
	Ass-foci	N.A.	Content & structure (main focus), language (less weighting)
		New ESP	HTI
OTR Report	T-time	After HTI assessment submission	N.A.
	T-foci	Language, writing skills, style, structure	Specification of structure of report and content scope
	Ass-foci	Language, writing skills, style, structure	Content, skills of oral presentation or role-play
		New ESP	HTI
Lab Report	T-time	After some lab reports have been submitted to HTI	N.A.
	T-foci	Language, writing skills, style, structure	Specification of structure of report and content scope
	Ass-foci	Language, writing skills, style, structure	Content & structure (main focus), language (less weighting)
		New ESP	HTI
Final Year Project Proposal	T-time	Writing: 2 weeks before HTI assessment submission OP: 5 weeks before HTI assessment	Writing: Year 2 Semester 2 OP: N.A.
	T-foci	Language, writing skills, style, structure	Specification of structure of report and content scope
	Ass-foci	Writing: not assessed by ELC OP: language and OP skills	Writing: focus mainly on content & structure OP: focus mainly on content

N.A. = Not applicable; OTR = Orthopaedics, Traumatology & Rehabilitation
T = Teaching; Ass = Assessment; OP = Oral Presentation

The main feature of the teaching time alignment (T-time) is that the new ESP subject is divided into three parts which are taught in three semesters so that the teaching time of each topic area falls in the same semester in which the corresponding BME subject is taught and assessed. If two topics are taught in a certain semester, the two topics are spaced out to match the timetables of the two corresponding BME subjects and to provide an intermission of several weeks for learners to digest the first topic and mature before turning to the second topic. This intermission is expected to be particularly valuable if the first topic is pedagogically associated with the second. These arrangements are diagrammatically illustrated in Chart 1:

ESP Part IIa (Year 2 Sem 2) Lab report writing	Intermission → 6 weeks	ESP Part IIb (Year 2 Sem 2) Final Year Project Proposal writing	Intermission →	ESP Part III (Year 3 Sem 1) Final Year Project presentation
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Chart 1: Intermissions between different parts of new ESP

Ideally, the teaching of any topic area should precede the submission of the related HTI assessment, but this arrangement cannot be fully met (see Table 1 for details) due to time-tabling constraints and workload distribution for staff in the two departments.

Teaching foci alignment (T-foci) refers to the arrangement of the course content of the new ESP and its aligned HTI subjects. HTI Department expects the ELC to teach whatever skills students will need for the HTI assessments. As such, the teaching focus of the new ESP is, as shown in Table 1, generally on language, style, writing (or oral) skills needed for the writing or oral presentation of a particular type of report. However, the 42 contact hours of the ESP subject are not enough for teaching both the written and oral skills for all the four topic areas, and there is no time to train students for their oral assessment in the OTR subject. This time limitation also affects language input on Final Year Project proposal writing: only four contact hours can be devoted to this learning outcome.

Another aspect of the new ESP subject is in the alignment of assessments. The assessment tasks of the four topic areas (Attachment report, OTR report, Lab report, FYP proposal) are set by HTI professors for use in both the new ESP and the corresponding HTI subjects. For example, the Lab report writing task that students submit to the ELC and HTI for assessment is one of the Lab report assessment tasks set by HTI. Other assessments may require students to do something slightly different for the ELC and HTI teachers but the tasks or focuses are closely related. For example, the OTR assessment task requires students to first deliver an oral presentation and perform a role play in HTI on what they have learnt about a certain disease, then later in the same semester submit a written report with the same content to the ELC. When grading assessments, the ELC focuses on language, writing skills, style and structure while HTI focuses mainly on content and structure.

The above-mentioned ELC-HTI subject alignments echo the outcome-based approach to education being advocated by the university. In this approach, the teaching and assessment of a subject/programme should be closely aligned with the intended learning outcomes of that subject/programme. The BME programme has seven intended learning outcomes (iLOs):

1. [Communicate & advise]
Communicate effectively and advise clients, professional colleagues and other members of the community
2. [Critique literature]
Critically evaluate research and professional literature, and understand the principles and practice of conducting research in different environments relevant to BME
3. [Evaluate solution]
Evaluate the effectiveness of solutions against objective criteria
4. [Solve problems]
Demonstrate the ability to develop and apply knowledge to solve clinical problems with an investigative approach
5. [Identify objectives]
Synthesize both knowledge and assessments to identify short and long term solution objectives
6. [Be responsible]
Practise competently and in a professionally responsible manner
7. [Understand roles]
Understand the roles of Biomedical Engineering (BME) in the health care system and society

The iLOs of the old ESP were that students are expected to be able to use appropriate language and text structure to (1) write reports related to studies of biomedical engineering and (2) deliver verbal presentations in workplace contexts.

The iLOs of the new ESP are that students should be able to communicate effectively in professional and academic contexts through (1) writing biomedical engineering-related reports, and (2) delivering oral presentations of final year project progress reports. To achieve these two iLOs, students are expected to use language and text structure appropriate to the context, select information critically, and present and support stance and opinion.

Since there are obvious differences between the design and rationale of the old and new ESP, a study has been conducted to investigate the effectiveness of the new ESP which is aligned in various aspects, and to various degrees, with the content subjects in BME. Specifically, the study explores (1) student perceptions and teacher comments on the

effectiveness of the subject alignments and (2) student performances as a result of the alignments.

3. Methods

3.1 Participants

The participants of this study include all the BME students in the 2006 and 2007 cohorts, the only teacher of the new ESP subject, who also taught the old ESP subject before it was replaced by the new ESP, and three external assessors (two biomedical engineering specialists and one English language teaching and learning expert). The involvement of external assessors is a value-adding feature of this study. While students' and teachers' perceptions of the effectiveness of the new ESP subject are important, they offer an insider's perspective. Since one of the aims of university education is to prepare future graduates for the professional world, it is valuable to seek the opinion of professionals in the target field; their feedback can enrich and benefit the course.

3.2 Research instrument

In order to gauge student perceptions of, and to understand their learning experiences in, the ESP courses, two questionnaire surveys were administered to the 2006 cohort (control group; N=35) and the 2007 cohort (experimental group; N=35). The questionnaires, which had been piloted with a few students and subsequently revised, mainly asked whether the ELC-HTI subject alignment helped students to write better English, develop better report writing competence and achieve BME iLOs. A five-point scale was used for rating: Strongly disagree, Disagree, No strong view, Agree, Strongly agree. Statistical analyses (Pearson correlations and T-tests) were conducted, although the small student intakes of the two cohorts (35 each) could have affected the T-test results to some extent.

Student representatives were also invited to attend (i) regular student-staff consultative meetings (SSCMs) for the ESP subject, and (ii) focused group interviews specifically organized for the project. These meetings provided additional data to supplement the findings from the questionnaire surveys.

Three external assessors were engaged: a language expert who had taught biomedical engineering undergraduate students before and two experienced professionals in the field of biomedical engineering, one of whom being more specialized in the biomedical aspect while the other more in the engineering aspect. Attempts had been made to invite about four BME

professionals to achieve better assessment results, but only two agreed to join. The externals were asked to grade and, wherever appropriate, comment on students' performances in two written assessments: laboratory report and final year project proposal; and to primarily focus their review on their area of expertise; that is, the language expert focused more on language, organization and coherence, and the biomedical professionals focused more on content and style. The same set of assessment rubrics was used by the three assessors. The grades they gave to the control group and the target group were compared and statistically analysed. The old ESP and the new ESP had different contents – while the new ESP taught four genres of writing including Lab report writing and FYP proposal writing (as mentioned in Table 1 in Section 2), the old ESP taught only one genre: clinical report writing. As such, the new ESP students' performance in Lab report and FYP proposal writing was expected to be better than the old ESP students' if sufficient teaching time was allocated to the topics covered in the new ESP.

The perceptions and reflections of the new ESP subject teacher were another key area of interest in this study. Data were collected via face-to-face interviews and email exchanges between the ESP teacher and the project leader.

4. Findings

Two main categories of findings were collected: (1) Survey and interview findings on students' perceptions of their own achievement of learning outcomes and learning motivation, and their satisfaction with the new ESP subject and its alignment with HTI subjects; (2) Students' performance in written assignments graded by external assessors: two content specialists and one language specialist. A preliminary portion of this set of findings was presented in Chan, Chen, Fung, Cheung, and Wong (2011).

4.1 Perceived achievement of learning outcomes (survey findings)

Two surveys were conducted: the first one after the students of the new ESP subject had learnt attachment report, OTR report and lab report; and the second one after they had learnt FYP proposal writing.

Results from the first survey (see Table 2) show that the new ESP subject was perceived to be more effective than the old ESP subject in helping students achieve the first six learning outcomes (LOs 1-6), particularly LOs 1, 2 and 4 (with T-test significant difference). This seems understandable: while the report writing assessment task of the old

ESP subject was designed by language teachers from the English Language Centre, the assessment tasks of the new ESP subjects, which were either closely related to or the same as the assessment tasks of the aligned HTI subjects (Attachment Report, OTR report and Lab report), were all set by HTI professors based on real problems and authentic experiments; as such, this assessment alignment should have triggered more fruitful discussions in the new ESP classes about how to achieve the HTI learning outcomes, than the general discussions in the old ESP.

Table 2: Comparing new and old ESP subjects in helping students achieve learning outcomes through report writing

HTI Learning Outcomes	New ESP subject Score	Old ESP subject Score	Sig. diff.
1. Communicate & advice	3.33	2.96	p=.053*
2. Critique literature	3.76	2.84	p=.000*
3. Evaluate solution	3.38	3.12	
4. Solve problems	3.24	2.76	p=.028*
5. Identify objectives	3.14	2.96	
6. Be responsible	3.43	3.12	
7. Understand roles	3.14	3.50	

Source: Chan, Chen, Fung & Cheung (2010)

Table 3 shows the findings of the second survey: students' perception of how Part III of the new ESP subject (i.e. final year project proposal writing and presentation) and the two corresponding HTI subjects (i.e. Introduction to Clinical Research & Independent Project) helped students achieve learning outcomes. Students of the old ESP subject were not surveyed on their views of final year project related topics since the old ESP subject did not cover these topics.

No significant difference was found between the effectiveness of the new ESP subject and the corresponding HTI subjects in helping students achieve the BME learning outcomes. The new ESP subject received slightly higher scores for LOs 1, 2; this is understandable since the intended learning outcomes of the ELC focus on language and communication and also critical selection of information (see Section 2). It is also understandable that the HTI subjects received slightly higher scores for LOs 3, 4, 5, 7 since these learning outcomes are discipline related.

Table 3: Effectiveness of new ESP subject and corresponding HTI subjects related to Final Year Project proposal in helping students achieve learning outcomes

HTI Learning Outcomes	New ESP subject	HTI subjects	Sig. diff.
1. Communicate & advice	3.56	3.40	-
2. Critique literature	3.64	3.64	-
3. Evaluate solution	3.36	3.56	-
4. Solve problems	3.08	3.48	-
5. Identify objectives	3.20	3.40	-
6. Be responsible	3.56	3.32	-
7. Understand roles	3.12	3.28	-

It is worth noting that Table 3 provides some more evidence to confirm the finding presented in Table 2: that the new ESP subject was significantly more effective than the old ESP subject in helping students achieve the English and communication related HTI learning outcomes (LOs 1, 2).

4.2 Learning motivation and learning from the new ESP subject (interview & survey findings)

In a focus group interview, students reported that “the new ESP lessons were interesting and enjoyable”. Similarly, in a student-staff consultative meeting, students of the new ESP subject reported “interesting lessons”. The new ESP subject teacher also reported enjoyment in teaching the subject since the new ESP and HTI subjects were related and the topics of the new ESP were well spaced out. For example, Lab report, FYP proposal writing and FYP proposal presentation were separated by non-teaching weeks. These breaks were beneficial to learning and teaching: “Year 2 Lab report leads nicely into FYP proposal writing and Year 3 FYP progress presentations”. (See Chart 1 in Section 2.)

In contrast, students of the old ESP subject reported “quite boring lessons” in an Student- Staff Consultative Meeting (SSCM) report. Similarly, one of the teachers of the old ESP subject noted in a formal Teacher Feedback Questionnaire that “dwelling on one genre - clinical report writing - for so many weeks induces boredom”.

Students’ satisfaction with their development in writing skills and generic skills is shown in Tables 4a and 4b. Table 4a indicates that the new ESP students’ satisfaction with their language skills of lab report writing was higher (though not significantly) than the old ESP subject students’ satisfaction with their language skills of clinical report writing (mean scores: 3.57 vs. 3.28 for writing skills, 3.48 vs. 3.28 for General English); this amounts to an average satisfaction differential of below 0.3. Whether this satisfaction matches students’ performances in written assignments will be reported in the next sub-section.

Table 4a: Student satisfaction with language skills development

	Lab report writing [New ESP subject students]	Clinical report writing [Old ESP subject students]
Writing skills for specific genres	Mean: 3.57	Mean: 3.28
General English competence	Mean: 3.48	Mean: 3.28

<First survey findings>

No sig. diff.

Compared with that of the two skills shown in Table 4a, a larger satisfaction differential was found with the generic skills development of the two cohorts as shown in Table 4b.

Table 4b: Student satisfaction with generic skills development

	Reports writing [New ESP subject students]	Clinical report writing [Old ESP subject students]
Creative thinking	Mean: 3.43	Mean: 3.04
Critical thinking	Mean: 3.52	Mean: 3.00
Team work	Mean: 3.14	Mean: 2.75

<First survey findings>

No sig. diff.

The three generic skills, which were the generic outcomes promoted by the university as part of the OBE exercise in addition to the promotion of programme learning outcomes, were:

- *Creative thinking*: ability to generate and experiment with novel ideas, methods, and approaches,
- *Critical thinking*: ability to examine and critique the validity of information, arguments, and different viewpoints, and reach a sound judgment on the basis of credible evidence and logical reasoning, and
- *Team work*: ability to work collaboratively within a team, and have an understanding of leadership and be prepared to lead a team.

The average satisfaction differential between the new ESP students and the old ESP students for the 3 skills was over 0.4. This finding seems consistent with the student interview findings reported earlier in this Section that the old ESP lessons were “quite

boring” but “the new ESP lessons were interesting and enjoyable”: with creativity and critical thinking come interest and enjoyment.

4.3 Student performance in written assignments (assessed by externals)

The new and the old ESP students’ performances in Lab report writing and FYP proposal writing as graded by the three external assessors were compared by T-tests. The results show that there are significant differences between the grades of some aspects of the Lab report assignment but not between the grades of the FYP proposal assignment.

Table 5: Comparing students’ lab report writing performance graded by external assessors

	Content	Cohr/Cohs/Org	Grammar	Vocabulary	Style & tone
<i>Assessor 1: BME professional</i>					
New ESP subj	2.55 p =	2.60 p =	2.95 p =	2.75 p =	2.65 p =
Old ESP subj	2.84 .040*	3.19 .008*	3.19 .247	3.19 .027*	3.06 .046*
<i>Assessor 2: BME professional</i>					
New ESP subj	2.40 p =	2.85 p =	2.80 p =	2.65 p =	2.80 p =
Old ESP subj	3.77 .000*	3.61 .001*	3.39 .013*	3.35 .001*	3.41 .004*
<i>Assessor 3: Language expert</i>					
New ESP subj	2.15 p =	2.70 p =	3.00 p =	2.30 p =	2.15 p =
Old ESP subj	2.55 .008*	2.48 .164	2.68 .046*	2.52 .164	2.32 .217

5-point scale: 1=highest grade, 5=lowest grade T-test: * indicates significant difference
 Source of Assessor 3 grade means: Chan, Chen, Fung, Cheung and Wong (2011)

As shown in Table 5, in the Lab report assessment, students of the new ESP subject performed better than their old ESP counterparts. According to Assessors 1 and 2, the biomedical engineering professionals, the target group students performed better in all aspects, two of which (Coherence/cohesion/organization & Content) being significantly better. According to Assessor 3, the language pedagogy expert, the target group students performed better in three aspects: Content, Vocabulary, Style and tone, with Content mean grade being significantly higher; however, they performed worse in Grammar (with mean grade significant difference) and Coherence/cohesion/organization (without significant difference).

Students’ performance in lab report writing as assessed by the two external BME specialists matches students’ satisfaction scores for their own language and writing skills development (see Tables 4a). The satisfaction scores, however, do not seem to be consistent with their performance as assessed by the language expert; this will be further discussed in Section 5.

4.4 Students' satisfaction with subject alignment (survey and interview findings)

Survey findings seem to suggest that the new ESP students generally liked the teaching time arrangement of having an intermission between the deliveries of two topics, as shown in Chart 1 in Section 2. The new ESP students' mean satisfaction with this arrangement (mean score: 3.33) is higher than their mean satisfaction with the normal teaching time arrangement of no intermission (mean score: 2.95) of the pre-requisite English language subject of the new ESP. The old ESP students' satisfaction in this regard was not surveyed because the old ESP had no pre-requisite subject.

However, students were only moderately satisfied with the overall ELC-HTI subject alignment (mean: 3.19). In relation to this, two alignment problems were observed in Parts I and IIa of the new ESP subject (Attachment report, OTR report, Lab report): Teaching time problem and Skills transfer problem.

The teaching time problem occurred because part of the alignment of the ELC schedule and the HTI schedule was not ideally designed, resulting in learners not being able to timely utilize the ELC input for their HTI assessments. For example, owing to some administrative constraints, the new ESP subject was scheduled to start teaching OTR report after the HTI's assessment of OTR report had already been done; as a result, students could use the ELC input to help themselves with the ELC's assessment of OTR report but not the HTI's. Focus group interview findings and SSCM meeting findings also show that this problem affected students' satisfaction with the ELC-HTI subject alignment: "Better if the ELC comments come before HTI assessments are graded".

A less serious but similar teaching time alignment problem occurred with the FYP proposal writing assignment. Students were scheduled to submit the FYP proposal assignment to HTI about one week after they had finished obtaining language input from the ESP course; the proposals, after being graded by the HTI, would be made available for the new ESP teacher to give comments to the students. These arrangements, according to focus group interview findings, had prevented students from fully utilizing the language input to improve their writing:

The feedback from the ELC lecturer came after the assignment was graded and we could not re-do and re-submit, so we do not think it was useful; it should be as early

as possible or before submitting the work to HTI so that we have sufficient time to revise our work and to make improvement.

The skills transfer problem occurred when the ELC taught the writing skills of a certain outcome topic and the HTI assessed the oral skills of the same topic. For instance, it was originally agreed between the ELC and HTI that the new ESP would focus on the writing of the OTR report; later, without notifying the ELC, HTI replaced the writing assessment with a new oral assessment of the OTR report. Students commented on this mismatch at the focus group interview and an SSCM meeting:

The written report assessments are useful. However, we think the OTR Report Writing assessment is less useful compared with the oral assessment of FYP Proposal for three reasons. (1) ... (2) Those who do take the BME subject of OTR report are assessed only on oral presentations of OTR reports, not on writing. (3) The BME OTR oral assessments come before the ELC OTR teaching and assessment. It would be better for the ELC to teach and assess oral presentations of OTR reports instead if time is not enough for teaching and assessing both oral and writing skills.

In response to the above comments and request, the ELC, in consultation with HTI, later added the teaching of OTR report related oral skills to the ESP subject curriculum.

The teaching time problem and the skills transfer problem may not be the only causes of the moderate student satisfaction with the ELC-HTI subject alignment. Two other likely factors are students' learning culture and the ELC and HTI expectations regarding student performance.

According to anecdotal evidence, there appears to be a rooted grade-oriented culture in Hong Kong. Students study mainly for examination results. In a focus group interview, students noted:

“Frankly, we are most concerned about assessment grades.”

