College Students' English Language Needs and EFL Higher Education in Taiwan

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Abstract

The present study investigated college students' future English language needs for their relationship with the EFL higher education in Taiwan to take a closer look at the college English curriculum in that regard. The research context was situated in two technological universities in Taiwan. A mixed-methods approach was adopted using questionnaires, interviews, observation and examination of teaching and testing materials. Participants included various stakeholders in the research context—teachers, students, administrators and students' future employers. For students' future English language needs, the questionnaire results showed that most students considered their success after graduation relied on English listening and speaking abilities. The interview data concluded with three prevailing job categories, "oral interactions with foreign clients," "writing emails to foreign clients" and "reading datasheets." Each school's English curriculum was also investigated through interviews, observation, teaching and testing materials. The comparison between students 'English language needs for their future career and the EFL higher education in the present study showed a loose relationship, which might deserve further attention to the college English curriculum development in Taiwan.

Keywords: language needs, EFL, college, higher education

1. Introduction

In Taiwan, many K-12 students study English mainly for passing the exams to get onto the next stage of their education; namely, from junior high school to senior high school and then to college. It is therefore quite fair to say that the EFL education in Taiwan is basically test-oriented, at least before the tertiary education. In that regard, it is worthwhile considering whether the focus of the EFL higher education in Taiwan has eventually shifted from being test-oriented to serving the purposes of higher education. There is thus a need to look into college students' English language needs and check how the EFL higher education has met those needs. Meanwhile, as learners' language needs have often been emphasized in many sub-disciplines in the EFL studies, such as ESP, language testing and so on, it is also worthwhile investigating the relationship between the English curriculum in Taiwan's colleges and students' diverse English language needs. In that sense, new issues might also be brought up for further consideration.

Under the current education system in Taiwan, there are two types of undergraduate programs. One type is the four-year university undergraduate programs, which recruit mostly high school graduates. The other type belongs to colleges or universities of technology in the Technological and Vocational Education (TVE) system, which offers (1) four-year undergraduate programs, mainly for vocational high school graduates, and (2) two-year undergraduate programs, particularly for five-year junior college (starting after the junior high school) graduates and two-year junior college (starting after the vocational high school) graduates. Students graduating from any of the above undergraduate programs are awarded a bachelors' degree.

As college graduates will soon enter the job market, it is assumed that the EFL higher education should, instead of preparing students for the next entrance exam, help equip students with the language skills they need to enter the workforce. Based on the above assumption, one research question was formulated for the present study: "Does the EFL higher education in Taiwan meet college students' English language needs for their future career?"

2. Literature Review

Brown (2001) proposes that *needs analysis*, defined as "the systematic collection and analysis of all relevant information necessary to satisfy the language needs of the students within the context of the particular institutions involved in the learning / teaching situation," be the first step to designing and maintaining language curriculum, followed by and interacting with developing objectives, writing and using tests, developing materials and teaching, all of which function as the basis of the ongoing process of *program evaluation*.
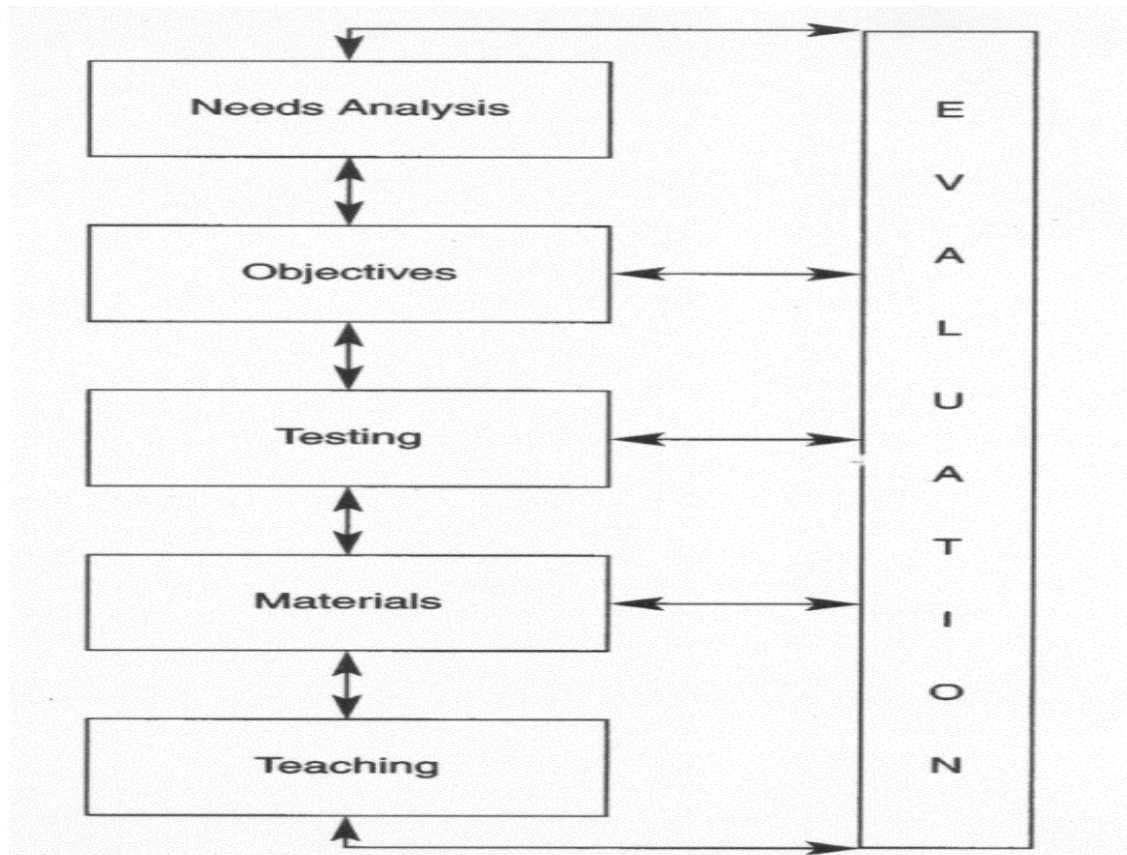

