Needs-based Analyses of Freshman English Courses in a Taiwan University

Ching-ning Chien
Chung Yuan Christian University
Chung-li, Taiwan 320
E-mail: chingnin@cycu.edu.tw

Margaretha Hsu (Corresponding author)
Shippensburg University
1871 Old Main Drive, Shippensburg
Pennsylvania, USA
E-mail: mmhsu@ship.edu, Phone: 011-1-717- 477-1422

Abstract

This study aims to explore the differences and similarities in perceptions between students and professors about students' English needs in various skills for current academic studies and future professional studies. A survey was distributed to non-English majors and their professors to illuminate their perceptions. Data was collected from 4205 students and 164 professors in a Taiwan university. Two research questions were investigated: (1) What are the most essential English language skills for academic success perceived by professors and students? And (2) What are the primary problems in learning English for university students? The results indicated (1) there are gaps in perceptions between professors and students; (2) students of different colleges have different perceptions about the importance of English language skills; and (3) student's ability levels in English, math, and science correlate with their views about English skill deficiencies.

Keywords: Basic English skills, EFL context, Needs analysis, Non-English majors

1. Introduction

Due to the rapidly changing nature of modern society and the increase in differences in background, experience, learning styles and needs of the students enrolling in school, English teachers should be strongly encouraged to be aware of the changing needs of their pupils and adapt their teaching accordingly. Learner-centered instruction, which advocates developing various curricula for different learner needs, has been an important theoretical issue in English as a second language (L2) teaching. A learner-centered curriculum is described as a collaborative effort between teachers and learners (Nunan, 1988). In the learner-centered language teaching approach, learners are encouraged to express their opinions about the course. Learners collaborate with the English teacher to explore and discuss the topical coverage and are actively involved in the learning process. Because the learner-centered approach values the participation of learners in the process of deciding the course goals, it is believed that by taking into account the learners' experiences, talents, needs and learning styles the learner's intrinsic motivation can thus be triggered and heightened.

English teachers from Southeast Asian countries, such as Taiwan, ought to develop their courses on the basis of a needs analysis of the university students in the English as a Foreign Language (EFL) context. It is invaluable to gain sufficient knowledge of what EFL learners need to learn by a comparison of the similarities and differences across views of students, English teachers, and professors in their professional field. The argument of the study is that if EFL teachers can concentrate on some of the specific skills that students feel are needed, it can lead to greater motivation and successful learning. Therefore, this study documents the investigation of EFL students' and professors' views on the needs and problems of learning English at the university level. To be answered in this study are two research questions: (1) what are the most essential English language skills for university academic success perceived by professors and students? And (2) what are the primary problems in English learning for university students perceived by professors and students?

2. Literature Review

There have been some studies exploring English teachers' and students' views concerning Freshman English courses in Taiwan. In a survey of the National Cheng-chi University students, Yang (1985) indicated that 64% students polled expected to take conversational classes, 32% writing classes, and 25% reading classes and there was a large gap between the curricular goal, which was set at improving reading skills, and meeting the students' expectations, which were to improve listening and speaking abilities. In a survey of teachers and students at the National Chiao-Tung University, Kuo (1990) found that both English teachers and students thought that the primary goal of Freshman English programs was to improve students' listening and speaking skills while teachers in other fields regarded reading and writing as the chief goal.

In a needs evaluation of students at Chung Shan Medical College in Taichung, Taiwan, Chia, et al. (1999) showed that students named listening as the most important skill to improve at the freshmen level. Both the medical faculty and students agreed that reading was the most important skill, specifically, in understanding of textbooks and journal articles written in English. In a survey of departmental chairs and teachers at Fu-Jen Catholic University, Chang (1992) found that they regarded the most needed English skills in order of priority as being able to read textbooks written in English, being able to write academic papers in English, and being able to make daily conversation in English. Another survey of freshmen at Tunghai University, Chen (1993) indicated that 57% of the students thought that the foremost goal of Freshman English course was to promote conversation ability and only 30% regarded listening ability as being the most important. One common encouraging finding of these studies was that most students at almost all universities expected to improve their listening and speaking skills in freshman English courses.