“The ELC input was interesting and useful for the future, but more practical elements should be added in.”

By “practical element”, students meant teaching materials that are handily useful for assessment purposes such as example reports. In relation to this, students raised the issue of

differences in assessment expectations from the two departments and reported they followed the HTI expectations:

“Some assessment related advice from the ELC teacher is different from that from the HTI teachers: difficult for us to follow.”

“If we want to get high grades, we must follow HTI expectations instead of ELC advice.”

Associated with practicality was the issue of role balance between the two departments. Students in the focus group interview commented on the issue:

“The role of the ELC seems smaller than HTI.”

“It seems that there was no equal status in alignment— the ELC only supported and assisted HTI. We easily got lost not knowing which to follow: ELC expectations or HTI expectations.”

Regarding the expectation discrepancy, students at a focus group interview reported that HTI expected more detailed contents from the assignments whereas the ELC teacher advocated conciseness in view of the fact that professionals in the workplace prefer concise presentation of ideas. The importance of conciseness was also noted by one of the two external assessors with biomedical engineering background when giving overall comments on students' writing. Another interview finding related to the expectation discrepancy was that a sentence which a student wrote in an assessment according to the ELC teacher's advice was later crossed out by an HTI teacher marking the assessment.

The teacher's pedagogic approach discussed in the next sub-section could indirectly shed some more light on the issue of expectation discrepancy.

4.5 Teacher's view on subject alignment (face-to-face and email interview findings)

The new ESP subject teacher very much treasured the arrangement of an intermission between two topics of the ESP subject because of the pedagogical value of the intermission. The teacher noted that both he himself and the students could make use of the intermission to digest a topic before proceeding to the next topic:

Pedagogically speaking, what I do in a Year 2 classroom should prepare students for a Final Year Project proposal that they write for a US research scholarship application in Year 3. With the course design of the [New ESP subject], I can do

this extremely well: Year 2 Semester 2 Weeks 1-3 Lab report leads nicely into weeks 9-10 Final Year Project proposal writing which will mature in a Year 3 Semester 1 Final Year Project Progress Presentation unit.

According to the teacher, since what students learn from the topic of lab report writing is related to, and very useful for, the subsequent topic of final year project proposal writing, the between-topic intermissions are very important non-teaching transitional periods for both the teacher and students to mature and develop scientific sensitivity and values of the discipline. Scientific sensitivity and values are labeled by the teacher as general elements of scientific language learning; without these general elements, the concrete linguistic features specific for the discipline can hardly be developed. The interwoven relationship between the general and the concrete was elaborated by the teacher:

CONCRETE means specific linguistic and discourse features of a piece of biomedical engineering communication (e.g. reflection, lab reports) which can only be generated by an acquisition of a kind of thinking that is not 'normal', i.e. scientific thinking as well as values and by this, I mean, GENERAL. ... Hence, for the teacher and the students, biomedical engineering communication skills development means an acquisition of both scientific thinking and values (novelty, commonality, innovation) and linguistic features (e.g. nominalization).

In short, the teacher tended to value general scientific thinking/values and linguistic features as pre-conditions of learning concrete language and communication skills; this tendency could perhaps account for the student comment reported in the last sub-session that "The ELC input was interesting and useful for the future, but more practical elements should be added in." The key term in this comment "practical elements" could perhaps indirectly manifest students' perception of the HTI expectations.

Delivering both the long-term general and the short-term concrete elements is challenging and takes much time. Given the fact that the new ESP subject covered many more topics than the old ESP subject without increase in contact hours, the teacher modified his teaching approach to cope with the time constraint.

The challenge is now how I can turn the concrete into general and then turn it back into concrete again. ... I have asked students to prepare the lesson before coming to class by reading some of the learning materials regarding how general linguistic

features are associated with scientific thinking and values; this way, more class time can be spent on facilitating student discussions about the materials regarding the general in association with the concrete intended learning outcomes and related language skills.

Facilitating student discussions and the follow-up activities were reported by the teacher as a rewarding experience:

Participating in this case study project has been a rewarding experience to me. I studied the BME intended learning outcomes more closely in order to lead the class discussions. ... Through giving feedback to student assessments, which were graded by me and the HTI professors, I developed a deeper understanding of how the HTI professors graded student assessments basing on the BME assessment criteria.”

How the externals graded student performances and the views and experiences of the teacher and students can be interpreted in a more integrated manner to reflect on the ELC-HTI subject alignment and collaboration is the concern of the next section.

5. Discussions, conclusion, recommendations

The findings presented above are summarized and discussed below in a more coherent manner with the provision of some more background information.

The new ESP subject was found to be more motivating and enjoyable than the old ESP subject. This is consistent with three other findings. First, according to survey results, the new ESP, which was aligned with several HTI subjects, helped learners achieve two HTI programme outcomes concerning English and communication significantly better than the old ESP. Second, the students of the new ESP were more satisfied than the students of the old ESP with the development of their writing skills of report writing. Third, according to the three external assessors, the students of the new ESP performed significantly better in content when writing lab report assignments.

The three assessors, however, awarded different grades to the language accuracy of students' lab report writing: while the language expert gave significantly lower grades to the target group than to the control group, the two BME professionals respectively gave higher grades and significantly higher grades to the target group. The likely reason for the difference was that the language expert was less knowledgeable in BME laboratory matters and hence relied much more on language accuracy to comprehend students' writing than the BME

professionals did, probably resulting in a stronger focus on language use and grammatical errors. Two possible reasons for the target group's lower score in Grammar should have been that (1) 7 of the 35 students in the cohort, who had better English proficiency than the average student, were overseas attending exchange programmes when the study was conducted and hence their lab reports were not available for external assessment, resulting in a lower mean for the cohort's grammar grade; and (2) the target group received less grammar input because the new ESP subject covered many more topics than the old ESP subject within the same number of contact hours.

Regarding performance in Final Year Project proposal writing, the grade difference between the target group and the control group was not significant. A probable reason was that only 4 teaching hours was allocated to this topic. Students requested more hours but their request was not acquiesced to because of the already very full syllabus of the new ESP subject.

Students raised the issue of role imbalance between the ELC and the HTI Department. This type of problem is not unique to the ELC-HTI case. According to Hyland (2002), English language units offering ESP are often perceived as a service unit to the parent department and ESP is seen as service activity. If the parent department does not see the central role of language acquisition in students' acculturation to the discipline, or does not wish to allocate much curriculum space to language learning, ESP may even be "marginalized as a remedial exercise designed to fix up students' problems" (p.386).

The new ESP subject teacher did not see language education as remedial exercise. He held that one of the roles of ESP is to instill scientific sensitivity and values into language education. This explains why he treasures the non-teaching intermission weeks between two topics of the ESP subject: the intermission allows temporal space for both the students and the teacher to be acculturated to the discipline. Temporal space is also valued by Hyland (2002): the amount of curriculum space allocated to language learning is associated with the likelihood of ESP being marginalized as a remedial exercise.

The issue of role imbalance is related to some extent to the issue of grade-oriented culture. ESP being marginalized as a remedial exercise could lead students to think that the main aim of the English course is to help them perform better in assessments rather than to achieve long-term outcomes. As such, the already deep-rooted grade-oriented culture in Hong Kong would likely be furthered deepened, and the quality of ESP education would be affected. To avoid ESP being "marginalized as a remedial exercise designed to fix up

students' problems" (Hyland, 2002, p. 386), the central role of language acquisition should be in acculturating students to the discipline.

The statistical analyses of the present study have been affected to some degree by the small number of student participants available, and the depth of qualitative analyses could have been limited by the absence of interview data from the external assessors and the BME programme leader. Despite these constraints, an attempt will be made below to trace the probable reasons for the main findings, with a view to evaluating the ELC-HTI collaborations in designing and delivering the new ESP subject and providing references for similar collaborations in future.

Chart 2 shows the main findings of the case study and their probable reasons and explanations. The encouraging findings include (1) the new ESP subject being more motivating to students than the old ESP subject, (2) the new ESP subject being perceived by students to be better than the old ESP subject in helping them achieve BME learning outcomes and ELC learning outcomes, and (3) the lab report writing performance of the target group being better than that of the control group in Content, Vocabulary, Style/tone and Coherence/cohesion/organization.

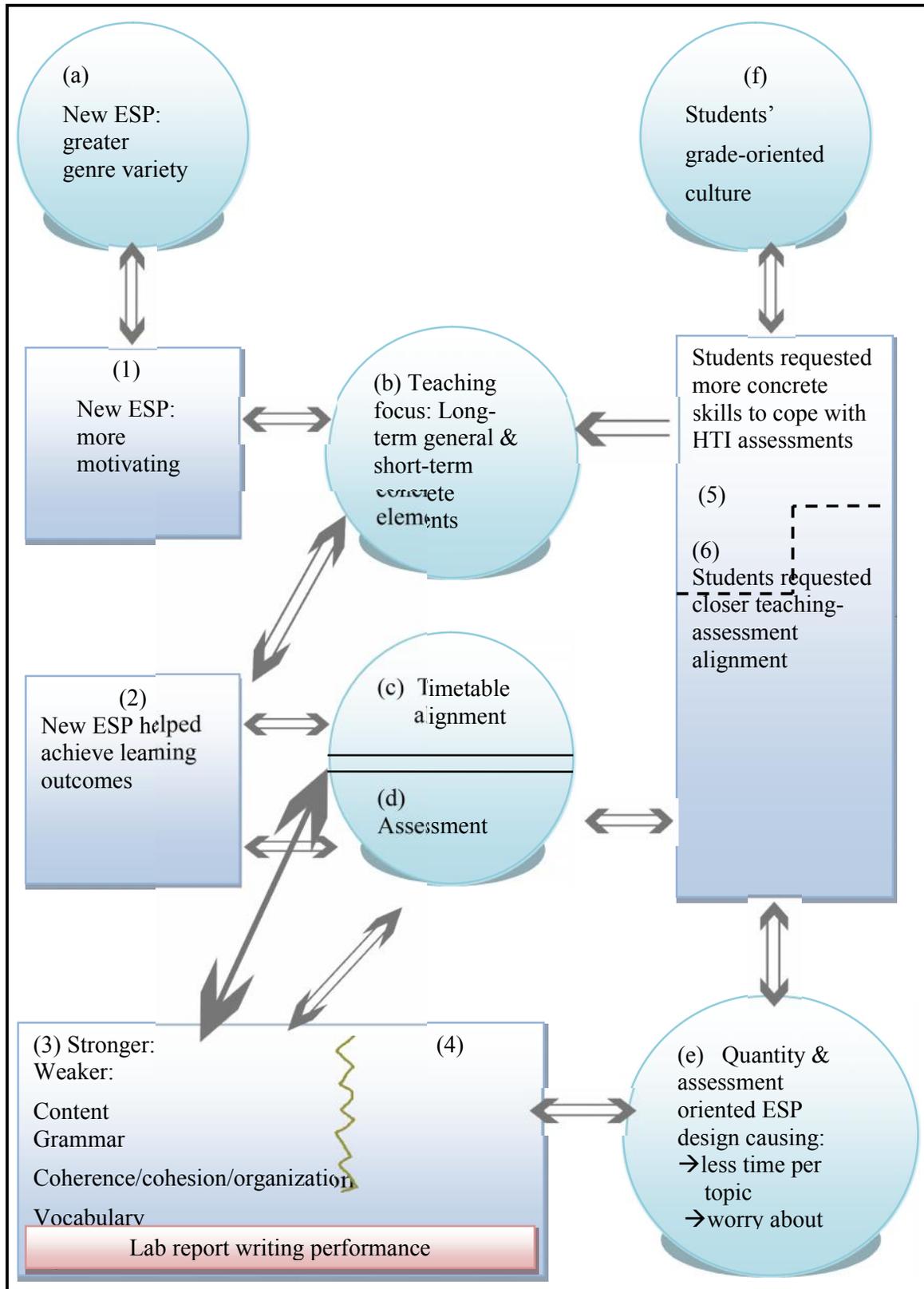


Chart 2: Main findings of the case study and their probable reasons

The reasons for (1) are probably that (a) the great variety of writing genres covered in the new ESP helped avoid the kind of boredom induced by the single genre covered in the old ESP, and (b) the new ESP teacher's conscious efforts to modify his teaching method by focusing on both the long-term general outcomes he values and the short-term concrete outcomes necessary for students to perform well in HTI assessments; the efforts had presumably resulted in more interesting classroom discussions relevant to the discipline. The likely reasons for (2) and (3) are (c) the alignment of the ELC and HTI teaching time (i) made the delivery of some parts of the new ESP subject more timely for students to do the HTI assessments and (ii) provided non-teaching intermissions between topics for the students and teacher to develop scientific sensitivity and mature in teaching and learning; and (d) the ELC-HTI assessment alignment has made teaching and learning more focused on BME learning outcomes.

The less encouraging results of the study are (4) the lower Grammar score of the target group's lab report writing assessment, (5) students' request for more "concrete" skills to be taught in the new ESP to directly help them fulfill the HTI assessment expectations, and (6) students' request for a closer teaching-assessment alignment for OTR report: the ESP to teach and assess OTR oral report instead of written report in order for students to cope with the HTI OTR oral report assessment and to avoid possible skill transfer problems.

A probable explanation for (4), other than the absence of the top students of the target group from the lab report writing assessment, is that (e) the new ESP design had been predominantly quantity and assessment oriented: focusing on helping students perform better in as many HTI assessments as possible, resulting in much less class time allocated to each topic and hence affecting the education quality of ESP cum scientific values and thinking. This quantity and assessment orientation also explains (5) and (6): students requesting more concrete skills and closer teaching-assessment alignment. Explanations (a) – greater genre variety – and (e) – quantity and assessment oriented ESP design – are two sides of the same coin manifesting the advantages and disadvantages of the ambitious syllabus of the new ESP subject.

With a view to capitalizing on the above findings, the following recommendations are made for the development of future ESP subjects:

- Host department assessments should not be the main focus of the curriculum design of an ESP subject; instead, the ESP academic staff in consultation with content specialists should design the ESP subject assessment tasks that focus primarily on

achieving the subject level outcomes, with a sub-target of helping learners achieve the programme level outcomes.

- The curriculum of the ESP subject should be designed mainly to (a) develop intrinsic learner motivation and meet long-term needs by educating learners to convey scientific/professional thinking through language and communication and making explicit the role of ESP in the process of scientific/professional pursuit, and on the other hand (b) satisfy learners' short-term needs by providing timely and practical ESP assessment related language input, which is transferable to language required for doing the assessments of the host department.

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Characterising Hedging in Undergraduate Essays by Middle Eastern Students

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Biodata

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Abstract

To teach academic hedging, EAP instructors need to know the characteristics of their students' current hedging skills and what to aim for. In this research the quantity and type of hedging found in texts written by undergraduate academic writers from the Middle East is characterised by comparison with the hedging found in various other kinds of texts: textbooks, research articles, native English speaker essays, newspaper editorials, and non-native speaker essays by students from other parts of the world. It is found that the Middle Eastern students hedge less overall than native speaker writers overall and in particular that they use fewer epistemic verbs and adjectives. It is concluded that the quantity and type of hedging found in native English speaker essays and editorials could serve as useful models in the course of instruction.

Keywords: hedging, epistemic modality, intercultural rhetoric, pragmatics, learner corpus

1. Introduction

1.1 Background

For the last two decades or so, hedging has been a familiar topic within ESP/EAP research. The literature on hedging in Anglophone academic discourse seems unanimous in finding that such discourse is characterised by high levels of hedging, and concluding that to be a successful academic writer one needs to hedge frequently and appropriately (e.g. Myers, 1989; Hyland, 1994, 2005; Hyland & Milton, 1997; Vassileva, 2001; Vold, 2006). Research that compares native English speaker (NES) academic writing and non-native English speaker (NNES) writing also consistently finds that NNES writers hedge differently from and usually less than their NES peers, and on this account suggests a role for pedagogic intervention (e.g. Intaraprawat & Steffensen, 1995; Hyland & Milton, 1997; Vassileva, 2001; McEnery & Kifle, 2002; Hyland, 2005; Martin-Martin, 2008, Vold, 2006).

It might be assumed, then, that there is little need for a further study of hedging in NNES writing. However, if EAP instructors are to intervene successfully, they need to know, to use the classic needs analysis terminology, both the existing and target proficiencies (Hutchinson & Waters, 1987) of their students in this area. The objective of this study, then, is to attempt to characterize (a) the existing hedging proficiency of a particular population of learners and (b) an appropriate target proficiency. The particular learner population considered in this paper are undergraduate students at an English-medium university in the Middle East, mostly nationals of Arabic-speaking countries, with minorities from non-Arabic-speaking countries in neighbouring regions.

There are various reasons to hypothesize that this population is likely to hedge differently from other populations so far considered in the research on hedging. Firstly, as pointed out by McEnery and Kifle (2002), not much of the work on NNES writing has been carried out at undergraduate or earlier stages of academic writing, and many of the studies done so far were carried out in Hong Kong (e.g. Hu, Brown, & Brown, 1982; Allison, 1995; Hyland & Milton, 1997). McEnery and Kifle's own study, on high school matriculation texts by Eritrean learners, found differences in the character of hedging between these texts and that of Hong Kong learners.

Secondly, many studies on hedging, and many studies on other forms of metadiscourse, of which hedging is frequently theorized to be a component (e.g. Vande Kopple, 1985; Crismore, Markkanen, & Steffensen, 1993; Hyland, 2005), conclude that differences in the national cultures, or languacultures, of authors are likely to be a cause of differences in the frequency and character of differences between the metadiscourse in NES

and NNES academic text (e.g. – for L1 Finnish writers - Mauranen, 1993; Ventola 1997; - for L1 Bulgarian writers - Vassileva, 2001). Lending credence to such a hypothesis are studies which also find differences in the frequency and character of cognate hedging forms in L1 academic discourse by expert writers (e.g. - L1 English, Spanish, French - Salager-Meyer, Angeles, Ariza, & Zambrano, 2003; - L1 English, Norwegian, French - Dahl, 2004; Vold, 2006); Vold for example notes that “the epistemic use of French *pouvoir* in the present tense was surprisingly rare compared to the epistemic uses of English *may* and Norwegian *kan*” (2006, p.69). It seems clear that if, as this contrastive or intercultural rhetoric explanation posits, languacultural differences are a major factor in hedging differences between texts by different groups of English users in the case of European languacultures, it is highly likely that texts written by Middle Eastern English users will also vary and possibly in different ways. In terms of rhetoric, for example, Hatim (1991) argues that the political and religious context in which Arabic argumentation has developed has led L1 Arabic persuasive writing to favour a strategy he calls *through-argumentation*, which unlike the counter-argumentation predominant in the West, assumes no opposition. If correct, this analysis would lead us to hypothesize that L1 Arabic writers (which form the majority of the population researched in this paper) will be found to hedge propositions much less than writers with European L1s.

Arguing against contrastive explanations for differences in hedging, however, Hyland (2005) interprets Hyland and Milton’s (1997) finding that higher graded texts employed more NES-like patterns of hedging than lower graded texts as providing evidence that L2 “proficiency rather than culture” is the cause of differences. This dichotomisation of linguistic proficiency and culture is perhaps unhelpful: as Hyland elsewhere argues (2003), L2 writers are, to varying degrees, bilingual, bicultural, and biliterate. There seems no obvious reason to suppose that even individuals at a high level of proficiency in their L2 will always choose to abandon writing practices associated with their L1 education and experience, much less individuals at lower proficiency levels. A further indicator of evidence that culture rather than linguistic proficiency is a likely cause of differences in metadiscourse norms is proposed by Adel (2006), who notes that there are significant differences not only between the frequency and character of metadiscourse in NES and NNES (L1 Swedish) texts but between comparable texts by US and British student authors in a corpus of native speaker student writing (the LOCNESS corpus).