Figure 1: Systematic approach to designing and maintaining language curriculum(Brown, 2001, p.14)

As shown in Figure 1, Brown's model reveals at least two important concepts. First, there should be a mutual relationship between teaching and testing (Goldstein, 1989; Shepard et al., 1996; Wiggins, 1998) and second, teaching and testing should appropriately match learners' language needs as much as possible, since needs analysis is usually conducted at the initial stage of curriculum development to determine all the fundamental elements that are to be highlighted at the later stages.

Among the many studies on the connection between teaching and testing, Saif's (2006) case study of international teaching assistants (ITAs) confirms the important role needs analysis could play in achieving a successful language program. This study is unique in that it included a needs analysis on relevant stakeholders before developing a new ITA performance test. The encouraging results show that by taking the ITAs' language needs into account before test development, the teacher teaching the experimental group in the ITA training program geared to the objectives of the new test changed both the teaching content and teaching methodology. The new ITA performance test was developed based on Bachman and Palmer's model of language ability (1996), which consists of two major components: (1) language competence or language knowledge and (2) strategic competence. Each component is further broken down into smaller categories, as summarized in Table 1. This model is valuable in that it provides a framework for guiding the definition of language constructs not only for test tasks, but also, in a broader sense, for real-life language tasks. Such a framework is very useful for future analysis when language constructs are involved, such as the present study.

Table 1: Bachman and Palmer's model of language ability (1996, p.p. 66-75) in summary

1. Language knowledge (Language competence)	
(1)**Organizational knowledge**	
Grammatical knowledge -Knowledge of vocabulary -Knowledge of syntax -Knowledge of phonology/graphology	*Textual knowledge* -Knowledge of cohesion -Knowledge of theoretical or conversational organization
(2)**Pragmatic knowledge**	
Functional knowledge -Knowledge of ideational functions -Knowledge of manipulative functions -Knowledge of heuristic functions -Knowledge of imaginative functions	*Sociolinguistic knowledge* -Knowledge of dialects/varieties -Knowledge of registers -Knowledge of natural or idiomatic expressions -Knowledge of cultural references and figures of speech
2. Strategic competence	
(1) **Goal setting** -Identifying the test tasks -Choosing one or more tasks from a set of possible tasks -Deciding whether or not to attempt to complete the task(s) selected	
(2)**Assessment** -Assessing the characteristics of the test task to determine the desirability and feasibility of successfully completing it and what is needed to complete it -Assessing our own knowledge (topical, language) components to see if relevant areas of knowledge are available for successfully completing the test task -Assessing the correctness or appropriateness of the response to the test task	
(3)**Planning** -Selecting elements from the areas of topical knowledge and language knowledge for successfully completing the test task -Formulating one or more plans for implementing these elements in a response to the test task -Selecting one plan for initial implementation as a response to the test task	

3. Methodology

3.1 Research context

The present study was situated in two technological universities in Taiwan. These two universities, marked as School A and School B, had quite similar student backgrounds. School A was a private technological university, recruiting mostly vocational high school graduates for its four-year undergraduate program. School A had approximately 2500 students, most of whom majored in engineering-related subjects in three colleges. There was not an English department in School A. School B was a public technological university with around 8000 students. The majority of the students in School B majored in engineering-related subjects like School A, but, unlike School A, they had an English department.

School a required student to take *Freshman English* and *Aural-oral English* during their freshman and sophomore years respectively. In School B, non-English majors in the four-year undergraduate program were required to take *Freshman English* and *Oral-aural Training in English* during their freshman year; *English and Practice* and *Oral-aural Training in English* during their sophomore year. For those in the two-year undergraduate program, they were required to take *Intermediate English and Practice* during their junior year at school. The elective courses at both schools were not under consideration in this study due to their less general influence on the students.