Furthermore, Huang (1997) conducted a large-scale needs assessment survey across 17 universities in Taiwan evaluating the various Freshman English programs. The questionnaires were sent to freshman students, alumni, English teachers, and teachers in other fields. The study concluded that 10 out of 18 programs in the 17 universities emphasized reading skills. This objective failed to match the desires of freshmen and teachers in other fields, who considered speaking and listening as the top two priorities. However, the emphasis on reading skills appeared to match well with the opinions expressed by alumni and English teachers. Observing the gaps between teachers' perspectives and students' perspectives, it is not surprising that many investigations revealed that university English programs in Taiwan often failed to satisfy students' expectations (Yang, 1985; Guo, 1987; Hsieh, et al. 1988; Kuo, et al. 1990, Chia, et al. 1999; Wang, 2003). One question then, is whether the perspectives of these two groups can be merged.

In Huang's (1997) study, the issue of how students were placed into classes was also discussed. According to Huang's interview with coordinators of the eighteen English programs, seven programs placed students in classes by their subject majors, because such grouping made it easier for English teachers to incorporate teaching material with content related to students' subject fields into the curriculum. Another seven programs grouped students into classes by their free choice of courses or teachers. Additionally, three programs placed students according to their English scores in a certain English proficiency test, such as National Joint College Entrance Examination English scores or English placement test scores. Only one program placed students according to their majors in the first semester and their free choices of courses in the second semester. So, the way of placing students into classes was decided by individual university administrative concern as well as the nature of their Freshman English programs. Although previous studies have provided useful information about the English language needs of university students, very few have considered learner needs by their subject majors and their English proficiency levels. Therefore, their results may not be applicable to certain groups of students at present.

3. Methodology

It is of paramount importance to know students' perspectives (Ferris, 1998) with respect to the course content. However, it has been pointed out that freshman students have problems in identifying their needs and preferences, especially at the beginning of the course (Nunan, 1988), and so it is more advantageous to have junior or senior students' viewpoints included about the required English courses. In addition, students' concern and interests tend to be directly related to their motivation towards learning. Thus, in order to design more effective English programs for our students, it is necessary for EFL teachers to seek and to gain more knowledge about the perspectives of the students concerning their needs and challenges in learning the English language. In this study, the researchers decided to send the questionnaires to freshmen, junior students, senior students, and assistant/associate/full professors in their own fields of study in order to solicit their participation in the survey. The sophomore students were not recruited due to the large sample size from the participating students and resource issues. The professors' views on the importance of English language skills are considered very valuable since they understand firsthand through their regular contacts with industries and commercial companies the essential English language skills in their specific areas of study that students must obtain in order to be successful.

3.1 Research Instruments

The Questionnaire Survey of English Needs was used to find out professor and student beliefs in, or attitude toward, English learning. The questionnaire was modified based on an earlier survey instrument used in a study conducted by Chia, *et al.* (1999). This questionnaire consisted of two parts, the issues of which included (1) the most essential language skills for university academic success; and (2) the primary problems in English learning for university students. To alleviate L2 effects on the students' understanding of the questionnaire, it was written in Chinese.

3.2 Participants and Data Collection

Responses to the questionnaire were collected and organized. They represent the opinions of 2403 freshmen, 1802 juniors and seniors, and 164 professors in different professional fields from a university in Taiwan. In an attempt to have a concrete and precise tool to measure students' ability in English, math, and science, the scores of their Scholastic Aptitude Test (SAT) for these three subjects were used to categorize students into three levels – top, middle, and lower. Approved by the University Academic Office and supported by the Language Center, the researchers had the questionnaires sent to all the freshman students during their English lab classes and to junior/senior students during their class mentor's time, in which students are scheduled to meet their mentors, but the students participated the mentoring time on a voluntary basis. Questionnaires were also sent to full time faculty in their departmental office mail boxes. The response rate for freshman students is 83%, junior/senior students 90% and for faculty members 41%.