Thirdly, leaving aside the contested notion of contrastive rhetoric, let us briefly consider the notion of hedging from an overlapping but slightly different theoretical

perspective, that of pragmatics. Myers' seminal (1989) paper construed hedges in biology research articles as politeness phenomena, explicable within the terms of Brown and Levinson's (1978) model. While it is a general assumption of studies on pragmatics that politeness is a cultural universal, there is a large intercultural pragmatics literature on how face-threatening acts such as complaining, refusing, and giving and receiving compliments vary across cultures. Styles or conventions of politeness vary between cultures and sub-cultures (Scollon & Scollon, 2002), so it seems reasonable to expect variation in conventional behaviour arising from differences in cultural background.

With these various considerations in mind, then, there seems to be a good case for making an independent assessment of the existing proficiency in hedging of Middle Eastern student English learners, i.e. for not assuming that the character of hedging in their texts will be the same as that in texts by learners from a quite different non-Anglophone cultural context. So far, as seen above, analysis of hedging in writing by authors from other cultures has mainly been carried out on European expert academic writers or East Asian academic novices. To the best of our knowledge, there is only one published study which includes empirical data on hedging in texts produced by NNES novice academic writers from the Middle East – Hinkel (2002). Unfortunately, the analytical categories employed in that study are not primarily concerned with hedging and the quantitative procedures used (there is no normalization of frequencies) make comparability with other studies difficult.

In addition to being of interest to those teaching in the Middle East, what makes these Middle Eastern student writers of more general interest is what they do *not* have in common with previously researched writers. From a linguistic point of view their L1s, unlike those of previous hedging research subjects, are *not* European or East Asian. From a cultural point of view, unlike many traditional EAP students, 'international' students in the UK for example, they are enrolled in English-medium tertiary education but not immersed in an Anglophone culture prior to or for the duration of their studies. Such students are of interest because, if current trends in globalization continue (Graddol, 2006) the proportion of EAP students in the latter category is likely to increase.

In this paper 'characterising' hedging in the NNES Middle Eastern texts will be taken to mean describing it in terms of its similarities to and differences from hedging in other groups of texts. The objective will be performed firstly by comparing it with published findings on hedging by expert academic writers in the EAP literature in two different genres and in several different disciplines.

As has been seen, previous research has led us to expect dissimilarity between academic experts and NNES undergraduate writers. The next part of the research looks further afield, therefore: are there texts to which NNES undergraduate essays are more similar, texts whose hedging may help us characterise NNES undergraduate hedging? NNES novice academic authors differ from NES academic experts in at least two kinds of expertise: vocational and linguistic. Differences between ESP learners' existing and target proficiencies can therefore be theorized as arising from two practically enmeshed but theoretically distinguishable learning trajectories: academic enculturation and linguistic proficiency. By 'enculturation' here the kinds of culture I am referring to are not, as earlier, to 'large' cultures (e.g. cultures associated with ethnic communities) but to 'small' cultures or subcultures (Holliday, 1999), those associated with vocational/disciplinary discourse communities (e.g., the academy, Physics). NNES undergraduates face the same cultural learning curve as their NES peers but their task is made more difficult by the fact that they possess a smaller starting language repertoire from which to approach the linguistic learning curve.

In this paper, the quantity and quality of hedging in NNES undergraduate texts is compared with that in texts by two groups of writers who are similar to the NNES writers in that they are also 'outsiders' to the academy but different in that they are not constrained to the same extent by a limited linguistic repertoire. The first group is NES authors of similar ages and levels of education, as represented in a corpus of academic texts of similar length and genre, undergraduate essays. The second group is NES professional writers, as represented in a corpus of newspaper editorials. Opinion pieces from print media are often employed in composition instruction materials and in this study the genre of editorial has been selected for analysis in part to address the question of how far such texts serve as useful models of hedging. The editorial is similar to the undergraduate essay in several respects: length, formality, articulation of an opinion, and argumentative purpose (for a discussion of other similarities and differences see So, 2004). By carrying out a three-way comparison of NNES novice academic hedging, NES novice academic hedging, and NES novice non-academic hedging, it is hoped to shed light on the questions of how much and what kinds of hedging are (a) peculiar to academic text and (b) generally characteristic of formal argumentation written for a general audience within Anglophone culture.

To summarise, the first objective of the current research is to characterise the existing proficiency in hedging of NNES undergraduate learners. The second objective is to shed some light on the possible character of a target proficiency in hedging for such learners, who

are often, as Hyland and Milton (1997, p.184) observe, “[not] assisted by the fact that their efforts to master these [epistemic] forms are often measured against an unrealistic standard of ‘expert writer’ models such as academic research articles”.

1.2 Definition of Hedge

Because of debates as to the motivations for and function of hedging (e.g. Salager-Meyer, 1994; Crompton, 1997, Lewin, 2005) definitions of hedge have varied from researcher to researcher. In this paper, after Hyland (2005), hedging is taken to be the use of “explicit textual devices” (p. 28) which “withhold complete commitment to a proposition” (p.53). In terms of epistemic modality conceived of as a scalar property of all propositions, hedges are taken to be devices which serve to indicate an epistemic status of less than certainty. Unlike the broader term *epistemic devices* (McEnery & Kifle 2002), *hedge* does not include expressions of complete epistemic commitment to a proposition, such as ‘certainly’, nor (unlike Salager-Meyer, 1994) expressions of author engagement such as ‘particularly encouraging’. Some research has also assessed individual hedges in terms of a degree scale of epistemic commitment (e.g. Holmes, 1988, Hyland & Milton, 1997; McEnery & Kifle, 2002). As full epistemic commitment is the default state of all propositions, however, to fully investigate certainty one would also need to include all unhedged propositions – methodologically a very expensive procedure. In this research it has been decided to focus on expressions of lack of full commitment.

As other researchers have noted, (a) hedges may take many forms and cannot be reduced to a finite set of linguistic items and (b) linguistic items frequently identified as being hedges cannot be assumed to be serving as hedges: analysis of the co-text is therefore required. For example, the following co-texts suggest that ‘could’ is being used epistemically in (1) but not in (2):

1. Driving the rich abroad *could* be worse than a catastrophe... (BRIJ)
2. ...money was the only way people *could* buy or sell goods to one another. (MIDS)

These points have led to an unfortunate difficulty in comparing numerical findings across different studies. To achieve comparability with some of the results given in Hyland (2005), this research will confine itself to the list of 94 lexical search items which potentially realize hedges identified in Hyland (2005, reproduced in Appendix B).

In the case of polysemous modal auxiliaries it can be difficult to judge whether an item is indeed serving as a hedge. For this study, substitution/addition tests such as those

suggested by Crompton (1997) and Vold (2006) were employed. For example, consider the following uses of ‘*may*’:

1. Human beings now *may* face an environmental disaster due to the blind deeds which break the "balance of nature" and threatened the environmental system. (MIDS)
2. Universities *may* also help if they try hard to let the student do more than only taking exams and reading books...(MIDS)

In (1.) the sentence could be unhedged by removing the qualifying model ‘*may*’, as in “Human beings now face...” The result of a similar procedure on (2.) is not so clearcut. When an ‘uncertainty phrase’, such as ‘but I am not sure’ is added, (1.) sounds natural, while (2.) does not: the ‘*may*’ seems to be stating a possibility rather than qualifying author commitment. On the basis of these tests, then, (1.) would be analysed as a hedge and (2.) would not.

1.3 Research Questions

The overarching research question is “What are the characteristics of hedging in Middle Eastern student (MIDS) writing in English?” The specific questions are:

1. Do MIDS writers hedge more or less than NES expert academic writers?
2. Do MIDS writers hedge more or less than NES student academic writers?
3. Do MIDS writers hedge more or less than the writers of NES non-academic editorials?

However, in addition to quantity, type of hedging is a concern raised in the literature. Abbuhl (2006, p.161) for example calls for more research into difference in types of hedging “between expert L1 writers and advanced L2 writers.” A further question addressed therefore will be:

4. What similarities and differences are there in the frequencies of types of hedge employed by these different writer groups?

In the light of the answers to these empirical questions this paper will discuss possible answers to a more theoretical question:

5. For the MIDS writers and possibly for other NNES writers, what are appropriate goals for EAP instructors at the undergraduate level in terms of hedging instruction?

2. Methodology

This section presents the way in which the student corpus was collected and analysed in order to produce the frequency information reported in Section 3 and compared there with other published data on hedging frequency by different writer groups.

2.1 Data

The NNES student corpus researched here comprises 204 short essays totaling about 100,000 words written by undergraduate L2 writers at the American University of Sharjah, (AUS), an American curriculum, English-medium university in the United Arab Emirates (UAE). Only 20% of the students at AUS are UAE nationals, the others coming from a cross-section of the many different nationalities resident in the Emirates, complemented by international students from neighbouring countries¹. The English proficiency level varies considerably but all had to score a minimum of 500 on the TOEFL exam to enter the university. All students at AUS have to take a minimum of two written composition courses and most have to take three during the first two to three years of their four-year programs.

The essays were word-processed and submitted as regular class assignments for composition classes; they were often completed in the students' own time and not produced under test conditions. Most of the essays (70%) collected (from 2007 to the present) were written in response to one of the prompts listed in Appendix A, the rest were written as part of other argumentative assignments. This corpus is still under construction and the data is designed to be comparable with that contained in the International Corpus of Learner English (ICLE), a corpus of student essays collected in European universities (Granger, Dagneaux, & Meunier, 2002) and the Louvain Corpus of Native English Speaking Student text (LOCNESS), a corpus of about 200,000 words (Granger, 1998).

The NES student corpus researched here is a subsection of the UK component of the LOCNESS corpus, omitting one sub-corpus which contained several very long texts (averaging 2,700 words each) - see Table 1 for the average length of texts used in this study.

¹ In 2009, 62% of the undergraduate students were from Arabic-speaking countries (UAE 20%, Jordan 12%, Palestine 8%, Egypt 7%, Syria 7%, Saudi Arabia 4%, Lebanon 4%), with nationals of Pakistan, India, and Iran forming the largest groupings within the remainder (7, 5, and 4% respectively).

Slightly more than half of the texts are written by high school students (age 16-18), the rest by undergraduates. The essays in this corpus, like those in the NNES corpus, are argumentative.

The NES non-academic corpus researched here comprises 189 editorials from four different UK broadsheet newspapers collected by the author during May and June 2010. Further details are provided in Table 1. The texts were selected for inclusion in the corpus purely on the basis of length. This meant that short editorials (usually humorous) were omitted but otherwise the content reflected all comment on news stories of the day until approximately 25,000 words from each title had been accumulated.

Table 1: Details of the three corpora researched

Short Name	Texts/Authors	Texts	Words	Average text length (words)
MIDS	Essays by Middle Eastern university Students (NNES)	204	100,057	490
BRIS	Essays by UK university and high school students (NES)	189	115,055	609
BRIJ	Editorials by UK journalists (NES)			
	<i>Guardian</i>	43	26,215	610
	<i>Independent</i>	49	25,997	546
	<i>Telegraph</i>	56	26,407	490
	<i>Times</i>	41	26,087	644
	Total	189	104,706	554
TOTAL		582	319,818	550

2.2 Procedure

Corpus software (*Wordsmith Tools*) was used to retrieve all tokens of the potential hedge forms listed in Hyland (2005 reproduced in Appendix B). The co-text was then analysed to see whether or not the item was indeed a hedge. Once all the hedges had been identified from among the potential form tokens in the three corpora, frequencies were available for comparison.

3. Results and Discussion

3.1 Frequency of hedging: MIDS writers compared with expert academic writers

One way of characterising hedging in student writing is to compare the overall frequency of hedging with that in texts by expert academic writers. Hyland (2005) gives frequencies for hedging by expert writers in two different academic genres: course books and research

articles (RAs). Table 2 compares the mean frequency of hedges in the MIDS corpus with the mean frequencies for hedges supplied by Hyland (2005, p.102). Hyland’s figures are based on analysis of hedges in 21 core introductory undergraduate course books in three disciplines compared with RAs in the same disciplines. For the purpose of comparison, frequency information is normalized to a rate of mean instances per thousand words. As can be seen in Table 2, the MIDS essays hedge at about the same rate as comparatively unhedged textbooks, that is at about a third the rate of RAs.

Table 2: Hedging frequencies in student and expert academic corpora

	MIDS	BRIS	Textbooks	RAs
Frequency per 1,000 words	5.3	8.2	6.4	16.7

Another way of characterising hedging in the expert writer texts is in terms of academic disciplines. Hyland (2005) points out that there is considerable variation in hedging frequency between academic disciplines and provides normalized frequencies for several disciplines. The MIDS corpus essays cannot be categorized by discipline, as the essays produced for the courses from which they are collected are written on deliberately general themes. Table 3 compares hedging frequency in the MIDS corpus with those in RAs from a range of disciplines, ranked here from highest to lowest. Hyland (2005) accounts for disciplinary differences in terms of the differing epistemologies of the soft and hard sciences. In terms of discipline, then, MIDS writers could apparently be characterised as hedging at almost a quarter of the rate of the ‘softest’ discipline academics, and even less than the ‘hardest’ of hard scientists. In general, then, MIDS writers can be characterised as hedging less than the lowest hedging group of expert academic writers.

Table 3: Hedging frequencies in different academic disciplines

	MIDS	Mar- eting	Philo- sophy	App. Ling.	Bio- logy	Phy- sics	Elec. Eng.	Mech. Eng.
Frequency per 1,000 words	5.3	20	18.5	18	13.6	9.6	9.6	8.2

3.2 Amount of hedging: MIDS writers compared with non-expert and non-academic writers

Table 4 shows descriptive statistics for the frequency of hedging devices in the three corpora analysed by the researcher. Frequency information is normalized to a rate of mean instances per thousand words. Two types of frequency are presented for each corpus: the aggregated

mean frequency and the mean of the frequencies for each text. This was done in response to a methodological observation by Flowerdew (2006, p. 48) that “aggregated statistics may mask internal variations in a corpus and even misrepresent the general tendency under the effect of outliers” a particularly likely outcome in the case of learner corpora where there is a greater variation than in expert corpora. However, in this particular investigation the differences between the two types of mean appear small for each corpus. Overall, as the last line shows, a greater proportion of MIDS writers than the writers in the other two corpora opt not to hedge at all.

Table 4: Descriptive statistics for all hedges found in the research corpora

	MIDS	BRIS	BRIJ
Number of hedges	531	952	647
Aggregated mean frequency (per 1,000 words)	5.31	8.27	6.15
Individual text-based mean frequency (per 1,000 words)	5.21	8.72	6.31
Standard Deviation	4.67	5.74	4.37
% of texts with at least one hedge	79	95	92

How significant are the differences between these means? The BRIS corpus has a 56% higher frequency per thousand words than the MIDS corpus (8.27 vs. 5.31 per thousand). Based on individual text mean frequencies the difference (8.72 vs. 5.21) is greater still at 67%. The data appear to be normally distributed, but as the assumption of variance homogeneity of the two samples is violated, a U-test was computed. The U-test shows that the difference between the relative frequencies of hedging in the two samples is highly significant ($W = 32,964$, p two-tailed < 0.001). A U-test was also computed to measure the significance of the smaller difference between the BRIJ corpus and the MIDS corpus (BRIJ 21% greater, 6.31 vs. 5.21). This U test showed this difference also to be highly significant ($W = 31,447$, p two-tailed < 0.001).

To return to research questions 1-3, we can see that MIDS writers hedge less than all the other three categories of writers considered here. By comparing the other frequencies in Table 4 with those in 2-3, we can also see that overall both sets of NES writers hedge less than academic research writers, and resemble textbook writers more than research writers. The BRIS student writers, however, come slightly closer to the norms of research writing than do the BRIJ journalists. The implications of these findings will be discussed in Section 4 below.

3.3 Quality of hedging: MIDS writers compared with non-expert and non-academic writers

Table 5 present descriptive statistics relating to frequencies of hedges in the three corpora in terms of grammatical category, ordered by normalized frequency (individual text-based mean frequency) in the MIDS corpus. Note that there are no epistemic nouns in the corpus, the few nouns appearing in the list of hedges in Hyland (2005) are parts of adverbial phrases, such as ‘in my opinion’ and ‘to a certain extent’.

The Kruskal-Wallis tests showed that the difference between the relative frequencies of modal verbs as hedge in the three samples is not significant (p two-tailed = 0.164) but highly significant (p two-tailed < 0.001) for the other three categories – adverbials, lexical verbs, and adjectives.

Table 5: Descriptive statistics for the types of hedge found in the research corpora

	modal verbs			adverbials		
	MIDS	BRIS	BRIJ	MIDS	BRIS	BRIJ
f/1000 words	2.94	3.28	2.67	2.38	3.59	2.32
standard deviation	3.13	3.63	2.92	2.86	3.26	2.14
% of texts with ≥ 1	77	68	68	58	78	70
	lexical verbs			adjectives		
	MIDS	BRIS	BRIJ	MIDS	BRIS	BRIJ
f/1000 words	0.53	1.19	0.87	0.03	0.38	0.45
standard deviation	1.28	1.82	1.42	0.27	1.23	1.04
% of texts with ≥ 1	20	43	36	1	29	20

Figure 1 represents graphically the normalized frequencies in Table 5. It shows that the greater frequency of hedges in the BRIS corpus is maintained in each of the four categories except adjectives. While the MIDS frequencies for modal verbs and adverbials are close to and slightly greater than those of the BRIJ writers, it is noticeable that the MIDS writers use considerably fewer lexical verbs and adjectives than either NES group.

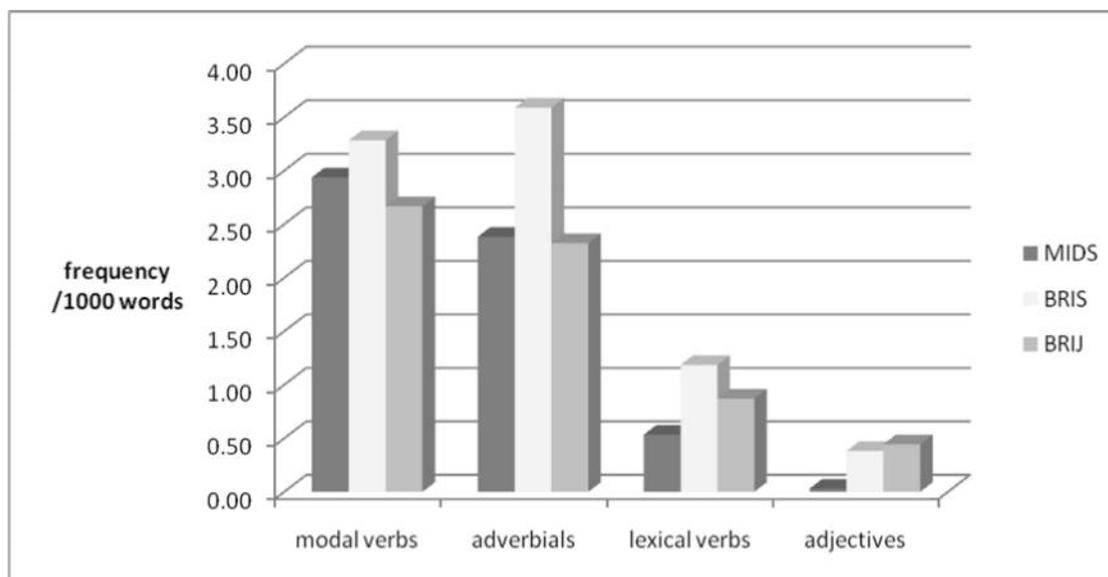


Figure 1: Normalized frequencies for the types of hedge found in the research corpora

Let us now consider variation in the lexical choices within the two largest categories. Table 6 shows the modal verbs used as hedges in each corpus and ranked from highest to lowest frequency. It is interesting to note that together ‘*may*’, ‘*might*’, and ‘*could*’ account for 94% of the epistemic modals used in both the BRIS and BRIJ corpora, while in the MIDS corpus ‘*may*’ and ‘*might*’ alone account for 94%. As ‘*could*’ occurred *not* as a hedge in the MIDS corpus in 113 instances, its comparatively very low use as a hedge could be the result of a lack of awareness of its epistemic potential.