3.2 Instruments

3.2.1 Students' Questionnaire (SQ)

Based on Gravatt, Richards and Lewis' (1997) *Needs analysis questionnaire for non-English-background students* used at the University of Auckland, New Zealand, a Students' Questionnaire (SQ) was developed for the study to collect data on students' English language needs in the future job market.

The draft of the SQ was first translated into Chinese by the researcher. One experienced EFL college teacher examined each of the translated items. When the examiner found anything unclear, she first discussed with the researcher for a better solution. If no agreement could be reached after the discussion, the dispute was settled by consulting another experienced EFL college teacher to ensure the clarity of each item.

3.2.2 Interview guides

For interviewing, a semi-structured interview approach was adopted. Interview questions with students, teachers, administrators and students' future employers were designed for obtaining their perceptions or knowledge of students' English language needs in the job market. Then interview questions about the EFL higher education were added to the interview guides for teachers and students. The Chinese version of the interview guides was reviewed by two Ph.D. students in TESOL to ensure their appropriateness and clarity. The revised interview guides were then tested on several stakeholders, who were not included in the formal study, for their effectiveness. The interview guides were revised accordingly before they served as the research instrument for the formal study.

3.2.3 Observation forms

Several required courses were observed in both School A and School B. An onlooker observation approach (Patton, 2002) was adopted instead of participant observation, where the observer gets involved in the setting. Since "observers do not enter the field with a completely blank slate" (Patton, 2002, p.279), one observation form was developed with major "sensitizing concepts" that serve as a guide to help manage the observational task (Patton, 2002, p.279). The form was designed for taking field notes in the required English classes, focusing on the instructional tasks in the classroom. The observation form was piloted in two English classes in School A and then refined for use in the formal study.

3.3 Data collection

3.3.1 Students' Questionnaire (SQ) survey and follow-up interviews with students

A total of 544 students (347 from School A and 197 from School B) were recruited to complete the SQ. The researcher first asked a few accessible teachers for the possibility of conducting the SQ on their students, and then a certain number of classes totaling the expected number of student respondents were selected. The student participants were chosen on a voluntary basis for the follow-up interviews. After the questionnaire survey, the researcher looked for respondents indicating on the questionnaire their interest in being interviewed subsequently and selected a total of 32 students (16 from each school) with the maximum diversity. These students were then sent an invitation letter explaining the purpose of the present study and a consent form.

3.3.2 Observation

A name list of teachers teaching required English courses at both schools and their class schedules were first collected. For those classes that were accessible to the researcher, teachers were recruited in person or by phone calls for their willingness to participate in the present study. In School A, one teacher teaching *Freshman English* and one teacher teaching sophomore *Aural-oral English* agreed to be randomly observed for six and five weeks (two hours each week) respectively in one semester. In School B, four teachers agreed to be observed for two weeks and one teacher for only one week (two hours each week) in one semester. Since students in School B were placed into three levels in their *Freshman English* and sophomore *English and Practice* (the four-year undergraduate program) and their junior *Intermediate English and Practice* (the two-year undergraduate program), the researcher chose, according to these teachers' offers and the classes they taught, to observe as many different levels of the required courses as possible. Each teacher being observed was sent an invitation letter and a consent form before the observation began. For more details about the classes being observed, please refer to the Appendix.

3.3.3 Collecting teaching and testing materials

Throughout the whole observation period, teaching and testing materials such as syllabi, textbooks, class handouts, teacher-made tests and students' homework were collected whenever possible. The teaching and testing materials for the classes being observed were collected directly from the teachers. Teaching and testing materials from two other classes were collected with the help of the teachers being observed.

3.3.4 Interviews with teachers

The seven teachers being observed were automatically invited for interviews and six of them accepted the invitation.

Two full-time and one part-time teacher from School A and one part-time teacher from School B were also selected among a few others, totaling a pool of ten teacher interviewees. Each chosen teacher participant was sent an invitation letter explaining the purpose of the present study and a consent form.

3.3.5 Interviews with administrators

Administrators here refer to university presidents, deans of academic affairs and department chairs. A name list of the two schools' administrators was prepared as well as their contact information. Next, a recruitment letter and a consent form were sent to all the possible candidates. A meeting was arranged for each candidate responding positively. A total of six administrators (three from each school) were interviewed.