3.2 Data Analysis Procedures

The results for each research question will be reported from two perspectives: first, the total respondents from all the colleges; secondly, the responses from the three groupings based on the three levels of English, science and math abilities. The data was analyzed using a computer software program named SPSS Statistics which is one of the most popular computer software for statistical analysis. In addition, Pearson Chi-square tests were used to examine whether there were significant differences in the viewpoints among the various groups. The responses from students were first divided into two groups: freshman students denoted as 'Fresh' and juniors or seniors denoted as 'Upper' in Figures. Students were also categorized into three groupings (top, middle, and lower) based on their English, science and math abilities. The SAT scores of these three subjects were used to classify each student into one of the three ability groups. SAT grades range from 1, the lowest, to 15, the highest. In this study, students whose grades ranked 12 to 15 were marked as 'top level'; 9 to11 were 'middle level'; and 1 to 8 were 'lower level'.

4. Results

Results in this section are described in accordance with the research questions in order as above-mentioned. Information is organized in tables and figures in order to see the comparisons visually and more clearly. Chi-square tests are also conducted to determine if the differences being considered are statistically significant.

4.1 Part I: What are the most essential English language skills for university academic success perceived by professors and students?

Respondents are asked to choose three most essential English language skills in their respective field of study. There are seven skills listed for the respondents to choose from. They are *Reading textbooks in English* (Q1.1), *Reading journal articles in English* (Q1.2), *Oral presentation in English* (Q1.3), *Understanding class lectures in English* (Q1.4), *Carrying on daily conversation in English* (Q1.5), *Writing test answers in English* (Q1.6), and *Writing English research papers* (Q1.7). Percentages are calculated based on the numbers of the respondents who had checked the items on the questionnaire. They reflect the degree of the importance about the issues with which the respondents agree.

Figure 1 shows that a significantly high percentage of professors agreed that *reading textbooks in English* (Q1.1) was the most important skill in English, followed by *Reading journal articles in English* (Q1.2), while *Writing test answers in English* (Q1.6) was viewed as an important skill by the fewest number of professors. On the other hand, *Carrying on daily conversation in English* (Q1.5) received the highest percentage as the most important skill by both upper (junior & senior students) and Freshmen, followed by *Reading textbooks in English* (Q1.1) for upper classmen and *Understanding class lectures in English* (Q1.4) for freshmen, while *Writing English research papers* (Q1.7) had the lowest percentage. It is interesting to observe that upper class students and freshmen shared a similar view regarding the importance of the seven English language skills whereas the differences between professors and students were evident.

Furthermore, it is found, as shown in Table 1, that the respondents' views on the importance of various English skills considered in this study varied, depending on the academic colleges to which they belong. For example, professors agreed *Reading textbooks in English* (Q1.1) was one of the most important English skills, regardless of the field of study, while students except science majors, both upperclassman and freshman, agreed that *Carrying on daily conversation in English* (Q1.5) was one of the most important English skills. Note that only professors in the College of Business had the same view. In an attempt to investigate the impact of students' English ability level on their views of the importance of various English skills, a graph was constructed. As seen in Figure 2, the top and middle English ability groups with better English skills emphasized the importance of *Understanding class lectures in English* (Q1.4) and *Carrying on daily conversation in English* (Q1.5) represented by increased percentages.

For students in the lower English ability group, *Reading textbooks in English* (Q1.1) was considered as important as *Carrying on daily conversation in English* (Q1.5). *Writing English research papers* (Q1.7) received the least attention by all students regardless of the English ability. Figure 2 also displays the similarities in viewpoints on the importance of English skills among top and middle English ability students in contrast with the lower English ability students. Similar to what is depicted in Figure 2; Figure 3 shows the similarities between the top math and middle math ability students and the differences in viewpoints expressed by lower math ability students. It also shows that students in all math ability levels placed oral communication (Q1.5) in English as most important. This suggests that being able to carry a conversation in English was the most desirable ability to have for a majority of the students. Furthermore, Figure 3 shows that in addition to the skill in English oral communication, students in all three levels of math ability agreed that *Understanding class lectures in English* (Q1.4) was one of the top important skills to acquire. The major differences were in the opinions about other skills. For example, students in the lower math ability group ranked the importance of *Oral presentation in English* (Q1.3) higher than the top or middle group, while students in the top or middle math ability group ranked *Reading textbooks in English* (Q1.1) considerably higher. Obviously, math ability is related to how students view the importance of various English skills.