Table 6: Frequencies of modal verb hedges in the research corpora

Rank	MIDS			BRIS			BRIJ		
	hedge	N	%	hedge	N	%	hedge	N	%
1	may	123	54	may	194	57	may	99	37
2	might	90	40	could	101	30	might	89	33
3	would	7	3	might	25	7	could	65	24
4	could	6	3	would	19	6	would	9	3
5	should	1	0				should	9	3
TOTAL		227	100		339	100		271	100

Table 7 shows the ten highest ranking lexical realisations of the next largest category of hedges in the MIDS corpus, adverbials (hedges common to all three rankings are in bold). The MIDS and BRIS corpus share nine items in common, showing a remarkable resemblance. The BRIJ corpus appears more distinct but in fact the BRIS corpus, with its

comparative abundance of adverbial tokens and types, also contains ‘largely’ (12), ‘relatively’ (13), ‘generally’ (13), and ‘apparently’ (5).

Table 7: Frequencies of the top ten adverbial hedges in the research corpora

Rank	MIDS			BRIS			BRIJ		
	hedge	N	% of <i>adv.</i> <i>hedges</i>	hedge	N	% of <i>adv.</i> <i>hedges</i>	hedge	N	% of <i>adv.</i> <i>hedges</i>
1	sometimes	42	19	often	61	15	perhaps	38	16
2	almost	28	12	almost	40	10	almost	31	13
3	in my opinion	23	10	perhaps	39	10	often	23	10
4	usually	21	9	probably	32	8	probably	23	10
5	often	18	8	about	20	5	rather	14	6
6	perhaps	14	6	in my opinion	19	5	apparently	14	6
7	maybe	13	6	usually	18	4	largely	13	5
8	probably	11	5	rather	16	4	relatively	11	5
9	about	7	3	sometimes	14	3	sometimes	10	4
10	mostly	7	3	maybe	13	3	generally	7	3
TOTAL		184	81		272	68		184	76

3.4 Comparison with other research on forms of hedging in student academic corpora and non-academic corpora

In this section, the results listed above will be compared with those reported for other NES and NNES learner groups investigated in previous studies: Hong Kong high school students and British school leavers (18-year olds) in Hyland and Milton’s (1997) study; Eritrean high school students and British children (16 year olds) in McEnery and Kifle’s (2002) study. Although the studies are not directly comparable in that the other studies aggregate hedges with expressions judged to express certainty (e.g. ‘will’, ‘indeed’, ‘I think’) the following general points can be observed.

In all three studies, within the NNES corpora, modal verbs constitute the largest category of hedge, followed by adverbials, and then by lexical verbs (e.g. ‘appear’, ‘suggest’). However, margins of difference among the NNES corpora vary greatly: while the Hong Kong and Eritrean student writers used adverbials much less than modals - at frequencies of less than a half and a fifth as much respectively - the MIDS writers use broadly similar frequencies of modals and adverbials. The proportion of hedges constituted by lexical verbs is even smaller in the MIDS corpus than in the Hong Kong and Eritrean

corpora. In all three corpora the proportion of hedges constituted by nouns (e.g. 'indication') and adjectives (e.g. 'possible') collated is very small and less than half the small proportion of lexical verbs.

Hyland and Milton (1997) suggest that the dominance of modals in their NNES corpus could be caused by L1 transfer or an overemphasis on modals in instruction on hedging. McEnery and Kifle (2002) pursue the latter explanation, laying the blame squarely on the materials used to teach the Eritreans students for failing to give frequency information in epistemic options. However, the findings concerning native speaker use here suggest that it would be difficult to specify what frequency information learners should in fact be given.

According to Holmes (1988) and Hyland (1996), after modal verbs the commonest form of hedging in published academic discourse uses lexical verbs. This is unlike either the MIDS, BRIS, or BRIJ writers, for whom lexical verbs are the third largest category and much smaller than the others. Hyland and Milton, (1997) noting that the higher graded essays in their NNES corpus use fewer lexical verbs and more adverbials than NES writers, hypothesise that lexical verbs are the most difficult kind of hedges to use appropriately for both NES and NNES writers, in their view possibly because tense choice brings a further complexity to the indication of author stance. They suggest that as an error avoidance strategy NES writers resort to adverbials, familiar to them because of their greater occurrence in spoken discourse (Holmes, 1983), while NNES writers resort to modals. The findings from the NES corpora here partly support such a hypothesis, in that the BRIS writers do indeed make much greater use of adverbials, overall and proportionately, than either the MIDS or the BRIJ writers. On the other hand, however, the BRIS writers also use more lexical verbs than the BRIJ professional writers, suggesting that frequency of lexical verbs is not necessarily related to proficiency per se.

3.5 Summary: Answers to Research Questions

Addressing the issue of existing proficiency first, let us review the quantitative Research Questions (see section 1.2). As we have seen, the MIDS writers hedge less than NES writers generally, whether expert academic writers, peers attempting to write for an academic audience, or professional writers not writing for an academic audience.

Turning to hedging quality (Research Question 4) the MIDS writers use the different grammatical forms of hedges in broadly similar proportions to the other non-expert and non-academic groups, favouring (a) modal verbs and adverbials over (b) lexical verbs and (c)

adjectives but use (b) even less. This is different from NES expert academic writers who, after modal verbs, use lexical verbs as hedges more than any other type of hedge.

The more pedagogic Research Question (5) of what might constitute appropriate target proficiency will be discussed in the next section.

4. Implications

4.1 Implications for teaching

Whatever the reasons for hedging variation, the research described here suggests that it would be prudent for EAP instructors in different cross-cultural contexts to make their own assessments of the existing proficiencies of their particular students, and not to assume a universal developmental interlanguage profile. As seen in Section 3.4, Middle Eastern novice academic writers appear to hedge differently from peers in Hong Kong and Eritrea.

Turning to the objective of characterising a suitable target proficiency for hedging for NNES students taking undergraduate writing courses, academic RAs, as suggested by Hyland and Milton (1997), do not seem an appropriate target. The reason for making this judgement is that the normal level of hedging found in such texts, even in the least hedged disciplines, is above that normally employed by NES students: in other words, RA-level hedging is an unrealistic target. Since most undergraduates will not go on to become academics they will not need to hedge like academic researchers. Published undergraduate course books are perhaps a more appropriate model since they are written for and read by undergraduate students and may well be a balance between exposition and argumentation which is more like that required for undergraduate writing tasks.

Do NES student essays in the BRIS corpus themselves model a suitable quantity and quality of hedging? Their major difference from the BRIJ texts appears to be in having a much greater quantity and proportion of adverbials, and we have no reason to suspect such imbalance is typical of general argumentation outside academic discourse. Rather, as Hyland and Milton (1997, p.192) suggest of the same phenomenon in their NES student corpus, it might be the case that a high use of hedging adverbials is a reflex of “an imperfect grasp of appropriate academic register” and a corresponding desire by the writers to “avoid violating academic expectations”. However, rather than regard undergraduate writers as professional academics manqués, perhaps composition instructors need to be pragmatic and recognise that, especially for lower proficiency students, the increased employment of familiar hedging forms is a viable communicative strategy – and better than the alternative of not hedging at

all and thereby showing too much commitment. Student essays are sometimes included in the sample texts provided in academic writing materials for NES students (e.g. Behrens & Rosen, 2007) and could perhaps provide a useful model of hedging for NNES students.

Does the general kind of argumentative prose found in journalist-written opinion pieces such as those represented in the BRIJ corpus model a suitable target proficiency? In terms of quantity of hedging they appear to be only slightly less hedged than student course books. In terms of quality, students could learn about different kinds of hedging from exposure to such texts. In particular, it would seem that Middle Eastern students could usefully learn about the modal ‘could’ as an alternative to ‘*might*’ (rather than only as the preterite form of ‘*can*’), and about using an increased quantity and range both of adverbials and of epistemic verbs and adjectives, adding to those with which they are familiar, presumably from spoken discourse. Overall, it could be the case that such opinion texts are useful models of the frequency and kind of hedging conventionally used to “do” written argumentation in contexts that are formal and somewhat impersonal: they are, apparently, not either as polite or as defensive as research writing and do not require such a high level of explicitness about the author’s assessment of the epistemic status of evidence as the high frequency of epistemic lexical verbs (Holmes 1988) appears to entail in research writing.

To summarise, it seems from the current research that for Middle Eastern undergraduate students, instructors could usefully draw student attention to and raise consciousness about hedges, in particular instances of epistemic (lexical) verb hedges, encountered in general argumentation in a range of texts, including extracts from published research, the students’ own course books, opinion pieces in the media, and possibly even extracts from NNES and NES student writing. Studies by Wishnoff (2000) and Abbuhl (2006) suggest that writing instructors can positively affect NNES graduate students’ employment of hedges in writing by drawing students’ attention to NES hedge forms. However, Milton and Hyland (1998) caution that merely showing learners NES unfamiliar hedging forms, without “providing context and ... emphasizing the role of language in the overall logic of the genre” is likely to be counter-productive. As with other forms of intercultural pragmatic instruction, it may be helpful for instructors to point out to their students that ways of arguing and being polite vary between cultures, and to discuss observable differences between quantity and type of hedging in familiar L1 genres and those studied in the EAP classroom.

For EAP graduate instruction, the current research confirms the overall picture of previous research that NNES writers are likely to need specific instruction primarily on epistemic (lexical) verbs, and to a lesser extent on epistemic adjectives.

4.2 Implications for further research

In the introduction, it was suggested that there were *prima facie* grounds, specifically intercultural variation in politeness conventions and rhetorical traditions, for expecting hedging by Middle Eastern ESL writers to be different in quantity and kind from that of Anglophone writers. There is indeed variation in hedging between Middle Eastern and Anglophone student writers but how much such variation is caused by intercultural factors and how much by other factors it is impossible to say. To pursue this interesting question would require data from a much greater range of texts. While, as mentioned in the introduction, research comparing hedging in Anglophone vs. non-Anglophone (European) academic genres has recently been carried out and has led to some characterisation of cultural preferences with regard to hedging practices, there appears to have been no research on hedging in non-European languages, either in academic or non-academic genres. The level of hedging in Arabic newspaper editorials, for example, would be interesting to compare with that in Anglophone newspaper editorials. Research on hedging in European NNES undergraduate student writing would also be useful to add to the general picture of how much variation there is between NNES student writing from different cultural contexts.

Another area of potentially fruitful research is the qualitative differences between hedging inside and outside the academy. Researchers have pointed out that hedges are by no means confined to research writing, appearing in surprisingly high frequencies in medical manuals (Vihla, 2000) and science popularisations (Varttala, 1998). Further qualitative research on hedging in academic and other kinds of discourse, in particular in non-academic forms of argumentation, might help characterise what is peculiar to academic discourse. Future research on academic hedging could also, as suggested by Abbuhl (2006), usefully focus on the extent to which there is interdisciplinary variation in hedging quality as well as in quantity.

Longitudinal examination of development in students' hedging proficiency would also be interesting: an extension of the research described here would be to profile hedging in 'late term' undergraduate discipline-specific writing.

5. Conclusion

Overall, this research suggests that, whatever the causes, like writers in other cultural contexts Middle Eastern students need help in learning how to hedge in written English academic discourse. It also suggests that in order to help students acculturate, i.e. to help them write in a way that more closely meets the requirements of Anglophone disciplinary instructors, EAP instructors need to emphasize the epistemic orientation of argument in Anglophone academic discourse. In practical terms, this endeavour means raising students' awareness of the role of hedges - in both academic and non-academic texts - in the course of critical reading and thinking activities. While noting the high frequency of lexical epistemic verbs in expert academic texts, instructors can usefully draw students' attention to the broad range of adverbial hedges employed in non-academic texts. The evidence considered here suggests that undergraduate textbooks, NES student essays and newspaper editorials, although not as densely hedged as professional academic writing, represent a 'step up' from the current proficiency level of most non-native English speaking undergraduate writing students. More accessible than RAs, such texts may model a more broadly useful target hedging proficiency for learners, quantitatively and qualitatively.

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Appendix A: MIDS Essay Prompt

Write an essay of 500-1000 words on one of the following:

1. "Crime does not pay." Discuss.
2. "Money is the root of all evil." Discuss.
3. "Feminists have done more harm than good to the cause of women." Discuss.
4. "The prison system is outdated. No civilised society should punish its criminals: it should rehabilitate them." Discuss
5. "Most university degrees are theoretical and do not prepare students for the real world. They are therefore of very little value." Discuss.
6. "A person's financial reward should be commensurate with their contribution to the society they live in." Discuss.
7. "Marx once said that religion was the opium of the masses. If he was alive at the start of the 21st century, he would have said 'television' instead of 'religion'." Discuss.
8. "In our modern world, dominated by science, technology, and industrialisation, there is no longer a place for dreaming or imagination." Discuss.

Appendix B: Potential Hedge Forms Analysed

From pp. 220-221 of Hyland (2005).

frequently	mostly	somewhat
from my perspective	often	suggest
from our perspective	on the whole	suggests
from this perspective	ought	suppose
generally	perhaps	supposed
guess	plausible	supposes
indicate	plausibly	suspect
indicates	possible	suspects
indication	possibly	tend to
in general	postulate	tended to
in most cases	postulated	tends to
in most instances	postulates	to my knowledge
in my opinion	presumable	typical
in my view	presumably	typically
in this view	probable	uncertain
in our opinion	probably	uncertainly
in our view	quite	unclear
largely	rather	unclearly
likely	relatively	unlikely
mainly	roughly	usually
may	seems	would
maybe	should	wouldn't
might	sometimes	



Examining EFL Motivation in Japanese Engineering Students

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Abstract

The purpose of this study was to construct a motivational profile for a specific subpopulation of non-English major EFL (English as a Foreign Language) learners, and to demonstrate how language learning motivational characteristics vary across cohorts of learners. In order to achieve these goals, a questionnaire was developed and administered to a sample of 320 engineering students at a university in northern Japan. The findings revealed an inconsistent motivational core in the sample which was characterized by a low intensity of motivated learning behavior despite positive

attitudes towards learning English, and a stated desire to learn the language. Inferential statistics revealed several variables correlating in both predictable and unpredictable ways, as well as significant variation between cohorts in a number of variables. Implications of these findings and their importance in addressing the specific motivational needs of subpopulations of EFL learners are discussed.

Keywords: motivation, self-efficacy, anxiety, English as a Foreign Language, engineering majors

1. Introduction

In recent years the importance of English education has expanded corresponding with its role as the global language for business and technology. This importance has been reflected in the ongoing promotion and expansion of English education across Asian nations. As English education has proliferated in Asia, the range of students studying the language has expanded commensurately. In tertiary education, this has resulted in English classes representing an increasingly important position in the studies of non-English majors such as those in engineering and computer science programs. In order to illustrate the specific learning needs of a subpopulation of EFL learners, this paper will describe a study examining the motivational characteristics of engineering students in a specific Asian context (Japan), and describe how EFL learning motivation differs across cohorts at different stages of their engineering programs. Educating non-English majors in EFL presents some unique challenges for educators, and requires language teachers to consider the specific needs and characteristics of such learners. In cross-major comparisons of tertiary students' TOEIC results, engineering students have been shown to have lower levels of proficiency, and

inconsistent year-on-year improvement compared to other majors (Institute for International Business Communication [IIBC], 2009). In the Japanese context, engineering students have also been demonstrated to have EFL learning needs (Kuwabara, Nakanishi & Komai, 2005), and motivational characteristics (Kimura, Nakata & Okumura, 2001) distinct from learners in other majors. It is hoped that this paper will expand upon our understanding of this population of EFL learners, and in doing so provide educators with insights that will help improve the English learning outcomes of Asia's future engineers.

2. Literature Review

In order to identify the motivational characteristics of a specific population of language learners it is necessary to draw upon the broad range of motivational variables identified in previous motivational research. Many of the studies conducted over the last several decades draw theoretical and methodological inspiration from the works of Robert Gardner and his associates (see Gardner & Lambert, 1972 for a summary of early studies). In these studies, Gardner and Lambert established the concepts of 'integrative' and 'instrumental' motivational orientations. The demonstrated importance of an integrative motive resulted in it becoming a central component of Gardner's (1985) socio-educational model of language learning. The motivational component of this model is a construct consisting of three parts: motivational intensity, desire to learn the language, and attitudes toward the language, all three of which Gardner considers essential characteristics of a motivated language learner.

Expanding beyond the social psychological approach developed by Gardner, a number of studies shifted to more eclectic approaches in order to better describe the

cognitive and affective bases for motivational behavior as well as to guide the development of practical classroom-based interventions (Crookes & Schmidt, 1991; Dornyei, 1994, 2001; Dornyei & Otto, 1998). Cognitive aspects of language learning motivation have been largely addressed by expectancy-value theories (Dornyei, 2001), specifically self-determination theory (Deci & Ryan, 1985), attribution theory (Weiner, 1986), and self-efficacy theories (Bandura, 1977). These concepts have been employed to explain cognition in language learning motivation in terms of intrinsic/extrinsic orientations (Brown, 1990; Noels, Clement & Pelletier, 1999; Noels, Pelletier, Clement & Vallerand, 2000), students' attributions for success and failure (Falout & Maruyama, 2004; Tremblay & Gardner, 1995), and the degree of confidence, or self-efficacy, a learner has in their ability to learn a new language (Hsieh & Schallert, 2008; Metallidou & Vlachou, 2007; Tremblay & Gardner, 1995). Affective aspects of language learning motivation research have concentrated on the influence of the role of anxiety on motivation. Particularly following publication of Horwitz, Horwitz and Cope's (1986) Foreign Classroom Language Anxiety Scale (FCLAS), the relationship between motivation and anxiety levels became a focus of a number of studies (Burden, 2004; Wei, 2007; Brown, Robson & Rosenkjar 2001).

Increasing attention on cognitive and affective aspects of motivation has also brought about a greater appreciation of the importance of how these, and other motivational variables, develop within the classroom environment, specifically in regard to class content (Crookes & Schmidt, 1991; Dornyei, 1994; Dornyei & Otto, 1998; Skehan, 1989) and teachers' behaviors (Chambers, 1993; Falout & Maruyama, 2004; Peacock, 1997; Sakai & Kikuchi, 2009; Wu, 2003). These findings reflect research in educational psychology which suggest that although learners' antecedent conditions (both cognitive and affective) do play a primary role in how they interpret

their classroom experience, that methodological, course design and teacher factors also play a significant role in motivating students within the classroom context (Goodboy & Bolkan, 2009; Gorham & Christophel, 1992; Gorham & Millette, 1997; Zhang, 2007).

The recent theoretical expansion of language learning motivation has accompanied a variety of broader social, and associated psychological, transformations which have forced researchers to reconsider the position of the learner within both motivational theory and the wider global community (Ushioda, 2006; Ushioda & Dornyei, 2009). Long-accepted motivational concepts such as integrative and instrumental orientations must now account for more globally-situated learners (Coetzee-VanRooy, 2006; Ushioda & Dornyei, 2009). A number of studies have provided evidence of an emerging global motivational orientation in language learners (Yashima, 2002; Lamb, 2004). Moving beyond the concept of motivation altogether, others have opted for a conception of investment over motivation as a means to better describe the social construction of language learner identity which takes place within the complex modern world (Norton, 1995).