3.3.6 Interviews with students' future employers

Students' future employers here refer to the managers and immediate supervisors of new employees in some of the companies which have attracted graduates from the two schools. A list of students' possible employers was obtained from School A's Office of Technology Cooperation, which is in charge of students' internship and future employment. One professor of a graduate school of engineering was included on the grounds that some students might choose to go to graduate school before they enter the job market, or they might choose to stay in the academic circle after graduation. A recruitment letter and a consent form were then sent to all the possible candidates. Candidates responding positively and reflecting the greatest representativeness was chosen before each meeting was arranged. A total of six employers were interviewed. All the interviews with the students, teachers, administrators and students' future employers were conducted in Mandarin Chinese. For all the interviewees' background information, please refer to the Appendix.

3.4 Data Analysis

3.4.1 Analysis of the SQ survey data

The SQ survey data was analyzed using descriptive statistics. For each item on the questionnaire, the percentage of each option was calculated and tabulated to get a general view of students' perceived language needs.

3.4.2 Analysis of the interview data

The interview data with the students, teachers, administrators and students' future employers were analyzed using the meaning categorization approach (Kvale, 1996), where there was a list of pre-determined categories for interview data to be grouped into. Based on Bachman and Palmer's (1996) model of language ability, a total of 20 modified categories of language knowledge components (p. 77), as shown in Table 2, were adopted for this approach of data analysis in the present study. Each suggested Target Language Use (TLU) task (Bachman and Palmer, 1996), as revealed in the interview data, was coded for each of the 20 categories of language knowledge constructs and tallied.

3.4.3 Analysis of the observation data

All the observation data were analyzed using the meaning categorization approach for data directly addressing the TLU tasks. The categorized data were then compared to other sources of data, not only to verify the emergent findings but also to provide new insights.

3.4.4 Analysis of teaching and testing materials

The teaching and testing materials collected from the two schools were analyzed in a similar fashion to how the interview data on language needs were analyzed; that is, the data were analyzed using the meaning categorization approach based on the modified model of language ability from Bachman and Palmer. About 20% of the coding and categorization of the interview data, observation data and collected teaching and testing materials were first conducted by the researcher and a "disinterested peer" of the researcher. The inter-rater reliability reached more than 80% respectively. Then following the same established principles, the researcher alone finished coding and categorizing the remaining data.

Table 2: Modified model of language ability from Bachman and Palmer (1996)

Components of language ability					Code
Language knowledge	Organizational knowledge	Grammatical knowledge	Knowledge of vocabulary	General	**VOC-G**
				Technical	**VOC-T**
			Knowledge of syntax		**SYN**
			Knowledge of phonology	Comprehending (Listening)	**PHO-L**
				Producing (Speaking)	**PHO-S**
			Knowledge of graphology	Comprehending (Reading)	**GRA-R**
				Producing (Writing)	**GRA-W**
		Textual knowledge	Knowledge of cohesion		**COH**
			Knowledge of rhetorical organization	Comprehending (Reading)	**RHE-R**
				Producing (Writing)	**RHE-W**
			Knowledge of conversational organization	Comprehending (Listening)	**CON-L**
				Producing (Speaking)	**CON-S**
	Pragmatic knowledge	Functional knowledge	Knowledge of ideational functions		**IDE**
			Knowledge of manipulative functions		**MAN**
			Knowledge of heuristic functions		**HEU**
			Knowledge of imaginative functions		**IMA**
		Socio-linguistic knowledge	Knowledge of dialects / varieties		**DIA**
			Knowledge of registers		**REG**
			Knowledge of natural or idiomatic expressions		**NA/ID**
			Knowledge of cultural references and figures of speech		**CUL**

(Adapted from Bachman & Palmer, 1996, p.77)

4. Results and Discussion

In this section, students' English language needs and the EFL education at both schools will be analyzed and then compared in order to see to what extent these two match with each other.

4.1 Overview of students' English language needs

Students' English language needs were viewed from two perspectives. One perspective is students' actual language needs in the future job market, as viewed by their possible future employers. The other perspective is perceived students' language needs in the future job market, as viewed by different stakeholders including teachers, administrators and students themselves.

4.1.1 Students' actual language needs in the job market

A total of six students' future employers were interviewed for students' actual English language needs in the job market. Due to the diverse backgrounds of the employers in each different field, the descriptions of their employees' English requirements varied from company to company and from position to position.

However, the present study focused only on those jobs that require quite a certain degree of English, regardless of those which might not need too much English.

Of all the possible target jobs mentioned in the interviews, there might appear various descriptions for each, but these jobs can actually be classified into several broader categories based on their common features. Three categories into which the most tasks were classified were selected for further analysis. The three categories were" oral interactions with foreign clients" (TLU Task 1),"writing emails to foreign clients"(TLU Task 2) and "reading datasheets" (TLU Task 3). For TLU Task 1, the subjects of the oral interactions could range from inquiries about specific product specifications to technical problems with the newly-purchased machines. For TLU Task 2, though the contents of the emails might vary according to the context, standardized and conventional formats of email writing for all trades and professions could be found and adopted easily. For TLU Task 3, reading datasheets of specific components or products is almost an inevitable routine job for most engineers, manufacturers and buyers, which require technical vocabulary or language use for each different field. In general, the three commonest tasks require basic language skills; namely, Basic English listening, speaking, reading and writing skills, and, on top of that, specific English vocabulary and knowledge for one certain field.