Finally, less than 23% of students, regardless of their math ability, indicate *Writing English research papers* as important. One may speculate that *writing research papers in English* is not an urgent need for most of the college students in Taiwan. Figure 4 compares the viewpoints on most needed English language skills given by three science ability groups. The ability to communicate orally in English was once again regarded as important by the largest number of students in all three science ability groups. There were striking similarities between Figure 3 and Figure 4 except more students in the top science ability group indicated that *Writing test answers in English* (Q1.6) was also important. Interestingly, these figures showed that the opinions expressed by the three math ability groups were mostly shared by three science groups, respectively.

Finally, several Pearson Chi-square tests were performed to determine if the differences in various percentages discussed earlier were statistically significant. The results confirmed that there were statistically significant differences in the viewpoints of students among colleges (p value < 0.01). While the differences in the viewpoints among students of top English, math, and science ability groups were not significant, students in the lower English, math, and science ability group had quite different opinions from their counterparts (p value <0.01).

In summary, professors and students had differing views regarding the importance of the seven English language skills discussed in this study. While professors felt *Reading textbooks in English* (Q1.1) as the most important skill followed by *Reading journal articles in English* (Q1.2), and *Carrying on daily conversation in English* (Q1.5), students indicated *Carrying on daily conversation in English* (Q1.5*)* as the most desirable English skill followed by *Understanding class lectures in English* (Q1.4) and *Reading textbooks in English* (Q1.1). In addition, Pearson Chi-square tests confirmed that the field of study had a significant impact on professors' views as well as those of students. Interestingly, upper class students and freshmen overall shared a similar view about the importance of the seven English language skills. Furthermore, students in the lower English, math, or science ability group had quite different opinions from the top or middle group. However, there were no significant differences in viewpoints expressed between math and science ability groups.

4.2 Part II: What are the primary problems in English learning for university students perceived by professors and students?

Students are asked to choose the major problems or challenges they face in learning English. There are eight common areas listed for the respondents to choose from. They are: *Limited vocabulary* (Q2.1), *Poor grammar* (Q2.2), *Poor listening comprehension* (Q2.3), *No reading strategies* (Q2.4), *Slow reading speed* (Q2.5), *Poor reading comprehension* (Q2.6), *Poor writing ability* (Q2.7), and *Poor speaking ability* (Q2.8). The percentages of the respondents who checked on the items of specific learning problems are calculated. Data reveals that more than 80% of the professors and equally high percentage of students agreed that *Limited vocabulary* (Q2.1) posed the students' biggest problem in learning English. It is also found that upper classmen and freshmen had very similar opinions about their perceived problems in learning English. The only major difference between students and professors was in the selection of *Poor reading comprehension* (Q2.6); approximately 60% of professors felt that it was a problem compared with 40% of upper classmen and 34% of freshmen having the same view. In addition, it is interesting to observe that *Limited vocabulary* (Q2.1), *Poor writing ability* (Q2.7), and *Poor speaking ability* (Q2.8) were the top three problems expressed by all three groups of respondents: professors, upper classmen, and freshmen.

Concerning the differences in perceived learning problems in students studying English indicated by professors among the five colleges, it was found that they all agreed *Limited vocabulary* (Q2.1) was the most challenging problem, except professors in the College of Design who thought *Poor speaking ability* (Q2.8) was their most pressing problem while limited vocabulary was ranked second in their view. In addition to limited vocabulary, *Poor reading comprehension* (Q2.6) was also considered as a major challenge by science, engineering, and business professors. *Poor speaking ability* (Q2.8) was added as another major problem by professors in business, and *Poor writing ability* (Q2.7) by professors in humanities. Furthermore, Chi-square tests show that there were significant differences in professors' views on problems in learning English among the five colleges (p value <0.02).