Drawing upon the research above, this study set out to examine EFL motivation in a particular segment of learners by examining a broad range of established and emerging motivational variables. To derive a more comprehensive motivational profile of this group of learners, data was collected and analyzed as it applied not only to a broad sample, but also to different cohorts across various stages of their university programs. In order to guide this inquiry, the following research questions were developed:

1. What are the overall motivational characteristics of Japanese engineering students learning EFL?

2. What are the relationships between EFL learning motivational variables in this segment of learners?
3. Are there any differences between cohorts in terms of EFL learning motivational characteristics?

3. Method and materials

3.1 Participants

The participants in this study were all engineering majors ($n = 320$) at a national university in northern Japan. The participants' average age was 19.3 years, and indicated that they had been studying English from between 5 and 12 years, with the average duration of study being 7.39 years. A number of students indicated that they had taken standardized English tests in the past such as the TOEIC, EIKEN/STEP, and TOEFL tests. Of these, the TOEIC was the most popular, with a total of 17.7 percent of participants ($n = 51$) indicating that they had taken the test, with an average score of 361.3 points, and a range of 200 to 560. This represents a low beginner to intermediate proficiency range within those who had taken the test, and is likely representative of the proficiency range of the group of learners. The gender distribution of participants was 93% ($n = 267$) male, and 7% ($n = 20$) female.

3.2 Instrument

A preliminary questionnaire was developed and piloted with a sample of Japanese engineering students ($n = 30$). Based on the results of the pilot study, the instrument was revised and reorganized to improve its inner reliability and better reflect motivational factors relevant to the target population. The revised questionnaire consisted of two sections. The first section collected general demographic information

including subjects' age, gender, year of university, years of English study, and scores on any standardized English tests taken. The second section was a motivational questionnaire consisting of 11 scales and 100 items. Item responses indicated strength of agreement on a 6-point Likert-scale.

The first three scales, Motivational Intensity (MI), Attitude Toward English Learning (ALE), and Desire to Learn English (DES), were adapted from Gardner, Yashima and Yoshizawa's (2005) Japanese version of the Attitude/Motivation Test Battery (AMTB). Combined, these scales aimed at measuring the motivational core of the learners. The alpha for these scales indicated acceptable levels of internal reliability (MI: $\alpha = .72$, ALE: $\alpha = .89$, and DES: $\alpha = .83$). The fourth questionnaire scale, Confidence (CON), was designed to measure the degree of self-efficacy, or confidence, learners have towards learning English. This scale also showed good internal reliability with an alpha of $.87$. To measure student anxiety, three scales were adapted from Horwitz, Horwitz and Cope's (1986) FCLAS. These scales included Communication Apprehension (CAP), Test Anxiety (TAN), and Fear of Negative Evaluation (FEN). All three scales demonstrated acceptable alphas of $.88$, $.87$, and $.77$ respectively. The eighth and ninth scales, Evaluation of the English Course (ECE) and English Teacher Evaluation (ETE), assess the learning environment. These scales were adapted from the Japanese AMTB (Gardner, Yashima & Yoshizawa, 1995) and produced acceptable alphas of $.88$ and $.75$ respectively. The tenth and eleventh scales address Instrumental Orientation (INS) and International Orientation (IO). INS ($\alpha = .75$) was taken from the Japanese language AMTB and describes the degree to which students want to use English for practical or utilitarian purposes, while IO ($\alpha = .86$) was developed to examine the degree to which students want to use English for interacting with the international community through media, entertainment and

international friendships. The number of items in each scale and their respective Cronbach's alpha are summarized below in Table 1.

Table 1: Scale summary - Number of items and Cronbach's alpha

	MI	ALE	DES	CON	CAP	TAN	FEN	ETE	ECE	INS	IO
Number of items	9	10	10	8	11	11	10	9	10	4	8
<i>Cronbach's alpha</i>	.72	.89	.83	.87	.88	.87	.77	.86	.88	.75	.86

3.3 Data collection and analysis

The questionnaire was administered to students at a national engineering university in northern Japan at the beginning of the academic school year. Students were first given a brief explanation of the nature and purpose of the study, and were then provided with informed consent forms. A total of 320 students agreed to take part in the study, from which 287 complete questionnaires were retained for analysis (incomplete questionnaires were omitted). The sample consisted of students in their first (n = 111), second (n = 103), and third years of study (n = 73). The data from the completed questionnaires was coded and logged. It was then input into Predictive Analytics Software (PASW Statistics, version 18) for analysis.

4. Results

Descriptive statistics were calculated to examine both overall group, and individual cohort, characteristics (Table 2). The three scales assessing motivation demonstrated moderately positive and negative endorsements. In order of strength of response, ALE (Attitude Toward English Learning) received the highest endorsement with a mean of

4.05(SD = .83), followed by DES (Desire To Learn English) with a mean of 3.98 (SD = .72) and MI (Motivational Intensity) with a mean of 3.34 (SD = .64). The ranking of these three variables remained constant across years indicating that although students appear to have positive attitudes and desires towards learning English, the actual intensity of their language learning behavior lagged consistently behind the other two core motivational variables.

Table 2: Scale summary - Descriptive statistics

	Whole Scale (n=287)		Year1 (n=111)		Year 2 (n=103)		Year 3 (n=73)	
	mean	SD	mean	SD	mean	SD	mean	SD
1. MI	3.34	0.64	3.54	0.70	3.15	0.59	3.31	0.53
2. ALE	4.05	0.83	4.17	0.99	3.83	0.68	4.16	0.69
3. DES	3.98	0.72	4.12	0.82	3.76	0.62	4.08	0.61
4. CON	2.36	0.85	2.27	0.92	2.46	0.82	2.35	0.79
5. CAP	3.94	0.88	4.05	0.95	3.93	0.82	3.77	0.84
6. TAN	3.60	0.89	3.78	0.91	3.62	0.87	3.29	0.81
7. FEN	2.95	0.69	2.95	0.74	2.90	0.69	3.03	0.62
8. ETE	2.60	0.74	2.20	0.62	3.14	0.60	2.44	0.61
9. ECE	3.33	0.81	3.15	0.90	3.60	0.69	3.24	0.73
10. INS	4.43	0.85	4.47	1.03	4.39	0.72	4.44	0.72
11. IO	4.34	0.91	4.45	1.00	4.22	0.83	4.32	0.87

English learning self-efficacy received the lowest overall endorsement with CON (Confidence) receiving a mean response of 2.36 (SD = .85). Confidence was lowest in the Year 1 group with a mean response of 2.27 (SD = .92). Year 2 (m = 2.46; SD = .82) and Year 3 (m = 2.35; SD = .79) results were also negative, indicating a sustained low level of English learning self-efficacy across all cohorts.

Results of the anxiety scales indicated that the overall sample had moderate levels of communicative apprehension (CAP: $m = 3.94$; $SD = .88$) and test anxiety (TAN: $m = 3.60$; $SD = .89$). The overall mean for fear of negative evaluation (FEN) was 2.95 ($SD = .69$) indicating low learner confidence in the classroom. There was little variation in these results across the three cohorts.

Scales examining classroom factors received moderately low endorsements. Overall sample means of 2.60 ($SD = .74$) for ETE (English Teacher Evaluation) and 3.33 ($SD = .81$) for ECE (Evaluation of the English Course) indicated that learners retained negative impressions of their English teachers and the content of their English classes. The lowest mean score for these two variables were in the first year cohort (ETE: $m = 2.20$; ECE: $m = 3.15$), indicating that these sentiments are likely derived from pre-university English learning experiences.

The highest overall endorsements came from the scales measuring instrumental and international orientations (INS and IO respectively). INS received the highest overall endorsement with a mean of 4.43 ($SD = .85$), with instrumental motives for learning English the highest in first ($m = 4.47$; $SD = 1.03$) and third year ($m = 4.44$; $SD = .72$) students. IO had the second highest overall mean ($m = 4.34$; $SD = .91$).

The direction and significance of relationships between questionnaire scales was investigated using Pearson product-moment correlation coefficient. The results (Appendix A) indicated that the core motivational scales DES (Desire to Learn English) and ALE (Attitude Toward English Learning) were strongly positively correlated ($r = .88$; $p < .01$). However, MI (Motivational Intensity) did not correlate significantly with these two scales. ALE and DES also both correlated positively with FEN (Fear of Negative Evaluation, $r = .47$; $p < .01$), INS (Instrumental Orientation, r

= 46; $p < .01$), and IO (International Orientation, $r = .67$; $p < .01$), meaning that learners' who exhibited positive attitudes and desire toward learning English also exhibited higher levels of classroom confidence, instrumental motivation, and international orientation. MI (Motivational Intensity) only positively correlated with CON (Confidence, $r = .48$; $p < .01$), indicating that those exhibiting intensive English learning behaviors also had higher levels of confidence. ALE and DES also correlated negatively with the same scales, with ALE negatively correlating with CAP (Communication Apprehension, $r = -.33$; $p < .01$) and ETE (English Teacher Evaluation, $r = -.51$; $p < .01$), and DES with CAP at ($r = -.27$; $p < .01$) and ETE at ($r = -.47$; $p = .01$). These results indicate that lower levels of communication apprehension accompany these variables. However, despite learners' positive attitudes and desire to learn English they still possess negative evaluations of their English instructors. It was also revealed that MI negatively correlated with TAN (Test Anxiety, $r = -.26$; $p < .01$) and ECE ($r = -.26$; $p < .01$). This indicates that intensely motivated students exhibit lower levels of test anxiety despite evaluating the classroom learning environment negatively.

Additionally, CON (Confidence) was negatively correlated with TAN ($r = -.51$; $p < .01$) and ECE ($r = -.47$; $p < .01$). This indicates that students with higher confidence levels in English language learning demonstrated lower anxiety towards English tests. Further, that despite higher levels of self-efficacy, students still held negative evaluations of the English classroom environment.

The three anxiety scales also revealed several significant correlations. CAP (Communication Apprehension) negatively correlated with FEN ($r = -.75$; $p < .01$) and IO ($r = -.15$; $p < .05$), indicating that the learners with high communicative apprehension also had lower classroom confidence and a lower international

orientation. CAP was also negatively correlated with MI ($r = -.26$; $p < .01$) and CON ($r = -.51$; $p < .01$) indicating that students with higher levels of communication apprehension demonstrated lower levels of motivational intensity and self-efficacy in English learning. FEN showed positive correlation with IO ($r = .32$; $p < .01$) and negative correlations with ETE ($r = -.28$; $p < .01$) and INS ($r = -.134$; $p < .05$).

Other important relationships include a negative correlation between ETE (English Teacher Evaluation) and IO ($r = -.346$; $p < .01$), and a positive correlation between INS and IO ($r = .496$; $p < .01$). The former once again indicates that despite low endorsement of English teachers students nonetheless possess a strong international orientation. The later indicates that instrumental and international orientations are positively correlated.

In order to determine the statistical significance of the relationship between cohorts, a one-way between groups analysis of variance (ANOVA) was conducted (Appendix B). The results showed statistically significant differences at the $p < .05$ level in seven of the eleven questionnaire scales. The results for the first scale, MI, indicated that significant differences existed between Year 1 and Year 2, and Year 1 and Year 3, with motivational intensity dropping significantly from first to second year students, and then remaining significantly lower in Year 3 than Year 1.

The second scale, ALE (Attitude Toward English Learning), also showed significant differences between two sets of cohorts. The first difference was a drop in attitudes between Year 1 and Year 2. The second was a significant difference in attitudes between Year 2 and Year 3 groups. The same inverted V relationship was observed in the third core motivational scale, DES, which also exhibited a reduction in the intervening Year 2.

Two of the three anxiety scales adapted from the FCLAS exhibited significant differences across cohorts. CAP demonstrated significant differences between Year 1 and Year 3, with students' apprehension to communicate in English significantly lower in the third year group. TAN showed significant differences across two sets of years, with Year 3 students having significantly less test anxiety than students in Year 1 and Year 2.

Significant differences were further observed in the scales measuring motivational variables in the learning environment. Representing the most significant differences across cohorts, ETE demonstrated noteworthy differences across all three years examined. The first year cohort was characterized by a low evaluation of their English instructors, an evaluation which was lower than both other cohorts. The second year cohort endorsed their English instructor significantly higher than both Year 1 and Year 3 groups, while the third years' results were significantly lower than those of the second year, but higher than the first, resulting in an inverted V correlational relationship across the three cohorts.

5. Discussion

The purpose of this study was to obtain a motivational profile of Japanese engineering students studying EFL through the examination of a range of variables, their relationships, and how they manifest in different cohorts of learners within this population. The overall results indicate some notable inconsistencies at the motivational core of this group of learners. The sample demonstrated positive attitudes and desires towards learning English, but a lack of motivated learning behavior as indicated by the low endorsement of the motivational intensity scale. Similar results have been observed in other studies (Berwick & Ross, 1989; Brown

2004). One possible explanation for this is that engineering majors, while appreciating the value of English, simply do not have time to commit to the language due to the academic demands of their engineering programs. Another possible reason for a lack of intensity is students' low level of English learning self-efficacy. As people tend to avoid activities that they fear exceed their abilities (Bandura, 1977), it is certainly possible that the sample chose to not expend intensive effort on English due its perceived difficulty. The positive correlation between confidence and motivational intensity scales are consistent with this hypothesis.

The results of the classroom anxiety scales offer further possible explanatory insight into the lack of motivational intensity in the sample. Overall, the three scales indicated that the participants were apprehensive to speak in English, were anxious toward English tests, and possessed low levels of confidence in using the language in the classroom. Anxiety appears to operate in a facilitative, albeit extrinsic, capacity in terms of motivating students for entrance tests earlier in their academic careers, but its lingering effect appears to be largely debilitating (as seen in Hashimoto, 2002; Yamashiro, 2001; O'Donnell, 2003). The negative correlations between test anxiety and motivational intensity, as well as test anxiety and confidence, suggest that there may be a negative relationship between these variables, although further study would be required to test such an inference.

The participants largely evaluated the classroom environment negatively, as reflected in low endorsements of their English teachers and English courses. These results correspond with other Japan-based studies (Falout & Maryuma, 2004; Burden, 2002). Interestingly, in this study ETE correlated negatively with DES, ALE and IO. These results indicate that despite having negative impressions towards their English instructors, students still retained positive attitudes and desires toward English

learning, in addition to a strong international orientation. Similarly, motivational intensity was negatively correlated with English class content. These findings suggest possible independence between these variables. A similar relationship was described by Kimura, Nakata and Okumura (2001), where they observed learners, who despite having a low appraisal for their English instructors, still possessed a high regard for the L2 community and for the instrumental value of English.

The high endorsement of instrumental and international orientations provides possible insights into why students still value English despite their learning anxieties, lack of confidence, and low appraisals of teachers and their English classes. The scales INS and IO received the highest overall endorsements, suggesting that students perceive English as having value for their future careers, and for interacting with the wider international community. The utilitarian value of English for Japanese learners is something that has emerged in other studies, with students' gaining instrumental incentive from both current academic requirements and possible future application in careers (Kimura, Nakata & Okumura, 2001; Burden, 2002; Brown, 2004; Matsuda, 2004). Within the INS scale, participants' particularly high endorsement of the items "Studying English is important because I will need it for my career" ($m = 4.87$), and "Studying English is important because I will need it for my job" ($m = 4.84$), support the notion that they view English as having a possible future impact on their careers. The positive response to the international orientation scales reflects those of other studies where an interest in international friendship, media, and exchange have been shown to positively influence motivation (Yashima, 2002; Matsuda, 2004).

In developing a motivational profile for this group of learners, a further goal of this study was to describe differences across cohorts of learners. The results of the questionnaire demonstrated a broad range of revealing differences across the three

cohorts examined. The scores for motivational core scales MI, ALE and DES were all highest in the Year 1 cohort prior to students embarking upon their university programs. These results mirror longitudinal studies showing that Japanese students' English learning motivation peaks in their third year of high school (Sawyer, 2007). While motivation does appear to return somewhat in the Year 3 cohort, it still remains significantly lower than the Year 1 group.

The results of the anxiety scales demonstrated lower levels of anxiety in older groups, with the Year 3 group exhibiting significantly lower levels of communication apprehension and test anxiety than the Year 1 cohort. While the questionnaire does not provide explanatory data for these differences, it is possible that older students' maturity contributed to increasing confidence and a lowering of communication apprehension. Similarly, as students move further away from the 'examination hell' (Aspinall, 2005) experienced earlier in their academic careers, it is possible that they no longer associate English with anxiety-inducing testing. While these theories have intuitive appeal, further research would be necessary to confirm their validity.

Perceptions of the classroom environment fluctuated significantly across all cohorts. Year 1 students' low endorsements of the learning environment, particular teachers, indicate that despite their English learning motivation being at its highest, their perceptions of the learning environment was at its lowest. While there is a comparative rise and fall of these evaluations across Year 2 and Year 3 groups, the overall increase between Year 1 and Year 3 groups provides some hope that the older students are better able to overcome early English learning trauma and develop more positive perceptions of the learning environment as they mature and proceed through their tertiary studies.

6. Conclusion

The results of this study revealed a number of important motivational characteristics of Japanese engineering students learning EFL. Moving on from these findings, educators need to develop motivational interventions relevant to students' specific motivational needs. With this segment of learners that would mean exploring means for increasing motivational intensity, developing more motivating content and pedagogical approaches, and finding ways to decrease classroom anxiety and engender greater self-confidence in learners. Due to the limited scope of this study, broad cross-institutional inquiry would be valuable in corroborating the findings presented above. Further, other research approaches, particularly qualitative inquiry, would be useful in providing additional perspectives on EFL learning motivation in Japanese engineering students. These areas provide direction for future research and will hopefully move us toward a more complete picture of language learning motivation across different segments of learners.