However, three points raised by most employers in the interviews are worth mentioning here. First, although English proficiency may not be the first priority for these employers when they are looking for new employees, it becomes critical when all other things are equal among all candidates.

Second, for some positions such as those in the research and development department, English reading and writing might be more important than listening and speaking. However, if one wants to be promoted to a higher management position, outstanding English listening and speaking abilities are definitely the key. Such a view was heard here and there in the interviews with most of the employers.

Third, despite the commonly-agreed importance of English listening and speaking in the business world, for those college students who plan to continue education in their specific field after graduation, English writing was considered the most important among other skills, as emphasized by one of the employers, a college professor of materials engineering.

4.1.2 Perceived students' English language needs in the job market

Perceived students' English language needs were investigated in two ways. First, the SQ was used to collect information from students. Second, teachers, administrators and students themselves were interviewed to report the English requirements they perceived in today's job market.

4.1.2.1. The SQ survey results.

The descriptive statistics of the SQ survey on the 544 students are reported in Table 3 and summarized as follows. It seems students' anticipation of their English ability to be used in the future job market partly matches the English requirements in the real world. As students' future employers indicated, "oral interactions with foreign clients,""writing emails to foreign clients" and "reading datasheets" are the three commonest job categories in today's business world, most students in the SQ survey considered English listening and speaking as the most important language skills to success in their field after graduation, followed by their English reading ability; while English writing did not receive as much attention as it should.

The SQ also elicited information about the specific English skills that students would like to improve for their future career, and the top four language skills on the list with an average score higher than 4.00 (on a five-point scale) appear to be "participating effectively in discussions" (4.17), "general listening comprehension" (4.14), "general reading comprehension" (4.06) and "knowledge of vocabulary" (4.03), which pretty much cover the four language skills except writing.

4.1.2.2 Analysis of interview data with teachers, administrators and students

To triangulate with the SQ data about perceived students' English language needs, 32 students, 10 teachers and 6 administrators at both schools were also interviewed to elicit their perceptions of college students' English language needs in the future job market.

According to the interview data, the above-mentioned stakeholders' perceptions showed striking similarities to the reports of students' future employers. In other words, like the miscellaneous job descriptions given by the employers, teachers, students and administrators also described what they perceived as students' future English language needs in a number of different ways.

However, their perceptions of students' future jobs in relation to English could readily be categorized into several major groups regardless of the potential differences across different fields. As a result of frequency counts, students' top three English language skills for the future job market, as perceived by the interviewed stakeholders, appear to be "oral communications about specialized subjects" (27 students, 9 teachers and 6 administrators), "reading manuals and technical reports" (20 students, 6 teachers and 2 administrators) and "writing emails, reports and proposals" (18 students, 6 teachers and 2 administrators), which resemble the three categories generated from the interview data with the employers.

Table 3: Descriptive statistics of college students' language needs in the SQ.

General statements						
◆How important to success in your field after graduation are the following abilities?						
	Low (1)	(2)	Moderate (3)	(4)	High (5)	Average Scores
English Listening	2%	3%	17%	30%	48%	**4.20**
English Speaking	2%	3%	17%	29%	49%	**4.20**
English Reading	2%	3%	19%	36%	40%	**4.10**
English Writing	3%	5%	29%	34%	29%	**3.81**
Skills you would like to improve for your future career						
◆If you were to take a course to improve your English skills for your future career, which of the following would be useful to you? Rate the importance of each.						
	Low (1)	(2)	Moderate (3)	(4)	High (5)	Average Scores
1. Listening to pronunciation / intonation / stress patterns of American English.	5%	11%	34%	27%	22%	**3.50**
2. Lecture notetaking.	4%	9%	32%	35%	21%	**3.61**
3. General listening comprehension.	1%	4%	18%	33%	43%	**4.14**
4. Giving formal speeches / presentations.	2%	9%	28%	30%	32%	**3.80**
5. Participating effectively in discussions.	1%	4%	18%	32%	45%	**4.17**
6. Communicating effectively with peers in small group discussions, collaborative projects, or out-of-class study groups.	2%	8%	29%	34%	27%	**3.75**
7. Essay writing.	7%	15%	27%	33%	17%	**3.39**
8. Lab report writing.	7%	17%	38%	26%	12%	**3.20**
9. Writing case studies.	8%	15%	34%	31%	12%	**3.26**
10. Describing objects or procedures.	3%	9%	28%	39%	22%	**3.68**
11. Summarizing factual information.	3%	13%	35%	34%	15%	**3.44**
12. Knowledge of vocabulary.	1%	5%	22%	36%	37%	**4.03**
13. Reading quickly.	3%	5%	20%	37%	35%	**3.98**
14. Reading critically.	2%	15%	38%	28%	17%	**3.43**
15. Reading for author's viewpoint.	4%	15%	38%	30%	13%	**3.33**
16. General reading comprehension	2%	4%	19%	35%	40%	**4.06**

4.2 Overview of the EFL higher education at both universities

In order to compare college students' English language needs with the EFL higher education at both schools, observations and interviews were conducted for some required courses, and their teaching and testing materials were collected and analyzed to specify what was highlighted in the EFL higher education at both schools.