Figure 5 shows the comparison of perceived learning problems among three English ability groups. It is evident that there was a decrease in percentages of students who expressed learning problems (Q2.1 to Q2.8) from the lower English ability group to the middle, and then to the top English ability group. That is, students in the lower English ability group experienced more problems in all areas than the middle or the top ability group. Nevertheless, *Limited vocabulary* (Q2.1) was still the number one problem for all students. *Poor writing ability* (Q2.7) and *Poor speaking ability* (Q2.8) remained the major challenges for all three groups of students. *Poor grammar* (Q2.2) was another major concern for the lower English ability group. In addition, Chi-square tests confirmed what is illustrated by Figure 5 that ability in English had a significant impact on the learning problems perceived by students.

Next, comparisons of learning problems among three math ability groups were made. Figure 6 shows that all three math ability groups agreed that *Limited vocabulary* (Q2.1) was the most challenging problem followed by *Poor writing ability* (Q2.7) and *Poor speaking ability* (Q2.8), although the percentages of students who expressed learning problems (Q2.1 to Q2.8) decreased from the top math ability group to the middle, then to the lower math ability group. However, Chi-square tests show that there were no significant differences in viewpoints among three math ability groups, except in the areas of *Poor listening comprehension* (Q2.3), *No reading strategies* (Q2.4) and *Poor reading comprehension* (Q2.6). Students in the top math ability group seemed to have more problems in these three areas.

The perceived problems in learning English were similar among three science ability groups as shown in Figure 7. The percentages of students that indicated that areas of learning problems (Q2.1 to Q2.8) were higher for the top science ability group than for the middle or the lower ability groups, except for *Poor writing ability* (Q2.7) and *Poor speaking ability* (Q2.8) where the lower science ability group showed a higher percentage. However, most of the differences were not significant. Note that Figure 7 is very similar to Figure 6 in pattern as well as in percentages. This suggests that math and science ability groups shared similar opinions in English learning problems.

The results of Part II indicated that *Limited vocabulary* (Q2.1), *Poor writing ability* (Q2.7), and *Poor speaking ability* (Q2.8) were the top three problems expressed by all three groups of respondents: professors, upper classmen, and freshmen. These three learning problems also posed the most challenges for all levels of ability groups. Furthermore, Chi-square tests show that there were significant differences in professors' views among the five colleges. In addition to *Limited vocabulary*, *Poor reading comprehension* was considered as a major problem by professors in science and engineering, while *Poor speaking ability* for professors in design, business, and humanities. But, there was no significant difference between colleges for either upper classes or freshmen. Other important findings were given as follows: top and middle math and science ability groups had similar English learning problems and they had more difficulties than the lower math or science group in most areas. As English teachers become more aware of the problems that students face, they are able to design courses that address these issues. It will in turn make both teaching and learning English more effective.

5. Conclusion

This study is an empirical analysis of EFL students' needs for non-English majors in Taiwan colleges and universities. It has the intention of giving insight to the needs and problems of learning the English language as perceived by professors and students, and of providing a basis for the design of EFL courses to meet those needs and to lessen the problems. The sample of the analysis consists of 4,205 university students and 164 professors in different professional fields at a university in Taiwan. The findings provide evidence that students in different disciplines and at different English ability levels have different English needs in their professions in a rapidly changing modern world. The study also points out that professors have different views compared to students in a number of areas. The professors view *reading textbooks in English* as the most important skill and rank *Reading journal articles in English* as second.

Students of all class status indicate that *Carrying on daily conversation in English* is the most important followed by *reading textbooks in English*. Although there are variations in professors' views among the five colleges, they all agree that *reading textbooks in English* is the most important by a large margin. In addition, the field of study is related to how students view the importance of English skills. It is found that students in the College of Design, the College of Business, and the College of Humanities have similar views, while the opinions expressed by students in the College of Science and the College of Engineering are close. In addition to *Carrying on daily conversation in English*, students in the top or middle English ability rank *Understanding class lectures in English* as the second most important skill; while students in the lower English ability group think *Reading textbooks in English* is almost as important as *Carrying on daily conversation in English.* The viewpoints conveyed by the three math ability groups are similar to that of the three science ability groups, respectively. However, there are differences in needs between the lower group and the top or middle group. Students in the top or middle group think the ability of *Reading textbooks in English* is the second most important need and yet the lower group feels *Understanding class lectures in English* is a greater need for them.