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Appendix A

Pearson correlation coefficient between scales

	MI	ALE	DES	CON	CAP	TAN	FEN	ETE	ECE	INS	IO
MI	1										
ALE	-.03	1									
DES	-.05	.88**	1								
CON	.48**	-.02	-.02	1							
CAP	-.07	-.33**	-.27**	-.02	1						
TAN	-.26**	-.00	.00	-.51**	-.05	1					
FEN	.02	.50**	.47**	.01	-.75**	.06	1				
ETE	-.00	-.51**	-.47	.00	.09	.07	-.28**	1			
ECE	-.62**	-.00	.00	-.47**	.04	.39**	.00	.07	1		
INS	-.06	.37**	.46**	-.02	-.01	.02	.13*	-.08	-.00	1	
IO	.02	.67**	.67**	.00	-.15*	.02	.32	-.34**	-.00	.49**	1

** Correlation significant at the 0.01 level

* Correlation significant at the 0.05 level

Appendix B

Multiple comparisons between years of study (ANOVA)

Years:		1-2	1-3	2-1	2-3	3-1	3-2
1. MI	Sig. (<i>p</i>)	.00	.01	.00	.08	.01	.08
	Mean difference	.39*	.23*	-.39*	-.16	-.23*	.16
2. ALE	Sig. (<i>p</i>)	.00	.90	.00	.00	.90	.00
	Mean difference	.34*	.01	-.34*	-.33*	-.01	.33*
3. DES	Sig. (<i>p</i>)	.00	.67	.00	.00	.67	.00
	Mean difference	.36*	.04	-.36*	-.31*	-.04	.31*
4. CON	Sig. (<i>p</i>)	.10	.53	.10	.40	.53	.40
	Mean difference	-.18	-.07	.18	.10	.07	-.10
5. CAP	Sig. (<i>p</i>)	.17	.02	.17	.29	.02	.29
	Mean difference	-.16	-.30*	.16	-.14	.30*	.14
6. TAN	Sig. (<i>p</i>)	.16	.00	.16	.01	.00	.01
	Mean difference	.16	.49*	-.16	.32*	-.49*	-.32*
7. FEN	Sig. (<i>p</i>)	.82	.50	.82	.39	.50	.39
	Mean difference	-.02	.07	.02	.09	-.07	-.09
8. ETE	Sig. (<i>p</i>)	.00	.01	.00	.00	.01	.00
	Mean difference	-.94*	-.24*	.94*	.70*	.24*	-.70*
9. ECE	Sig. (<i>p</i>)	.00	.46	.00	.00	.46	.00
	Mean difference	-.45*	-.08	.45*	.36*	.08	-.36*
10. INS	Sig. (<i>p</i>)	.13	.59	.13	.42	.59	.42
	Mean difference	.17	.06	-.17	-.10	-.06	.10
11. IO	Sig. (<i>p</i>)	.30	.57	.30	.14	.57	.14
	Mean difference	.12	-.07	-.12	-.20	.07	.20

*. The mean difference is significant at the 0.05 level



**Action Research: Using Narrow Listening to Improve Listening
Comprehension for Business Teleconferencing**

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Abstract

Even if most business people in Japan feel the need, improving their English skills is generally not easy, primarily due to time constraints in today's highly competitive business environment. Still, whether we like it or not, globalization has been directing business activities towards English communication, and thus finding the time and means to improve English skills is indeed challenging. This is a report of a training course on English listening comprehension for business people—a course that seeks to address these challenges. The course adopts three key features: (a) action research, to manage the training course, (2) the concept of narrow listening (Krashen, 1996), as the learning approach, and (3) the use of a company Intranet (e-mail) for course delivery. The course had seven participants and was conducted over a seven-month

period. The results were investigated in multiple ways using triangulation and showed the course was effective in improving listening comprehension in English-language teleconference calls.

Keywords: Action research, teleconference, conference calls, narrow listening, business, communication

1. Introduction

In Japan, it is generally not easy to improve English skills among business people, even if most people feel the need to, primarily due to time constraints in today's highly competitive business environment and a lack of practical teaching and learning approaches for such environments. However, globalization has been directing business activities more and more towards English-language communications. Thus cases in which individuals successfully manage their time and find a way to improve their English skills in such environments serve as a good reference to business people and the teachers who support them. Several papers have discussed this issue, with respect to English for business purposes.

This report builds on the existing research by sharing an account of an English listening course for business people who have regularly taken part in English-language teleconference calls and experienced difficulties in comprehending the teleconference speech of their US focal-point person. Being a graduate from a Teaching English to Speakers of Other Languages (TESOL) course and having experience in executing various English courses for peers and subordinates in my company, I decided to develop a course that would help them improve their listening comprehension skills for teleconferencing.

This course adopts three key features: (a) the use of action research to respond flexibly to participants' needs that had not been sufficiently clear at the outset of the course; (2) the concept of narrow listening (Krashen, 1996), using real teleconference recordings as learning materials; and (3) the use of company Intranet (e-mail)-based correspondence, so that participants did not need to block time to attend the course.

2. Literature Review

Narrow listening is proposed by Krashen (1996) as an extension of his narrow reading approach. He defines narrow listening as involving (a) repeated listening (the student can listen to the recording as many times as he or she wants), (b) an interest in the topic (the topic should be of real interest to the student), and (c) a familiar context (the student should have some background knowledge). As for narrow reading, Krashen (2004) provides two reasons for its effectiveness. First, narrow reading provides a built-in review of each writer's favorite expressions and his or her distinctive style; second, accumulated background knowledge tremendously facilitates comprehension. He cites two research papers as evidence of its effectiveness: (a) better readers tend to read more books by a single author (Lamme, as cited in Krashen, 1996) and (b) adult second-language learners can substantially develop their vocabulary by reading the Sweet Valley High book series (Cho & Krashen, as cited in Krashen, 1996).

With respect to narrow listening, Caspino (2005) reports that Japanese college students improve both their English listening comprehension and pronunciation by listening to an audio tape of one topic as many times as they want. Dupuy (1999) reports on the case of American college students learning French and concludes that narrow listening improves listening comprehension, fluency, and vocabulary, as well

as increases confidence in language skills. Dupuy points out that the more times students listened to a particular speaker, the greater their comprehension.

Although there have been some reports on its effectiveness, to date, narrow listening has not been broadly recognized as an approach in teaching listening skills. For example, there is no mention of narrow listening in Vandergrift's (2007) state-of-the-art article on second- and foreign-language listening comprehension research. However, Vandergrift cites various studies that discuss the importance of connected speech knowledge in bottom-up processing, of prior knowledge in top-down processing, and of authentic listening materials. Despite the fact that Vandergrift does not show interest in Krashen's topic, these three factors overlap with Krashen's (1996) three conditions for narrow listening.

When other scholars' works on the teaching of listening skills were examined, none is found to conflict with the condition of narrow listening—or, as a body of work, they seem rather consistent. Flowerdew and Miller (2005) remind us that eight external factors, called dimensions, should be considered parts of the top-down and bottom-up listening comprehension model, which is the widely acknowledged model in the field. It can be said that some dimensions—such as individual variation, contextualized, and affective—have been accommodated in narrow listening. Flowerdew and Miller (2005) also mention audio recordings as suitable for repetitive listening in acquiring intensive listening skills. Furthermore, the strategy-based listening approach of Mendelsohn (1995), who recommends authenticity with respect to listening material, can be easily applied to Krashen's (1996) narrow listening. Rost (2002) provides a wealth of information vis-à-vis the teaching of listening skills. Language-input considerations such as relevance, authenticity, and genre are generally well considered in narrow listening. Ur (1984) stresses the difference

between spoken prose and real-life speech and the significant factors that foreign-language learners have had to face, all leading to the importance of authenticity. However, she states that unrehearsed authentic materials would be too difficult for foreign-language learners, instead recommending materials that were developed while taking authenticity into account.

Further to improving English listening skills in the business environment, Matsuzawa (2006) reports that Japanese business people—who have an average Test of English for International Communication (TOEIC) score of 613—experience listening difficulties not only in English reduced forms but also weak forms of function words, and instructions with respect to them tend to improve comprehension. Finally, Matsuzawa (2011) discusses English workshops for improving business teleconferencing, reporting that listening was the most problematic issue in conducting teleconference calls, as reported by the teleconference participants themselves.

3. Research Method and Procedure

At the outset of the current study, the primary reasons for listening difficulties among teleconference participants were not clear, let alone how a course that addresses those difficulties should be designed. Also, listening difficulties tend to vary from person to person. I, therefore, decided to use action research to manage this course.

LoCastro (1994) explains that “Action research is...seen as being small scale, and situational...focused on a particular problem, to try to understand and perhaps solve some concrete problem....” (Action research section, para. 1). Waters-Adams (2006) echoes this sentiment, stating that “action research does not produce understanding that has universal truth; it is about me in the here and now

understanding what I can do to ensure my values and intentions are realised in my teaching situation” (Introduction section, para. 8).

Action research involves spirals or cycles of planning, action, observation, and reflection (Kemmis and McTaggart, as cited in Burns, 1999). This concept quite closely resembles plan-do-check-act (PDCA) cycles (or Deming cycles) of quality circle (QC) activity, a core program of the widely accepted industry quality initiative in Japan called *Kaizen*. I, therefore, decided to; (a) try a small cycle of training first, to determine if the approach met the course participants’ needs, and (b) use multiple measurements of effectiveness, taking advantage of triangulation (e.g., Wallace, 1998) of the action research data.

At the outset, the course was conducted by sending electronic files of digital audio clips to the participants, via company Intranet e-mail; each participant was required to complete a transcription. The audio clips were extracted from actual recordings of project teleconferences (Matsuzawa, 2011) and some meetings, with the permission of the speaker. They were sent with transcription forms that contained several blanks in parentheses; each audio clip transcription form contained between five and 10 blanks, or “masked words.” The participants were allowed to replay the audio clip as many times as they wanted. The main aim was to give participants opportunities to listen to authentic conversations and build both top-down skills (i.e., from real project-related content) and bottom-up skills (i.e., from speeches of a US counterpart). As such, and as explained above, this course meets Krashen’s (1996) conditions for narrow listening: (a) repeated listening, (b) interest in the topic, and (c) a familiar context.

The first audio clip, for exercise one, contained five blank parentheses among 18 words and was 5 s long:

I just (*wanted*) to ask (*you*) a (*question*) about tomorrow. I (*received*) two e-mails, ah, two (*invitations*) from you. (Italicized words were those that were masked; the filler “ah” was not counted.)

Masked words were chosen on the basis, in my assessment, of being difficult for the participants and/or important in understanding the overall meaning. Referencing Matsuzawa’s (2011) study, incorrect answers (hereafter errors) were categorized into one of four kinds: Sound change-related (e.g., connected speech = reduced forms); content/formal schema-related (i.e., project- and company-related terms and grammatical rules); basic vocabulary-related; and other vocabulary-related. For basic vocabulary, the General Services List (West, as cited in Nation, 1999) available on the King Fahd University of Petroleum and Minerals website (n.d.) was referenced. In addition, spelling errors and inflection errors were monitored. Spelling errors were counted in the error calculation as those that could lead to different overall meanings. However, inflection related errors—such as those involving -s/es/ies and designating the third person, or -ed designating the past tense of a verb—were not counted in the error calculation. It was my heuristic assumption that inflection errors would cause few vital issues in understanding messages in real time.

The plan was to have 20 exercises in this course, spanning a six-month period from late January to July.

3.1 Participants

Seven regular teleconference members (five men, two women) expressed a wish to participate in the training. They were aged 33–58 years (average 43) and had TOEIC scores of 700–905 (average 804). Their teleconference experience ranged from less

than 10 times (one person) to more than 100 times (one person); the time span related to that experience ranged from less than one year to 10 years.

3.2 Measurements

In line with the concept of triangulation, two primary measurements were executed. One involved trend analyses of error (i.e., incorrect answer) ratios of “first 10 versus last 10” exercises with a Fisher’s exact test using JavaScript-STAR (Tanaka & Nakano, 2010). The other involved survey questionnaires that were distributed to the participants, asking them to evaluate subjectively their skill improvements after taking the course.

4. Results

4.1 Action research cycles

Cycle one: Exercises one to five (January 28 to March 3)

Exercises one to five were developed and distributed, one by one. Correct answers were distributed, along with suggestions for listening improvement; each had been prepared by me and was distributed together with the audio clip for the next exercise.

After the course started, both the number of words in the sentences and the number of masked words were gradually increased—from 18 to 61 words per sentence and from 5 to 8 masked words per sentence, respectively—as exercises one through five were distributed. After the initial cycle of five exercises was completed, a survey was sent to all participants, asking whether they felt this approach would improve their listening comprehension. All seven participants replied “yes,” with some inserting comments such as, “[Through this course] I can clearly understand the words I have had difficulty in listening to, which were rather vague and indistinct in

the past”.

The survey also asked the participants about their current challenges in listening to teleconference calls, asking them to refer to the predefined problem list (Matsuzawa, 2011) provided below. The answers were as follows (N = 7):

- | | |
|---|-------------------|
| - First try to convert speech into Japanese | 4 replies (57.1%) |
| - Cannot understand the pronunciation | 3 replies (42.9%) |
| - Cannot understand the vocabulary | 2 replies (28.6%) |
| - Unable to keep up (i.e., too fast) | 0 replies (0.0%) |

(Note: in descending score order. Multiple selections were allowed.)

In response to the survey results, I asked the participants if they wanted to undertake drills to cope with the issue of “First try to convert speech into Japanese;” however, because only one person expressed interest, no further action was taken.

Cycle two: Exercises six to ten (March 3 to April 11)

Encouraged by the responses, I developed exercises six to ten and executed them. For each of these exercises the number of masked words was set to 10 to allow for ease of error counting—even if the total number of words varied from 60 to 113 per sentence. (Due to the authentic nature of recorded teleconference conversations, the lengths of the clips could not be controlled to provide narrower variance.) The average speech rate of cycles one and two combined was 131.60 words per minute (WPM)—a rate, according to Rivers (cited in Richards, 1983), that is moderately slow. Sample suggestions for cycles one and two included:

- *Wanted* could be uttered with a missing *t* sound and be heard as *wannid*.
- *Splitting* seemed to be challenging this time. In spoken discourse, this

word can be heard as *spilling*, with the *t* sound changing to *l*.

- *Continual improvement* is a project term, so when you hear *improvement*, it is likely that a preceding word starting with *cont-* is *continual*.
- *Move to the far* should be followed by a directional word such as *left*, *right end*, *up*, or *down*. This time, the word started with an *l* sound, so the most likely word was *left*.
- *U & I* and *Wave 6*: if you missed these terms, you need to use the schema information of this project. (Content schema-related)
- *I'm just (wondering). I talked to...* Here, the speaker changed his mind while talking and so did not continue the first sentence. This is called a *false start* and is often seen in oral conversation. (*Wondering* was a masked word.)

(Note: The original suggestions given to the participants were in Japanese.)

When cycle two, which contained five exercises, was finished, I summarized the previous 10 exercises and distributed the results to each participant as an error analysis report. In it, the errors made were reported in terms of the four aforementioned categories, along with individual suggestions for improvement.

Typical suggestions included:

- You have listening errors on basic vocabulary. Please listen more carefully and understand how basic words can sound when heard.
- It is a good indication that you don't have errors, when words can be inferred from formal or contextual information.
- Be aware of sound-change phenomena and learn typical reduced-form expressions, such as *gonna* (going to) and *wanna* (want to).

Cycle three: Exercises eleven to twenty (April 11 to August 21)

Exercises eleven to twenty were then developed and executed. Because the inventory of available recorded teleconference samples was becoming depleted, four exercises were extracted from onsite meeting recordings, all involving the same person. In order to ensure these extracts were neither easier nor tougher than teleconference extracts—thus ensuring the analysis could be meaningful—the correct-answer ratios of these two groups were compared by using a Fisher’s exact test using JavaScript-STAR (Tanaka & Nakano, 2010); differences were found not to be statistically significant (teleconference clips: correct answers 298, incorrect answers 62; meeting clips: correct answers 210, incorrect answers 30; $p = .1328$ ($p > .05$)).

At cycle three, project activities that required regular teleconferences were becoming more numerous and challenging than in the previous cycles, and so responses from the participants tended to be delayed more than expected. For this reason, the projected completion date in July could not be met and was delayed to late August. Two participants out of seven could not meet the revised August date and had to be individually followed up. One participant submitted the final exercise (exercise twenty) on September 11; the other had stopped upon submitting exercise eighteen, and so after having sent several follow-up e-mails and waiting until December, I judged this participant as being unable to complete the course and excluded him from the final result analyses. Sample suggestions from cycle three included:

- *They’ll* is a contracted form of *they will*. Other samples are: *you’ll* for *you will*, *she’ll* for *she will*, *it’ll* for *it will*, etc.
- *Kinda* is a spoken form of *kind of*, and it is frequently used in conversations when trying to explain or describe something that is not

certain.

- Many people might not expect the word *meaning* to appear at the beginning of a sentence. This means *that is* and it is used to try to explain something.
- “Because she was *ill*” was not heard correctly. You might not expect this word in business conversations, but he had tried to explain why Leslie was not present.
- The word *having* after *recommended* was not heard correctly. If you hear *recommend*, then the following word would be *that, to + verb*, or a verb in the *-ing* form.
- You may have been confused by “*let me take a look*” inserted in the middle of the sentence. He could have been looking at his memo while talking, and it is rather typical to hear such an expression in conversations.
- Some participants wrote *guides* instead of *guys*. The word *guys* is often used in informal conversations and means “you people”; it can also refer to groups including women.
- *Invitee* was a challenge this time. The speaker was talking about a teleconference and wanted to confirm the people attending; this word refers to persons invited to the teleconference.

The average speech rate of cycle three (exercises eleven to twenty) was 139.18 WPM (still moderately slow). After receiving the answers to exercise twenty, the correct answers and survey questionnaires (hereafter “final survey”) were sent to each participant; the latter was used to collect information on the effectiveness of the

course.

4.2 Course Results

There were 76 masked words in exercises one to ten: 13 were sound changes-related, 9 were content schema-related, 35 were basic vocabulary-related, and 19 were other vocabulary-related. There were 100 masked words in exercises eleven to twenty: sound changes-related, 21; content schema-related, 9; basic vocabulary-related, 51; and other vocabulary-related, 19.

First, the ratios of correct answers to incorrect answers in the first 10 exercises and the last 10 were compared. It would be safe to assume that, throughout the 20 audio clips, the communicative language ability (Bachman, 1990) of the US counterpart did not vary, because there was no linguistic change in his manner of teleconference communications. Table 1 shows the results vis-à-vis error ratios, between the first 10 exercise clips and the last 10.

Table 1: Error ratios comparison between first10 and last 10: by category

Category	First 10			Last 10			Improve- ment **	Fisher's exact test (Two-tailed) ***
	Correct	Incorrect	Error *	Correct	Incorrect	Error *		
Sound changes-related	52	26	33.33%	103	23	18.25%	45.24%	$p = .0181$ Significant
Content schema-related	43	11	20.37%	52	2	3.70%	81.82%	$p = .0152$ Significant
Basic vocabulary-related	157	53	25.24%	260	46	15.03%	40.44%	$p = .0044$ Significant
Other vocabulary-related	86	28	24.56%	93	21	18.42%	25.00%	$p = .3334$ NS.
Total	338	118	25.88%	508	92	15.33%	40.75%	$p = .0000$ Significant

Note. * Error percentage = (incorrect answers) / (correct answers + incorrect answers) x 100

** Improvement percentage = ((First 10 errors) – (Last 10 errors)) / (First 10 errors) x 100

*** If $p < .05$ then it is considered significant. NS stands for not significant.

As can be seen, the numbers of total listening errors and errors by category were drastically lower in the last 10 exercises than in the first 10; in fact, the changes were found to be statistically significant by a Fisher's exact test using JavaScript-STAR (Tanaka & Nakano, 2010), save for those pertaining to the "other vocabulary" category.

Next, individual differences were investigated. Table 2 shows the results. Although all participants showed some level of improvement, the improvements of persons A, B, and C were found to be statistically significant when assessed by a Fisher's exact test using JavaScript-STAR.

The opinions of the participants were then reviewed, as captured by the final survey. The participants responded to the question, "Do you think your listening comprehension skills on this project teleconference improved?" through a five-point Likert scale anchored by 1 (strongly disagree) and 5 (strongly agree). Four participants replied 4 (agree) and two replied 5 (strongly agree), for an average score of 4.33.

The final survey also asked what the participants had learned from the course. First, the participants were asked which factor might have contributed to improvement,

and they were asked to select from a predefined list of answers.