4.2.1 Analysis of the observation and interview data for the required courses and their teaching materials

The required courses for the first two years of the four-year undergraduate program at School A were *Freshman English* and *Aural-oral English*. The former was basically a reading and listening course, while the latter focused on listening and speaking. The required courses for the first two years of the four-year undergraduate program at School B were *Freshman English* and *Sophomore English and Practice*; for the junior year of the two-year undergraduate program was *Intermediate English and Practice*, all of which were three-level (elementary/intermediate/advanced) reading-based courses. While School B students were taking the above required courses, they were also required to take a two-hour language lab class (*Oral-aural Training in English*) each semester, which was a mixed-level listening course. As a result, there were basically three types of classes at both schools. The first type of class was a "reading-based class," as seen in the first-year at School A and the first- and second-year at School B. The second type of class was a "listening lab" type of class, which was part of the first-year and the second-year required courses at School A, and a separate course for the first- and second-year students at School B. The third type of class was a "listening and speaking" type of class, which was offered only in the second-year at School A. All of the above three types of classes were observed at least twice by the researcher except the listening lab at School B. For classes which were not directly observed or observed only for a short period of time, related interview data with teachers and students, as well as the teaching materials collected from the teachers being observed, were used to piece together the various bits of information. Finally, for the three types of classes mentioned above, one most commonly-used teaching approach was chosen to represent each type of class. For the "reading-based class," the "grammar-translation approach"(Instructional Task 1) was employed most frequently in this type of classes observed. For the "language lab" type of class, the observation and interview data revealed that "completing the listening tasks in the textbook"(Instructional Task 2) seemed to be a routine activity for this kind of class. For the "listening and speaking" type of class, various teaching activities were observed, but "conversation pair-work"(Instructional Task 3) appeared to be the most commonly-used classroom activity.

4.2.2 Analysis of the testing materials for the required courses

To get a complete picture of the EFL higher education at both schools, the most commonly-used test task was also selected and further analyzed for each of the three types of classes mentioned earlier. For the "reading-based class," vocabulary items, multiple choice questions, fill-in-the-blank and translation were most frequently used in quizzes, mid-term and final exams (Test Task 1). Most of the test items in such written tests mainly focused on discrete grammar points or text meanings from the assigned textbooks. For the "listening lab" type of class, both schools unanimously used multiple choice questions for the mid-term and final exams (Test Task 2). For the "listening and speaking" type of class, School A teachers most often used "question and answer" in the oral test as part of the mid-term and final exams (Test Task 3). The oral test was usually held one week ahead of the school's exam schedule, while a written test was held during the mid-term or final exam week to complete the whole exam for students. Basically, the test tasks for the three required English courses were based on the teaching materials. However, the format of the test tasks did not entirely resemble that of the instructional tasks probably because of the need for fairness and accountability in the school context. For example, multiple choice questions were largely used at least in Test Tasks 1 and 2.

This kind of test tasks differed from their corresponding instructional tasks mainly in the expected responses and relationship between input and responses; that is, the language of the expected responses in Instructional Tasks 1 and 2 was either students' target or native language, while the frequently used tests tasks might require non-language responses, such as marking on the answer sheet. Also, the relationship between the input and responses for Instructional Tasks 1 and 2 were usually reciprocal as between the teacher and students or among students themselves, while there was only a non-reciprocal connection between the input and responses for Test Tasks 1 and 2.

4.3 Comparison between students' English language needs and EFL higher education

As previously mentioned, Bachman and Palmer's (1996) model of language ability was adopted but slightly modified for the present study. All the tasks concluded across students' actual / perceived jobs, college EFL classroom and college EFL evaluation, as specified in Table 4, were broken down into smaller components of language ability for further comparison and analysis.