At least 80% of professors and students agree that *Limited vocabulary* is the primary problem for students in English learning. *Poor writing ability* and *poor speaking ability* are also listed as the major learning problems by all respondents. In addition to vocabulary, writing, and speaking, professors recognize that students also have major problems in grammar, listening comprehension and reading comprehension, while students perceive their problems are more in grammar and listening and less in reading. The perceptions of professors in different colleges with respect to their students' English learning problems vary. But, all of them place *Limited vocabulary* as the top major problem, except for professors in the College of Design who perceive *Poor speaking ability* as a more serious problem for their students than *Limited vocabulary.* Students in different colleges have the same opinion concerning their major English learning problems. As is expected, students in the lower English ability group report having more problems than the top or middle English group in all areas of skills (Q2.1 to Q2.8). Students in three math ability groups share very similar opinions with students in three science ability groups regarding their English learning problems. An important observation is that students in the lower math or science ability group experience fewer English learning problems than those students in the middle or top group. This may be a good research issue for the future studies.

From the current study some directions have emerged for EFL teachers in order to better prepare students with specific English skills they can use for their current academic studies and future professional studies. A move away from the traditional teacher-centered teaching style towards a more flexible, learner-centered teaching method is becoming the trend in the second/foreign language teaching field. The results of this study can be used as a reference for EFL teachers to discover the role their students can play in the decision-making process of their curriculum development. The study helps shift the focus of English teachers' attention towards the specific skill-training that is most important for their particular audience, and takes into consideration the limitation of insufficient English class hours during the university education. Consequently, English teachers will be able to design a course with the content that is flexible enough to meet the needs of their students and solid enough to be grounded in what they believe to be worthy principles (Graves, 1996; 2000). Then, the EFL curriculum will accomplish what it intends to do.