Table 2: Error ratios comparison between first10 and last 10: by individual

Person	First 10			Last 10			Improve- ment **	Fisher's exact test (Two- tailed) ***	Self assessment by final survey ****
	Correct	Incorrect	Error *	Correct	Incorrect	Error *			
A	56	20	26.32%	87	13	13.00%	50.60%	$p = .0318$ Significant	5: Strongly agree
B	40	36	47.37%	79	21	21.00%	55.67%	$p = .0003$ Significant	4: Agree
C	59	17	22.37%	93	7	7.00%	68.71%	$p = .0039$ Significant	5: Strongly agree
D	62	14	18.42%	83	17	17.00%	7.71%	$p = .8433$ NS.	4: Agree
E	55	21	27.63%	74	26	26.00%	5.90%	$p = .8641$ NS.	4: Agree
F	66	10	13.16%	92	8	8.00%	39.20%	$p = .3185$ NS.	4: Agree

Note. * Error percentage = (incorrect answers) / (correct answers + incorrect answers) × 100

** Improvement percentage = ((First 10 errors) – (Last 10 errors)) / (First 10 errors) × 100

*** If $p < .05$ then it is considered significant. NS stands for not significant.

**** The self assessment was given in response to the question “Do you think your listening comprehension skills on this project teleconferences improved?”

The answers were as follows (N = 6):

- Need to use context information in listening 4 (66.7%)
- Need to supplement with grammatical knowledge in listening 4 (66.7%)
- Need to have knowledge on sound changes of spoken discourse 2 (33.3%)
- Other (explain if not listed) 0

(Note: in descending score order. Multiple selections were allowed.)

Participants were next asked about what they had learned from this course, and were again furnished with a predefined list of answers. They answered as follows (N = 6):

- There are hesitant stops or subject changes during speech 5 (83.3%)
- Spoken discourse can have incomplete sentences 4 (66.7%)
- Fillers such as *ah* or *ehr* are frequently used 3 (50.0%)
- Expressions are not always grammatically correct 3 (50.0%)
- Ease of listening differs because of speech factors such as

loudness, pitch, dialect, and/or stress	3 (50.0%)
- There are many sound changes such as <i>gonna</i> and <i>wanna</i>	1 (16.7%)
- Other (explanation: Ease of listening differs between teleconference and meeting)	1 (16.7%)

(Note: in descending score order. Multiple selections were allowed.)

5. Discussion

As the results of two statistical analyses and one survey show, narrow listening helped improve the participants' listening comprehension skills for the teleconference in this project. (I will discuss individual variations later in this report.) Narrow listening could be applied to situations where business people have a limited number of English-speaking partners and have listening-comprehension difficulties.

In the final survey, I asked for the participants' open comments on the course. The following are English translations of some comments, which had been originally provided in Japanese.

“I've attended teleconferences many times but it has been very difficult to correctly understand the message, so this course was very helpful to me. There are commercial teaching materials available, but they use formal pronunciations with well sorted-out texts, so it is difficult to find a course that uses authentic material like this....” (Person A)

“I feel my listening skills have improved a lot. Thank you very much.” (Person B)

“Through this course, I've realized that there have been many situations in which I thought I had understood the conversations, but now find that I didn't. Also, I deeply felt that even a native speaker does not always speak correctly and use complete speech, so I too need to speak, even if I don't have complete confidence.”

(Person D)

Person C commented on the difficulties of listening on the phone. Person C

acknowledged the importance of using contextual information in understanding meaning and believed that telephone-line characteristics limit sound recognition in terms of variety and pitch, thus demanding a greater reliance on contextual information.

It is noteworthy that, among the error categories, content schema-related errors improved most through this course. Suggestions with respect to this category merely reminded the participants of the importance of using contextual information in listening while using real-time samples, and it did seem to make a difference. The fact that all participants improved in terms of errors in this category may suggest this skill was easy to acquire when some attention was paid to it.

“Other vocabulary” was the least improved category through the course. This makes sense: for basic vocabulary, the words in the list were fixed and the participants had chances to listen to them repeatedly; on the other hand, words in this category included the first names of less-familiar people and were not fixed, and so the chances of hearing them again would be far lower than those with the basic vocabulary.

I then reviewed the final survey, and its results seemed to imply that there were some key underlying behaviors among the participants. One is that, in general, the participants tended to try to decode incoming acoustic signals only as it was heard (i.e., oriented to bottom-up processing). Their use of contextual and/or grammatical information in understanding meaning was not adequate. The second point is that they seemed to have the false assumption that spoken discourse is like written text, which tends to have grammatically correct, crisp, and complete sentences (Matsuzawa, 2006). They might have been overlooking the fact that spoken discourse is a product of real-time thinking and often comprises spontaneous utterances.

Next, possible causes for the low levels of improvement in Persons D and E were reviewed. When the errors, by category, of Person D were reviewed (see Table 3), there were no content schema-related errors throughout the course and the error ratio of 18.42% in the first 10 exercises was the second-best among the participants. This may suggest that Person D had already been applying a good listening strategy that used content schema knowledge in listening, but due to time constraints, Person D could not enjoy the course’s support in other categories and merely used the exercises as testing material. Indeed, in the final survey, Person D commented that there was little time to

listen to audio clips repeatedly when the correct answers were supplied with suggestions. Person D seemed to have a weakness in recognizing connected speech. By attending to the connected speech decoding, Person D would have the opportunity to improve listening comprehension skills even further. This point was suggested to Person D in the final error analysis report.

Table 3: Error ratios comparison between first 10 and last 10: Person D

	First 10			Last 10			Improvement **
	Correct	Incorrect	Error *	Correct	Incorrect	Error *	
Sound changes-related	9	4	30.77%	16	5	23.81%	22.62%
Content schema-related	9	0	0.00%	8	0	0.00%	N/A
Basic vocabulary-related	29	6	17.14%	43	8	15.69%	8.50%
Other vocabulary-related	15	4	21.05%	15	4	21.05%	0.00%
Total	62	14	18.42%	83	17	17.00%	7.71%

Note. * Error (%) = (incorrect answers) / (correct answers + incorrect answers) × 100

** Improvement (%) = ((First 10 errors) – (Last 10 errors)) / (First 10 errors) × 100

When the errors, by category, of Person E were reviewed (see Table 4), no significant characteristic was found. There was only the fact that, in the last 10 exercises, Person E had made the most errors of all the participants. Person E commented in the final survey: “Recently, I had an occasion to attend a teleconference with India, and I couldn’t follow the discussion at all. Maybe I try only to attend to the sounds heard and do not infer the meanings from the use of other information, such as grammatical knowledge.” I could recall that, throughout the exercises, Person E responded within an average of 3.3 days, which was relatively faster than the others. This may suggest that Person E’s interest in the course was not high enough or that Person E was busy and had little time for the course.

This training course and the results thereof can be challenged in various ways.

One might argue that, regardless of exercise availability, the participants could have gradually acquired listening skills through the experience of attending teleconferences.

Table 4: Error ratios comparison between first 10 and last 10: Person E

Category	First 10			Last 10			Improvement **
	Correct	Incorrect	Error *	Correct	Incorrect	Error *	
Sound changes-related	9	4	30.77 %	15	6	28.57%	7.14%
Content schema-related	7	2	22.22 %	8	1	11.11%	50.00%
Basic vocabulary-related	25	10	28.57 %	38	13	25.49%	10.78%
Other vocabulary-related	14	5	26.32 %	13	6	31.58%	-20.00%
Total	55	21	27.63 %	74	26	26.00%	5.90%

Note. * Error (%) = (incorrect answers) / (correct answers + incorrect answers) × 100

** Improvement (%) = ((First 10 errors) – (Last 10 errors)) / (First 10 errors) × 100

This is certainly possible. On the other hand, there is no evidence that such a method leads to improvements in listening comprehension, and in such a situation, there may not be the opportunity to understand the importance of using contextual and formal knowledge in conjunction with underlying rules pertaining to sound changes. Also, it is not known how many hours a participant must invest or how many occasions he or she must experience in order to acquire such skills.

Another argument could be that the use of predefined lists in the survey could lead or otherwise bias the participants' opinions. These lists were primarily used to lighten the load of participants in executing surveys. Also, those factors were selected in reference to Matsuzawa's paper (2011) regarding issues and suggestions that relate to effective teleconferencing. Only one comment was not in the predefined list. In essence, it could be said that the use of the predefined lists was both justified and effective.

Finally, the action research approach was reviewed; I found that its use was appropriate in this case. As mentioned in the Method section, the plan-act-observe-reflect

cycles (or planning-action-monitoring-reflection cycles; Waters-Adams, 2006) of action research are similar in concept to the PDCA cycles of the *Kaizen* (quality) initiative. Today, many business people in Japan know of the concept and its value, and either have been or are participating in it; therefore, action research has the potential to be a useful tool in improving English-language skills at work. As Nunan (1992) comments, “In many cases practitioners are less concerned with generating generalisable knowledge than with solving pressing problems associated with their own particular workplace” (p. 18). Having the use of action research as a language problem-solving tool should encourage practitioners in business contexts.

6. Conclusion

As the speech rates of the teleconference clips used in this study indicate, the US counterpart had obviously tried to speak slowly to his Japanese colleague. Still, the participants experienced difficulties in listening in on project teleconferences that demanded a detailed understanding of the terms and concepts used. This study, in responding to their imminent problems, has highlighted the underlying issues experienced by teleconference participants and provided suggestions for improvement; it did so by using authentic material that was based on narrow listening and generally provided practical value to them. As Waters-Adams (2006) notes, “Action research produces results which are not generalisable. This is true, but someone else’s idea or conclusions can always be tried out by other persons in their own practice, to see if they work for them” (Limitations and criticisms of action research section, para. 6).

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Overcoming English Proficiency Challenges through Needs Assessment

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Biodata

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Abstract

For countries in the outer circle such as Malaysia and Singapore and those in the expanding circle such as China, Indonesia and Japan, students' attainment of a competent level of English language is crucial. Students are expected to be proficient in the English language to participate in the academic 'Discourse' while in school and in communication technologies, international politics, business as well as science and technology, once outside. Conversely, many factors influence the language learning process and students enrolled in courses such as English for Academic Purposes (EAP) or English for Specific Purposes (ESP) courses, often find it challenging to obtain the specified level. In response to this a needs assessment was conducted in an ESP course to investigate the challenges students face and whether course aims and objective were meeting students' learning needs. The study was conducted in a Malaysian education

university and data was gathered from 400 pre-service teachers enrolled in an ESP course called Communicative English One (CE1) through written responses and semi-structured interviews. The findings indicated that some of the students enrolled in the course were not satisfied as they perceived that their learning needs were not being met due to various factors such as uninteresting teaching methods and insufficient language skills training.

Keywords: Needs assessment, EAP, ESP, learning needs

1. Introduction

As English language is often used as a benchmark to assess an individual's inclusion or exclusion with regard to politics, commerce, the economy, society and education, English language learners have no choice but to attain proficiency at a level that is perceived competent by the gatekeepers of various discourses (Al-Salman, 2007). However, studies conducted in this discipline draw attention to the many factors that affect language learning including motivation, aptitude, age, socio-cultural background and societal norms (Balderrama & Diaz-Rico, 2006). It is possible that any one of these factors contribute to the various challenges faced by ESL or EFL learners. Another aspect that could be influencing students' learning outcomes is the mismatch between students' learning needs and course aims and objectives. Findings from previous studies indicate that most academic programs merely expect students to integrate into an existing academic 'Discourse' (Gee, 1990) without considering their learning needs, prior experiences and backgrounds (Dudley-Evans, 2001; Leki, 2000). This negatively impacts on learning outcomes.

Courses that are designed and implemented without considering actual learning needs result in poor learning outcomes (Benesch, 2001). Conducting a needs assessment on prospective students is beneficial to both students and course providers. A needs assessment will help students identify where they are in terms of knowledge, skills and competencies and what their learning goals are. For course providers, important information with regard to course content, students' learning goals, obstacles or difficulties in the learning process and the kind of support students need can be gauged through this practice. Although, studies in the past have stressed the importance of

conducting a needs assessment as the initial step in designing a course, in reality this is often not the case as was evident in the context of Communicative English One (CE1) which is a core university ESP course. From observation and discussion with the instructors of the CE1 course, it was clear that the students enrolled in CE1 were struggling to pass the course. Many students had to re-enrol for the course as they could not successfully complete it the first time. Informal chats with some of the students emphasised that they were dissatisfied with the course as it was not meeting their learning needs. It is this information that motivated the current research study to investigate the challenges students faced in the CE1 course, what their learning needs were, their expectations and wants as well as their lifeworlds.

2. Literature review

Needs analysis is a systematic set of procedures for identifying or gathering specific knowledge regarding learner needs. This information is then analysed to achieve departmental goals (Burgess & Owens, 2003). Conducting a needs assessment prior to the implementation of language courses would provide teachers with information regarding their students' linguistic and cognitive challenges as well as their needs, expectations and requirements. This information can direct the teaching and learning processes and ensure better student performance and learning outcomes in the classroom.

The views of the most important stakeholders of a course, namely, the students, were often not considered when courses were designed (Benesch, 2001; Leki, 2000; Tajino et al., 2005). When the needs of the learner did not complement with course aims and objectives, the result was poor learning outcomes. Previous research studies have found that courses such as English for Academic Purposes (EAP) or English for Specific Purposes often ignored the lifeworld issues of learners and merely expected learners to integrate into existing academic 'Discourse' (written with capital 'D', (see Gee, 1990)) communities (Dudley-Evans, 2001; Leki, 2000). The design and implementation of such academic programs should be based on the cooperation and collaboration of everyone concerned, such as learners, teachers and administrators (Leki, 2000; Tajino et al., 2005). A needs analysis could facilitate this. A needs analysis was an integral part of course planning as it provided valuable information regarding the language needs of language

learners. Benesch (2001, p. 64) advocated that needs analysis would take, “learners’ lifeworlds outside the classroom into consideration, surpassing texts and grammar in order to enable them for future educational experiences”. She further suggested that, “through faculty surveys, examination of academic writing assignments, analysis of textbooks, observations of classes, and interviews with students, needs analysis offered detailed information about linguistic and cognitive challenges students face in academic settings” (p. 64).

There are different needs analysis models. Munby’s (1978) *Communicative Needs Processor* was a popular choice among scholars when it was first introduced until it was criticised for failing to address various issues with regard to language teaching. The central theme of Munby’s Needs Analysis model was, “the language user’s competence and its relation to knowledge and communicative competence” (Munby, 1978, p. 6). Munby’s model considered two levels. First, he outlined a prior level that investigated factors such as participants’ personal information with regard to their identity and language needs. At this level too, the model identified the learner’s future and present goals for which the target language would be used. Furthermore, Munby also advocated identifying the constraints that a learner experienced in communication. The posterior level examined aspects such as dialect, target level, communicative event and communicative key (Munby, 1978).

Munby’s work became catalyst for Hutchinson and Waters’ own needs analysis model. Needs were classified by Hutchinson and Waters (1987) into target needs and learning needs. ‘Target needs’ were made up of necessities, lacks and wants. ‘Necessity’ was the knowledge that individuals were required to hold in order to function in a target situation. ‘Lacks’ consisted of the actual level and potential level of proficiency. ‘Wants’ could be described as how learners perceived their needs. Hutchinson and Waters used the label ‘learning needs’ as a general term encompassing all factors that influenced language learning including attitude and motivation. They also emphasised that, “the needs, potential and constraints of the learning situation must be taken into account” (1978, p. 61) for the process to be beneficial. Moreover, Hutchinson and Waters suggested that needs analysis to ascertain both the target and learning needs could be best carried out through the

administration of questionnaires, interviews and by document analysis (Hutchinson & Waters, 1987).

Brindley (1984), another proponent of needs analysis, acknowledged the affective and cognitive variables that affected learning, such as attitudes, motivation, awareness, personality, want, expectations and learning styles. Brindley also stressed on ‘objective needs analysis’ targeted at collecting information in relation to setting goals for language content as well as ‘subject needs analysis’ that emphasized the collection of information about learners.

Background to the Communicative English One (CE1) Course

Universiti Pendidikan Sultan Idris (UPSI) is a university in Malaysia that offers only a teacher education program. The characteristic that makes UPSI unique from other public universities in Malaysia is that, although other universities have faculties of education that are responsible for training teachers, other faculties exist alongside teacher education and produce such professionals as doctors, engineers, lawyers and accountants. UPSI is responsible for producing only teachers. All of its faculties train teachers for various disciplines. The faculties offer bachelors as well as postgraduate degrees by coursework and research. One of UPSI’s main agendas is that it is responsible for pre-service teacher education for teachers who plan to teach their major subjects in secondary schools in Malaysia. The students in UPSI are required to enrol in Communicative English One (CE1) which is an ESP course. The CE1 is a compulsory core university course that teaches the four skills of listening, speaking, reading and writing. This course is designed to equip undergraduates with the necessary language skills that facilitate learning in the specific programs of the department in which they are enrolled. The aim of the course is to enhance language skills in listening, speaking, reading and writing for communicative purposes. Focus is also given to grammar and enrichment of vocabulary.

The aim of the Communicative English One course is to equip pre-service teachers in the university with listening, speaking, reading and writing skills in English so that they can efficiently participate in the ‘Discourse’ of their respective study programs. The teaching and learning process of CE1 is guided by a 5 unit module that is entirely print-based. The students enrol in this core university course in their first semester

simultaneously with their study programs. Teachers are expected to use the module to teach the different language skills. The students are assessed on their listening, reading and writing ability via a paper-based test at the end of the semester. Their speaking skills are assessed in the classroom. The CE1 students have to obtain a minimum of 50 marks, which is equivalent to Grade C, in order to progress to the next level of the course which is aptly titled Communicative English Two (CE2). From observations, many students fail CE1 and do not manage to enrol in CE2 until their final semester, which affects their graduation from the university.

The students who enrol in CE1 come from a range of lifeworlds. Some of these students have had considerable working experience while others are fresh out of high school. Some are young adults while others are mature and have families with teenaged children. A large number of these students come from non-English speaking backgrounds and can be categorised into different ethnic groups, namely, Malays, Chinese and Indians. However, the course is largely represented by Malay students. Coming from diverse lifeworlds, these students have different learning needs. Some of them clearly recognise that they have problems associated with the development of their English language proficiency. Hence, they expect the CE1 course to help them overcome their language learning challenges. Other students enrol in the course simply to fulfil their study program requirements. They see the course solely as an academic exercise. Yet, there are other students who assume that the CE1 course can equip them with the necessary skills to participate in their respective study programs. Despite their diversity, a common characteristic that is shared by all of them is that they struggle through the course. However, no research has been undertaken in the past to investigate why this is so.

3. The Study

The participants of this study were chosen using purposeful sampling (Patton, 1990). This procedure was used to select key participants who would enable an in-depth study of the phenomena being investigated. Out of a total enrolment of approximately 1,300 students, 400 students were chosen using an expert's judgement, namely, the Coordinator of the CE1 course. All of these students displayed a common characteristic of low-level English language proficiency. The students were informed that the study was being conducted to

find out if the CE1 course was meeting their learning needs. Students were asked if they wanted to take part in this study voluntarily. The students indicated that they would be happy to voice their opinions about the course. Students were provided with a questionnaire and they were required to fill in their personal information with regard to age, gender, highest qualification, grade obtained for English language in the Malaysian Certificate of Education examination (a public exam taken by all graduating high school students at 17 years of age), band obtained in the Malaysian University English Test (an English language entrance test that students have to sit for when they embark on tertiary studies), the department that they are enrolled in, the State from which they come, their family language background and ethnicity. Their English language grade in the public exam and the band in the entrance test are rough indicators of students' proficiency when they enrol in the course. In this study, the participants were asked to write responses to three open-ended questions or statements: (a) Are you content with the current teaching methods used by your teachers in the English classroom? (b) Outline your perceived needs and expectations of the course, and (c) Reasons for enrolling in the CE1 course. The responses were examined, and themes as well as patterns were identified. The data collected through this procedure was used to support data obtained from the interviews.