Table 4: Tasks across students' actual/perceived jobs, college EFL classroom and evaluation

Actual / Perceived future jobs		TLU Task 1	Oral interactions with foreign clients
		TLU Task 2	Writing emails to foreign clients
		TLU Task 3	Reading datasheets
EFL higher education	College EFL classroom	Instructional Task 1	Reading-based class: Grammar translation
		Instructional Task 2	Listening lab: Listening tasks
		Instructional Task 3	Listening & Speaking: Conversation pair-work
	College EFL evaluation	Test Task 1	Reading-based class: Written test (including MCQ, fill-in-the-blank, translation, etc.)
		Test Task 2	Listening lab: Multiple choice
		Test Task 3	Listening &Speaking: Q & A

Table 5 shows the results of the comparison of language ability components of the TLU tasks for students in the future job market and the instructional and test tasks at both schools. In terms of grammatical knowledge, the three areas match perfectly in the knowledge of general vocabulary and syntax, apparently because vocabulary and grammar are the foundations of all kinds of language learning and use. However, there are obvious discrepancies between students' needs and the other two areas in the knowledge of technical vocabulary. It seems that all the top three TLU tasks in the future job market require knowledge of technical vocabulary but the EFL higher education almost never touched upon this specific need. The comparison across the three areas on the knowledge of phonology and graphology shows that comprehending formally accurate utterances or sentences were much more highlighted than producing them in the EFL higher education, though both comprehension and production of formally accurate utterances or sentences are considered equally important in the future job market.

Table 5:The comparison of language ability components of the TLU tasks for students in the future job market and the instructional and test tasks at both schools

		Actual / perceived future jobs			EFL higher education					
					College EFL classroom			College EFL evaluation		
		TLU Tasks			Instructional Tasks			Test Tasks		
		1	2	3	1	2	3	1	2	3
VOC	**G**	●	●	●	●	●	●	●	●	●
	T	●	●	●						
SYN		●	●	●	●	●	●	●	●	●
PHO	**L**	●			●	●	●		●	●
	S	●			●	●	●			●
GRA	**R**		●	●	●	●		●	●	●
	W		●		●			●		
COH		●	●	●	●	●	●	●	●	●
RHE	**R**		●	●	●			●		
	W		●							
CON	**L**	●			●	●	●		●	●
	S	●					●			●
IDE		●	●	●	●	●	●	●	●	●
MAN		●	●	●	●	●	●	●	●	●
HEU					●					
IMA										
DIA		●								
REG		●	●	●	●	●	●	●	●	●
NA/ID		●	●	●	●	●	●	●	●	●
CUL		●			●	●	●			

In terms of textual knowledge, the cohesive devices are equally stressed in the three areas. However, it is apparent that for the knowledge of rhetorical or conversational organization, the production of organizational development

in written texts or in conversations was rarely emphasized in the EFL higher education. The production of written texts, in particular, was never required in the college required courses. Even the 'prefabricated' kind of email writing frequently required in the actual workplace was seldom taught or tested at both schools. The production of conversations, on the other hand, could only be seen in School A's "listening and speaking" class and its evaluation simply because of the specific focus of such a course.

Apart from grammatical and textual knowledge, which constitute the broader category of organization knowledge, few discrepancies have been found among the three areas in terms of pragmatic knowledge, which is further broken down into functional and socio-linguistic knowledge. Nevertheless, two findings from the comparison here are still worth mentioning. First, TLU Task 1 in students' future jobs; namely, "oral interactions with foreign clients," actually requires employees to be able to communicate with people from different language backgrounds. In other words, the so-called "foreign clients" here do not necessary refer to native speakers of English; rather, they could be non-native speakers of English with strong third language accents and cultural backgrounds, such as Japanese or Spanish. However, this kind of socio-linguistic knowledge is hard to develop in an instructional setting unless a lot more foreign teachers and students could join to create a globalized campus. Second, TLU Task 3 in students' future jobs; namely, "reading datasheets," particularly requires the knowledge of heuristic functions. That is to say, specialized vocabulary and knowledge are required for completing such a task. However, just like the lack of technical vocabulary instruction in the EFL higher education, the need for inquiring specialist knowledge through English did not receive much attention at least in the general English courses. As a result, it is important for English teachers and content teachers to work together in order to provide students with the kind of instruction that best suits their needs. For example, according to the interview data with the students, most students were required to read the English versions of the textbooks for their specialized subjects; however, many of them had finally given up and turned to the Chinese translations instead due to their reading problems with specialized English. Quite a few employers interviewed had also noticed this phenomenon and further stressed the importance of reading specialized English textbooks for college students.

In summary, there is a loose relationship between students' language needs in the future job market and the EFL higher education. The EFL higher education did not seem to entirely meet students' English language needs for their future jobs.

5. Conclusion

The present study has investigated students' English language needs and the EFL higher education at two universities through data collected from a questionnaire survey, interviewing, observation and teaching and testing materials. In terms of students' English language needs, the data concluded with three prevailing job categories, "oral interactions with foreign clients," "writing emails to foreign clients" and "reading datasheets." In terms of the EFL higher education, there were basically three types of classes at both schools, "reading-based," "listening-lab" and "listening and speaking" type of classes, which most often employed "grammar-translation approach," "listening tasks" and "conversation pair-work" in the classroom respectively. And the most frequently-used test tasks corresponding to each of the three teaching activities were "written tests including multiple choice questions, fill-in-the-blank and translation, etc.," "listening tests with multiple choice questions" and "oral question and answer" respectively.