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7. Tables and Figures

Figure 1. Comparisons of Views on the Importance of Seven English Skills between Professor, Upper and Fresh
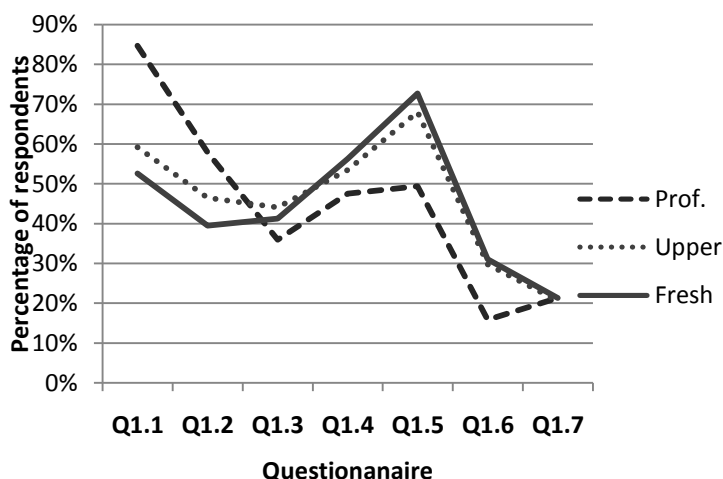
Figure 2. Comparisons of the Viewpoints on Most Needed English Language Skills Given by Three English Ability Groups
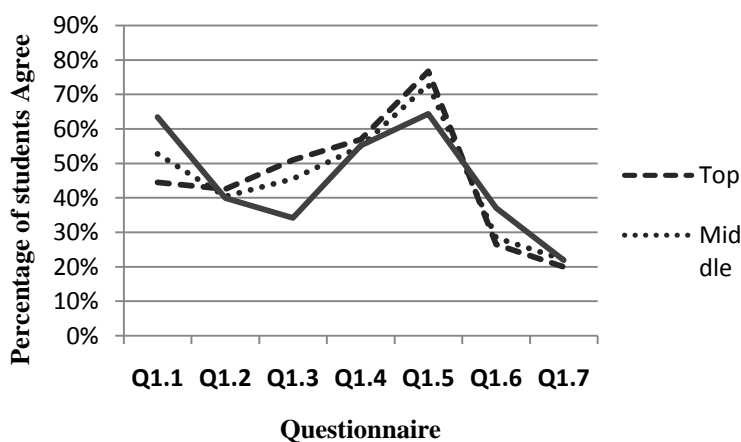
Figure 3. Comparisons of the Viewpoints on Most Needed English Language Skills Given by Three Math Ability Leveling Groups
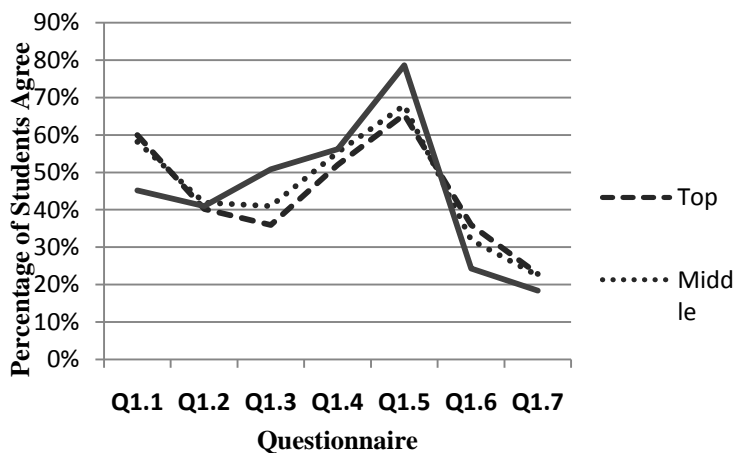
Figure 4. Comparisons of the Viewpoints on Most Needed English Language Skills Given by Three Science Ability Leveling Groups
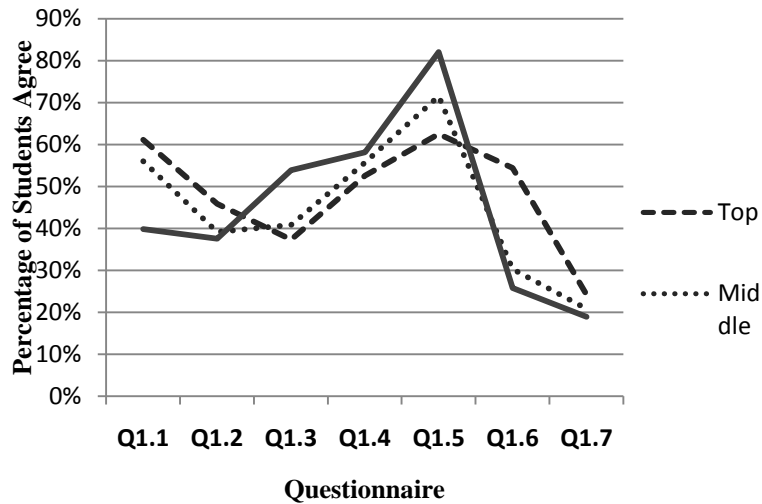

Figure 5. Comparisons of the Viewpoints on Primary Problems in Learning English Given by Three English Ability Leveling Groups
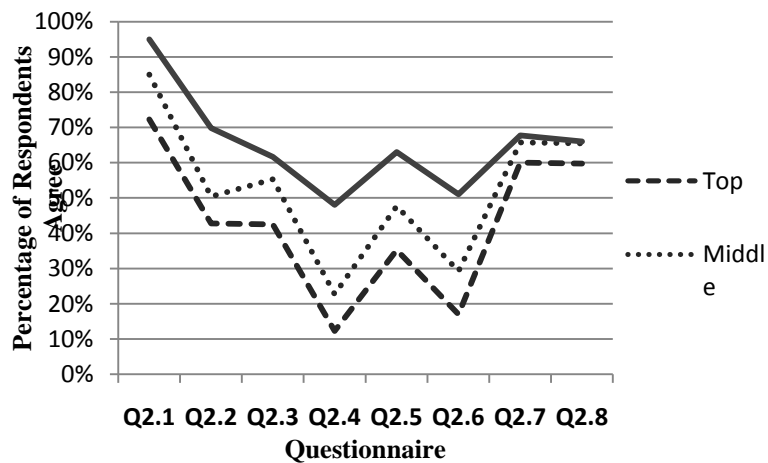