Thirteen students were chosen for face-to-face interviews. Patton (1990) stated that data from interviews consisted of direct quotations about experiences, opinions, feelings and knowledge. This technique was regarded as central to investigating the impact of learning needs on the development of English language proficiency as this phenomenon could not be observed directly. Interviews would enable the researcher to probe the thinking of key participants. Interview sessions could focus on participants' feelings, thoughts and intentions. In this study, individual semi-structured interviews were employed to examine participants' thoughts, opinions and perceptions in regard to the CE1 course, students' learning needs and English language proficiency.

4. Findings and Discussion

4.1 Student Satisfaction with Current Teaching Methods

The findings from the written responses indicated that out of the 400 students surveyed, 230 claimed that they were happy with the teaching methods used in course and this was

because their teachers used a variety of methods that were simple, interesting and easy to understand. In addition, these students also emphasized that detailed explanation of the topic also contributed to their satisfaction. It was stressed that their teachers also spoke slowly and this contributed to their understanding of the discussion. Moreover, they were accorded many opportunities to participate in the lesson. For students who were weak in English, understanding their teacher and practising the language in class appear to be important.

The remaining 170 students were not satisfied with the teaching methods as they perceived their teachers as not understanding their learning challenges. These participants considered that their teachers did not empathise with them. It is possible that this perception resulted from a mismatch between teaching methods and students' English language ability. These students also indicated that their teachers did not use interesting methods to teach such as technology and multimodal texts. Moreover, the participants were clearly dissatisfied with the use of first language (*Bahasa Melayu*) to teach the target language. This was interesting as some of the other students were in the opinion that there was not enough use of first language in the CE1 classroom. Clearly, students did not share the same views with regard to the use of first language to teach the target language. Some of the students who were dissatisfied also emphasized that the current teaching methods did not help them improve in their proficiency. A strong theme that emerged from these students is 'teachers not understanding students'. This could be interpreted from the perspective of learner expectations and instruction. It was evident that for these students the instruction they received in the CE1 classroom did not meet their learning needs and expectations.

4.2 Students' Perceived Needs and Expectations of the CE1 Course

A majority of the participants in this study listed listening, speaking, reading and writing as the skills in which they needed more training. Following closely was a need for more training in grammar, error analysis and academic language. "Speaking" being their first choice was nominated as the skill where more training was required by 258 students. It is possible that since most of the participants of this study were from non-English speaking

backgrounds, they needed more practise in speaking English so that they could improve. Furthermore, these students perceived that if they were to be considered as proficient English language users, they would have to speak fluently. They also believed that their ability to speak fluently empowers them with other things such as communicating with others, improving their confidence and securing good jobs in the future.

Listening skills were chosen by 72 students as the first skill that they needed more training. The participants emphasized that their lack of proficiency in the English language resulted in their inability to comprehend proficient speakers, especially those who spoke really fast. The other participants listed listening as their second, third or fourth option of skill that they perceived more training was required.

It was interesting to note that unlike speaking that was listed as the first choice by many of the participants, only 26 students chose writing as their first choice of skill where they needed more training. In addition, it could be argued that the participants of this study saw speaking as more important than any other language skill even though everyone else saw writing as the primary skill in formal study.

Reading was the last choice of skill that the participants perceived they needed more training compared to speaking, listening and writing. Only 24 participants chose reading as their first choice. Grammar, error analysis and academic language were some of the other skills that the participants thought they needed more emphasis in the classroom. However, these skills were all listed as participants' fifth, sixth or seventh choice after the four main skills mentioned previously. The participants were in the opinion that a focus on more grammar would enable them to use other language skills more meaningfully and efficiently. Conversely, there was limited concern for classroom or academic language suggesting that informal or non-formal modes of instruction are likely to be preferred to more formal approaches.

Overall, the analysis of participants' responses to Question 2 emphasized among others students' perceived learning needs for the following, namely: (1) teaching methods that were simpler and interesting; (2) the use of multimodality in the classroom; (3) teachers who were experts in ELT; (4) the CE1 course to be conducted for a longer period of time compared to the present two hours; and (5) the use of additional activities

in the teaching of English. The heterogeneity of the students in the CE1 could have contributed to these needs.

4.3 Reasons for Enrolling in CE1

Improving in the English language was emphasized as the main reason for enrolling in the course by 180 of the participants. These students perceived English as an international language and hence the need to use it all the time. It could be interpreted that these respondents hold the English language in high esteem and thus regard it highly. These students were aware of their problems in learning English and were endeavouring to master it. Another 71 participants declared that they enrolled in the CE1 course because they believed that English was important for themselves, for the future and their chosen profession. Many of these students were aware of the importance of the English language in the private sector as the Malaysian Government had drawn attention to the fact that many graduates were unemployed because of their low level of proficiency in the language (Gill, 2005). Furthermore, the Government's many initiatives to raise the English language standards in Malaysia had further reiterated the importance of the language to these students.

Forty-one other participants stated that the CE1 was a compulsory core university course. For these students, this was the reason they enrolled in the course. They also indicated that they had obtained a low band of 2 in the Malaysian University English Test. Thus, it was a requirement that they do the course (students who obtained Bands 5 or 6 were exempted from enrolling in the course). Although, these students indicated that they only enrolled in the course to meet their study program requirements, they stressed that enrolling in the course would assist them to improve their English language proficiency. For these students, the CE1 course was catalyst towards higher English language proficiency.

Better employment opportunities were cited by 64 participants as one of the reasons for enrolling in the CE1 course. These participants viewed that being proficient in the English language would guarantee them a job in the future. This affirms the opinion that inability to speak in English would result in unemployment in the private sector (Gill,

2004). Learning how to communicate proficiently and gaining confidence were other reasons given to answer this question. Twenty-five students nominated the former and 15 students the latter. Students who wanted to communicate proficiently were ultimately planning to do so with people from foreign countries. Those who talked about gaining confidence associated their lack of English language proficiency contributing to their current low level of confidence. These students perceived that confidence was an important factor in their chosen profession and they wanted to be able to communicate with their students in English. It is possible that low self-esteem and level of confidence is the result of self-perceptions about being weak in using the English language.

Overall, only four of the participants said that they were enrolled in the CE1 course to obtain good grades in the course. These students supposed that the course would assist them in improving their English language proficiency which would then result in good grades.

The analysis of students' responses to Question 3 indicated various reasons that directed enrolment in the CE1 course. Some of the participants' responses revealed that they were intrinsically motivated while others were more inspired extrinsically. Students' reasons for enrolling in the course influenced their needs and ultimately their learning outcomes. In addition, their reasons for enrolling dictated the type of teaching and learning activities that they required and expected from the teacher. It could be established that students' reasons for enrolling in the course also directed the type of language skills training that they expected from the course. Information of this nature is often difficult to obtain without procedures such as needs assessment. It was observed that due to the nature of anonymity of the written responses, students listed their learning needs and expectations without any inhibitions. This procedure also appeared to have provided the students with a platform for voicing out their frustrations.

4.4 Student Interviews

The interviews conducted with 13 students, who represented a sample of the population, provided the teacher with the opportunity to confirm and reiterate what the students had indicated in their written responses. The rationale for choosing 13 students is that they represented the 13 different groups who took part in this study. The course coordinator's

judgement was once again relied upon to select the students for the interviews. The interviews were conducted outside class time and students were provided with the option of not taking part in the interviews. The students who took part did so, on a voluntary basis.

4.4.1 Participant Profile

It is argued that the views of the most important stakeholders need to be elicited with regard to the major ideas involved in this study: learning needs. The following section describes first, the 13 participants who were interviewed. Their names have been changed to ensure anonymity.

Izan is a 21 year old male who is of Malay ethnicity. He comes from the East Coast State of Sarawak. He is enrolled in the Department of Social Sciences and Humanities and is from a non-English speaking family background.

Zak is a 20 year old male who is of Malay ethnicity. He comes from the Eastern State of Kelantan. He is enrolled in the Department of Cognitive Science and Human Development and is from a non-English speaking family background.

Affi is a 20 year old female who is of Malay ethnicity. She comes from the Eastern State of Kelantan. She is enrolled in the Department of Business and Economy and is from a non-English speaking family background.

Silvi is a 20 year old female who is Indigenous. She comes from the East Coast State of Sarawak. She is enrolled in the Department of Arts and Music and is from a non-English speaking family background.

Riz is a 21 year old male who is of Malay ethnicity. He comes from the Eastern State of Kelantan. He is enrolled in the Department of Social Sciences and Humanities and is from a non-English speaking family background.

Yus is a 24 year old male who is of Malay ethnicity. He comes from the Central State of Selangor. He is enrolled in the Department of Arts and Music and is from a non-English speaking family background.

Azma is a 22 year old female who is of Malay ethnicity. She comes from the Southern State of Johor. She is enrolled in the Department of Social Sciences and Humanities and is from a non-English speaking family background.

Rav is a 20 year old male who is of Indian ethnicity. He comes from the Eastern State of Pahang. He is enrolled in the Department of Business and Economy and is from an English speaking family background.

Herm is a 24 year old male who is of Malay ethnicity. He comes from the Northern State of Kedah. He is enrolled in the Department of Social Sciences and Humanities and is from a non-English speaking family background.

Has is a 22 year old female who is of Malay ethnicity. She comes from the East Coast State of Sabah. She is enrolled in the Department of Social Sciences and Humanities and is from a non-English speaking family background.

Kami is a 20 year old female who is of Malay ethnicity. She comes from the Eastern State of Terengganu. She is enrolled in the Department of Cognitive Science and Human Development and is from a non-English speaking family background.

Sue is a 19 year old female who is of Malay ethnicity. She comes from the Northern State of Perak. She is enrolled in the Department of Business and Economy and is from a non-English speaking background.

Nura is a 22-year old female who is of Malay ethnicity. She comes from the Northern State of Perak. She is enrolled in the Department of Social Sciences and Humanities and is from a non-English speaking background.

4.4.2 Communicative English One and Learning Needs

All but one participant stated that they were happy with the teaching and learning process in the CE1 classroom. Yus emphasized that he was happy because what he had learnt in primary school was repeated in the CE1 course. This, he added, gave him more information. Zak declared that he was happy because his instructor was, “sporting and not very serious”. Affi shared similar views with Zak. Silvi announced that whether a person was happy or not would depend on the instructor teaching the course. According to Silvi, if an instructor knew how to make the class fun as well as enhance their thinking, then the students would like the subject.

Riz, Yus, Azma, Rav, Has and Kami said that they were happy with their CE1 instructors. Riz said, “Yes, I do because lecturers [sic] understand that some students are not expert [proficient?] and fulfils students’ taste [caters to student needs?]”. Azma

agreed with Riz when she said, "...he will give full attention to us and also try to simplify this English language". It is evident that instructors who understood students' strengths and weaknesses and catered for them accordingly contributed towards learner satisfaction. This was reiterated by Has who spoke of her CE1 instructor, "hmm...yes, very happy with Mr. Ayob because my lecturer aah...is clever to tackle everyone's heart to aah...be more interested to learn English". The researcher met Mr. Ayob personally during the data collection process and found that he was indeed a very affable man who put his students' needs before everything else.

Another observation that was emphasized by the participants was that 'sense of belonging' also contributed to course satisfaction. Yus reflected, "Yes I [am] happy in class. I have a group. I can discuss in my group. From there I can develop my English". It was possible that Yus felt comfortable in his group and as a result he found the teaching and learning environment a supportive and happy one. Kami implied that class size was another contributing factor towards student contentment. She affirmed, "Yes, I am happy because small class...So all people [sic] can take [have?] the opportunity in class [to participate?]. However, Nura stated that she was not happy with the teaching and learning process in the CE1 classroom, but she did not want to explain her discontentment in detail.

It is interesting to note that although a majority of the students asserted that they were happy with the teaching and learning process in the CE1 classroom, when asked if there were any aspects that should be considered in order to improve the teaching and learning process, everyone affirmed that either one or two things could be undertaken for improvement. The following responses confirmed that there was still room for improvement in the CE1 teaching and learning processes:

Yus : Err...okay. Most of it this generation, err...if we see grown-up students, they are more practical in teaching direct to the point. But the grownup graduates need games to help us learn easily [sic].

Yus was referring to the teaching methods employed in the CE1 classroom. He considered that the instructors tended to employ teaching techniques that were too practical because of the students' ages. Yus was of the opinion that incorporating

activities such as games would facilitate learning and age should not be the determining factor in relation to the type of activities carried out. Additionally, there was a strong call for the incorporation of multimodal texts in the teaching and learning process.

Zak : Err...in my opinion maybe we can add in songs, err... poem (pause) something like that which can pull [sic] our attention to learn English. Err...something interesting.

Affi : Umm...before the lecturer teaches, he can show film[s] or songs which can help students to understand English. Err...also to pull [sic] students attention to study English.

Riz : can use multimodal texts [for] discuss [sic]. Maybe with this all students will understand better and have interest to learn English.

Azma : Aah...I will change this subject from book umm...to internet because it is more knowledgeable than the book [sic].

Herm : Aah..there is, [for] example usage of multimodal texts need to be increased more.

From the various responses, it is obvious that the participants did not find the current teaching and learning methods in the CE1 classroom fulfilling. The participants suggested that other methods of teaching should be introduced into the classroom in order to attract students' attention as well as to evoke their interest in learning English. Some of the students found the learning of English to be tedious and boring. Has, for example, said:

in my opinion to improve English language aah...I am sorry to say...because English because I don't understand aah...too boring. To me multimodal text is important because to find by us in different form [sic].

What Has was struggling to say was that she found English boring as she did not understand it. Multimodal texts would afford the opportunity for students to learn through different forms. Additionally, she added "I will aah...improve with exercise, grammar

(giggle) because to me too important. Then maybe vocabulary and when we know ourselves, I think grammar (giggle) is more important”.

There are other students though, who place a lot of emphasis on speaking skills. Yus asserted that in order to improve the teaching and learning process, “in the English language subject, we [must] communicate always [more?] to improve our English. Most important [is] communicate [sic]”. Rav supported Yus when he suggested that there should be more reading and speaking in class. He claimed that the current amounts of reading and speaking activities were not sufficient. Nura seemed to be in agreement that there was not enough communication in the CE1 classroom and even though students were not fluent in English, the practice would be beneficial.

The participants’ suggestions emphasized that the CE1 students knew what they wanted and needed in the classroom. Although they said that they were happy with the course, they argued that the course could be improved through the incorporation of a variety of teaching methods, using multimodal texts as well as activities. The most imperative issue was that the CE1 students were not proficient in English and hence they found the subject difficult to understand as well as boring. Thus instructors need to employ a variety of teaching approaches and techniques in the classroom in order to evoke as well as sustain the learners’ interest.

When the participants were asked if they thought CE1 helped in their individual study programs, 12 of them said ‘yes’ and one said that she was just doing the course to pass and that it did not help her at all. Most of the participants realised the importance of English and saw its relationship to other subjects. Some of the participants declared that because the study program they were involved in was in English, CE1 facilitated learning. Rav for example announced, “hmm...yeah, because my studies are all in English. So if I learn CE1, it will give me more err...to understand more [sic]”. What Rav was trying to say was that CE1 would help to enhance understanding in his current study program. Affi reiterated this when she said, “in CE1, umm...once a week we still learn English. In other subjects related to English we still learn in English”. Yus said that the CE1 definitely helped in his study program, “aah...(pause) I can speak in English with everyone in my department. Herm, Kami and Sue seemed to reinforce this view.

Except for Silvi, the other participants saw CE1 as the basis for other things such as sourcing information and job opportunities. Izan for example asserted, "...even though we are from Malaysian Studies, CE1 helps in grammar, English language itself because the informations [sic] are important". Izan was referring to the fact that although his enrolled study program was Malaysian Studies, CE1 was important because much of the information was only available in English. On the other hand, Silvi maintained, "so for me, I'm ex-student of UITM take course of English and then (pause) for me it depends on me, not because of the course". Silvi had done a diploma program at *Universiti Teknologi Mara* (UITM) where she was required to enrol for an English language course. Hence, she perceived that whether she did well in her enrolled study program depended entirely on her and not the CE1 course. Silvi added that if she wanted to learn, she relied on herself as well as multimodal texts, which she found more useful than CE1.

What is evident from the interviews is that most of the participants saw the importance of learning English and were endeavouring to learn it. For instance, Has highlighted, "to me English for myself is very important. I will feel shy if don't get to communicate with others" while Zak stated, "umm...teenager[s] nowadays...err...when we speak in English umm...they laugh. Aah...so don't laugh, think positive". What Zak was raising was that when he tried to speak in English, his friends laughed at him. He implied that instead they should be positive about his attempts.

The setting in which this study is conducted is described by the findings in this paper. The study unfolds in an English language learning context. The participants of this research study are a heterogeneous group made up of different ages, genders, ethnic backgrounds, state of origin, department, family circumstances as well as MUET level. Students' written responses and interviews confirm that they are aware of their learning needs as well as expectations of the CE1 course. The findings also emphasize that technology and multimodal texts play a large role in their everyday lives. The students use technology and multimodal texts for recreation, entertainment, communication as well as learning. The participants of this research study are of the view that multimodal texts contribute to the development of English language proficiency and plan to use it in the future. The participants also added that they preferred multimodal to print texts as they encompassed all the information they needed and were easy to understand. The

participants emphasized that their teachers were not currently using multimodal texts to teach. They stressed that multimodal texts should be employed in the CE1 teaching and learning process.

The findings also highlight that the participants were of the opinion that the CE1 could be improved with the incorporation of a variety of teaching methods, multimodal texts and interesting activities. The participants of this research study indicated that they were happy with the teaching and learning process in CE1 because of reasons such as: (a) simple teaching methods; (b) simple language employed by the teacher; (c) speed of communication, (d) detailed explanation; (e) opportunity for classroom participation; (f) variety of teaching methods; and (g) teaching according to students' level of performance. The participants emphasized that the following factors contributed to their dissatisfaction: (a) teachers did not understand students; (b) failure to use interesting teaching methods; (c) the use of Malay to teach English; and (d) teaching materials that were not interesting.

The participants of this study specified 'speaking' as their first choice of skill that they needed more training in. They saw the ability to speak English fluently as empowering their other actions. Listening, reading and writing were other language skills in which they needed training alongside speaking. The students were also of the view that they needed more training in grammar, error analysis and academic language. The written responses and interviews indicated that the students who enrolled for the CE1 course did so for the following reasons: (a) English was an important language; (b) CE1 was a compulsory course; (c) there were greater employment opportunities; (d) they needed to communicate widely in English; (e) they needed to boost their confidence; and (f) they sought good grades.

5. Conclusion

The findings from the needs assessment was shared with instructors of the CE1 course who were clearly surprised with the number of students who were not satisfied with the current teaching methods employed in the course. It was also very disturbing to some of the instructors that the students wanted more training in speaking skills when currently a lot of emphasis was being placed on reading and writing. Moreover, many teachers were

humbled to know that some of the students who were enrolled in the course did so for intrinsic reasons and not for passing the course as was thought previously.

Nearly all the instructors agreed that the students were right in asking for more varied activities and the use of multimodal texts in the classroom. They perceived that too much of emphasis was being placed on the completion of the current module. It was decided that the findings from the needs assessment was to be presented to the coordinator of the course, department head and dean. The result of this was that instructors of the course were asked to conduct a needs assessment for the class they were teaching in the new semester and the teaching and learning process to be guided by the results of the practice. It was also concluded that although the instructors of the CE1 course should stick to course aims and objectives, classroom instruction should adhere to students' learning needs and expectations.

Although, this study was explored in a Malaysian context, the findings highlight the importance of undertaking needs assessment in English language courses. Identifying students' learning needs, expectations, wants and background, prior to actual classroom instruction, will contribute to better learning outcomes. Ultimately, needs assessment could be the solution to overcoming the language learning challenges faced by ESL or EFL learners.

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