A comparison was made across the above-mentioned tasks embedded in students' language needs in the future job market and the EFL higher education, using the modified Bachman and Palmer's model of language ability. Each task was broken down to the level of language ability components to examine to what degree these three areas matched with each other. The results of the comparison show that at the level of grammatical knowledge, the required English courses failed to develop students' technical vocabulary and abilities to orally produce formally accurate utterances or sentences, which appear to be very important in their future jobs. At the level of textual knowledge, the "prefabricated" type of written production (such as email inquiries), as required by most employers, was rarely seen in the college EFL classrooms, not even to mention the production of formal written texts. The production of conversations, which is extremely important as mentioned by the employers and perceived by most stakeholders, was seldom included in most required courses. At the level of socio-linguistic knowledge, English with different accents around the world and relevant cultural issues, as students might encounter later in the real workplace situations, were rarely found in the EFL classrooms at both schools. At the level of functional knowledge, once again, the knowledge of specialist vocabulary was found to be lacking in college EFL classes.

In conclusion, there are at least three ways to improve the college EFL curriculum to better suit students' language needs here in Taiwan. First, English use specific to students' academic fields should be taken into consideration and integrated into the English curriculum. Teamwork between EFL and content teachers might be a reasonable approach to this appeal. Second, although English writing seemed to have received the least attention from the students, it is in fact relatively important in students' future career, such as writing effective emails. To help students become a capable writer in that regard, the English curriculum might include fundamentals of basic correspondence writing for specific purposes. In a broader sense, students learn the basic format and language use for such writing; in a more specific sense, students can get some writing experience specific to their future career. Finally, it is suggested that a more globalized campus with students from other countries would help local students to experience English with different accents and various cultures, just like what they will encounter in their future workplaces.

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Appendix: Participants' Background Information

Teachers interviewed / observed

School A					
Teachers	Gender	Full-time/ Part-time	Teaching experience	Interviewed	Observed
A1	F	P	4 yrs.	✓	
A2	F	F	8 yrs.	✓	✓
A3	F	F	14 yrs.	✓	✓
A4	F	F	24 yrs.	✓	
A5	F	F	18 yrs.	✓	
School B					
Teachers	Gender	Full-time/ Part-time	Teaching experience	Interviewed	Observed
B1	M	F	24 yrs.	✓	✓
B2	F	F	24 yrs.	✓	✓
B3	F	F	24 yrs.	✓	✓
B4	F	F	5 yrs.	✓	✓
B5	F	P	25 yrs.	✓	
B6	F	F	20 yrs.		✓

Administrators interviewed

School A			School B		
Administrators	Gender	Position	Administrators	Gender	Position
A1	M	President	B1	M	Dean of Academic Affairs
A2	M	Dean of Academic Affairs	B2	M	Ex-Department Head of Applied English
A3	F	Ex-English Language Section Coordinator	B3	F	Department Head of Applied English

Students interviewed

School A				School B			
Students	Gender	Majors	Years of study	Students	Gender	Majors	Years of study
A1	M	Electronic Engineering	1	B1	F	Electronic Engineering	1
A2	M	Environmental Engineering	1	B2	F	Industrial Design	1
A3	F	Industrial Design	1	B3	F	Chemical Engineering	2
A4	M	Mechanical Engineering	1	B4	F	Chemical Engineering	2
A5	F	Chemical Engineering	1	B5	M	Organic and Polymeric Materials	2
A6	M	Vehicle Engineering	2	B6	M	Materials Engineering	2
A7	M	Electronic Engineering	2	B7	M	Mechanical Engineering	2
A8	M	Vehicle Engineering	2	B8	M	Architecture	3
A9	M	Mechanical Engineering	2	B9	F	Mechanical Engineering	3
A10	M	Business Management	2	B10	M	Chemical Engineering	3
A11	M	Electrical Engineering	4	B11	M	Electrical Engineering	3
A12	M	Electrical Engineering	4	B12	M	Civil Engineering	3
A13	M	Electronic Engineering	4	B13	F	Industrial Management	3 (2-yr.)
A14	M	Electrical Engineering	4	B14	M	Mechanical Engineering	3 (2-yr.)
A15	M	Chemical Engineering	4	B15	F	Industrial Management	4
A16	M	Electronic Engineering	4	B16	M	Materials Engineering	4

Employers interviewed

	Business / School	Position	Gender	Age
Employer A	A company selling medical supplies & equipment	Manager	M	53
Employer B	An importer and sales agent for electrical& electronic components	Senior vice president	M	45
Employer C	A biomedical technology company	Senior vice president	M	53
Employer D	A design company	Creative director	M	40
Employer E	Materials Engineering department of a university	Professor	M	46
Employer F	A company for wafer foundry	Engineer	M	38