Figure 6. Comparisons of the Viewpoints of Primary Problems in Learning English Given by Three Math Ability Leveling Groups
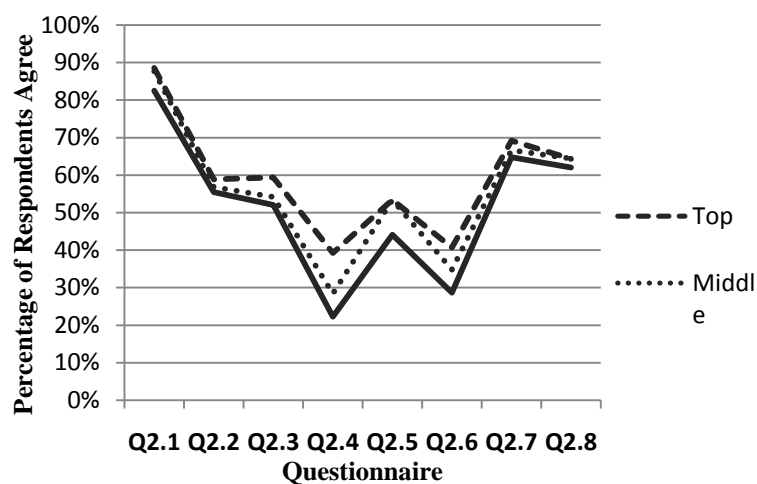
Figure 7. Comparisons of the Viewpoints on Primary Problems in Learning English Given by Three Science Ability Leveling Groups
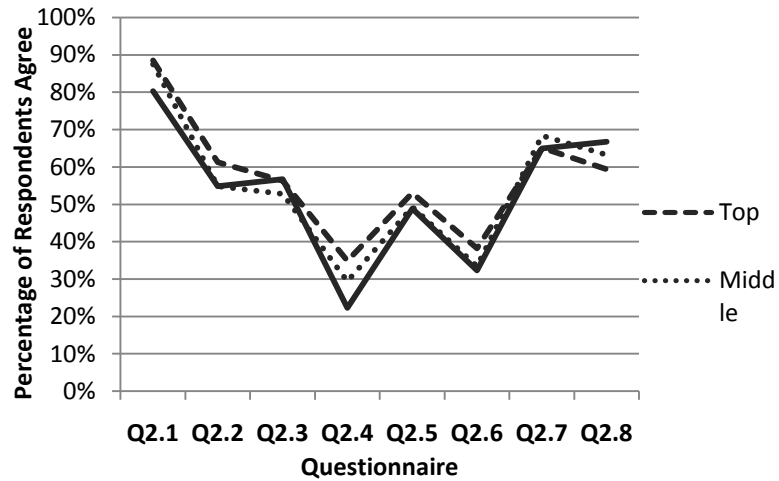

Table 1. Comparisons of Views on the Most Two Important English Skills among Professors, Upperclassman, and Freshman in Five Colleges

	Science	**Engineering**	**Design**	**Business**	**Humanities**
Professor	Q1.1, Q1.2	Q1.1, Q1.2	Q1.1, Q1.4	Q1.1, Q1.5	Q1.1, Q1.3
Upperclassman	Q1.1, Q1.2	Q1.1, Q1.5	Q1.4, Q1.5	Q1.4, Q1.5	Q1.4, Q1.5
Freshman	Q1.1, Q1.5	Q1.1, Q1.5	Q1.2, Q1.5	Q1.4, Q1.5	Q1.4, Q1.5