Academic English Course Design for Non-English Major Undergraduates Based on Needs Analysis

Si Shen

School of Foreign Languages, Harbin Engineering University, Harbin, 150001, China
shensi@hrbeu.edu.cn

Abstract: This paper probes into the feasibility of setting up EAP courses (English for Academic Purpose) for non-English majors in Harbin Engineering University. This study adopts the need analysis model of Hutchinson and Waters, and uses the research methods of questionnaire survey and interview. The research results show that students have strong desire to be offered English course for Academic Purposes, but their current level is not sufficient to cope with academic tasks, and they need systematic training the academic English skills.

Keywords: EAP course; Need analysis; Academic English skills; Non-English major undergraduates

1. Introduction

In recent years, college English teaching, which focuses on the development of common language skills and comprehensive cultural quality, has been criticized for vague teaching objectives, single and impractical teaching modes and methods, and exam-oriented teaching. Under the background of education internationalization and economic globalization, how to keep pace with the times and cultivate inter-disciplinary talents with international competitiveness has been debated in the college English community for several years. Stephen D. Krashen, an American linguist, put forward the input hypothesis, that is, language acquisition depends on meaningful and understandable input, the core of which is the integration of language teaching and subject content [1]. The most ideal condition for foreign language learning is to use the language as a medium for learning subject knowledge [2]. English for Academic Purposes (EAP) can be divided into English for General Academic Purposes (EGAP) and English for Specific Academic Purposes (ESAP). EGAP teaches students how to listen to academic lectures, participate in academic discussions, make academic statements, do academic reading and writing, and it cultivates students' ability to recognize academic language; ESAP is combined with specialized course in teaching content [3]. EGAP focuses on developing English learning skills so that students can use English to learn professional knowledge smoothly in the future; ESAP aims to improve learners' English communication skills within a certain major field [4]. In comparison, EGAP is a general English skill teaching method suitable for the students of all majors, which is a reform of the traditional general English teaching methods. It is also the focus of this paper.

Then how to connect with the high school English to continue to improve students' general English ability with limited hours and enable them to carry out learning and research in their major field and then basic scientific research activities and participate in international science and technology innovation competitions in English, namely "use English to absorb and innovate knowledge, use English for major field communication" is the difficulty of our reform and also a priority [5]. According to the current situation and preliminary practice of our college English teaching, we believe that college English teaching, under the guidance of the framework of "Learning-Using Integrated Principle" advocated by production-oriented approach (POA) [6], should explore the college English reform model with the goal of cultivating academic language competence driven by language output improvement [7].

In order to adapt English courses to the needs of target group students, lay a foundation for English teaching curriculum design, and provide a basis for formulating foreign language teaching curriculum reform plans, it is first necessary to understand the learning needs of teaching objects. This study attempts to discover and summarize the difficulties and needs of non-English major undergraduates in English learning through investigation and analysis, so as to provide a basis for exploring an effective and widely applicable general academic English teaching model for undergraduate students.

2. Research methods and steps

2.1 Survey subjects

This survey selected 652 freshmen to juniors who were not majoring in English as the survey objects. Fifteen students participated in face-to-face interviews.

Among the students who filled out the questionnaire, in terms of gender distribution, there are 554 boys (85%) and 98 girls (15%); in terms of grade distribution, there are 182 (28%) freshmen, sophomores and juniors respectively, 224 (34%) and 330 (51%); In terms of subject distribution, the subjects are basically science and engineering students; among the students participating in the interview, there are 9 male students and 6 female students, accounting for 60% and 40% respectively.

2.2 Investigation methods and steps

This survey adopts a combination of quantitative and qualitative methods, that is, research is carried out through questionnaires and interviews study. The compilation of the questionnaire mainly adopts the needs analysis model of Hutchinson and Waters (1987), and also refers to the description of academic English language skills by Jordan (1997). The questionnaire is divided into three parts with a total of 60 questions. The first part investigates the target needs of students, including knowledge and skill weaknesses, required knowledge and skills and expected knowledge and skills. The second part aims to investigate students' learning needs, that is, their knowledge of academic English. The third part is an open-ended topic, which is intended to understand students' suggestions or ideas on setting up academic English teaching. At the same time, the author calculated the Cronbach coefficient of the scale items in the questionnaire through SPSS 20.0 software to determine the internal reliability of the scale. The higher the Cronbach's coefficient, the stronger the internal consistency of the scale. As shown in Table 1, the coefficients of each part of the questionnaire are higher than 0.8, indicating that this questionnaire has good reliability and high reliability.

Table 1: Questionnaire topic information:

Type of need	Questionnaire components	Cronbach's alpha
Target needs	Shortage of knowledge and skills	0.921
	Required knowledge and skills	0.898
	Expect to learn knowledge and skills	0.910
Learning needs	Attitudes towards Academic English	0.927
Target/learning needs	Suggestions for EAP course	N/A

Interview is another important method used in this survey. There are 4 questions in the interview, which are used to understand the target needs and learning needs of students. The interview questions are: (1) According to your current study need, do you think you need to take an academic English course? (2) If you need to take academic English courses, which skill would you most like to improve? (3) What is your opinion on academic English textbooks? (4) What kind of academic English class do you expect? Interviews were conducted face-to-face. Each interview lasts 10 to 15 minutes. After obtaining the consent of the interviewees, the interview process was recorded. After the information collection, we transcribe it into text, and use content analysis method to classify, analyze and summarize the recording content.

2.3 Findings and Discussion

After the results of the questionnaire and the interview are integrated, they can be divided into the following parts, namely the shortage of knowledge and skills, required knowledge and skills, students' attitudes towards Academic English and suggestions for teaching methods for academic English. Let's discuss the above items one by one.

2.3.1 Shortage, requirements of knowledge and skills

As shown in Table 2, except for academic English reading skills, students feel that they have difficulties in mastering the remaining three skills. This shows that the current overall academic English ability of the students is lacking, and there are deficiencies in various abilities. Among them, writing in academic English is the most difficult. The order of difficulty from high to low is Academic English Writing, Academic English Speaking, Academic English Listening and Academic English Reading.

Table 2: Evaluation of the difficulty level of the four academic English skills

Academic English Skills	Mean score	Standard Deviation
Academic Listening	2.95	0.88
Academic Reading	3.23	0.67
Academic Writing	2.54	0.75
Academic Speaking	2.62	0.89

(1 = very difficult 5 = very easy)

The data shows that students have a low evaluation of their academic English ability and lack confidence in their academic English ability. Most students have weak academic English skills and are deficient in most skills. The overall score of academic English writing skills is significantly lower than the scores of listening, reading and speaking skills, indicating that academic English writing is the most lacking skill of students, which confirms the above conclusion. Students find it most difficult to understand academic lectures and participate in academic discussions. These skills are the skills that students need to improve urgently, and they are also the most important aspects in academic English teaching.

About required knowledge and skills, the results show that, except for a very small number of students (only 3.2%), the vast majority of students have a strong demand for academic English courses. More than half of the students (69.8%) need to read the English literature of this major, listen to academic lectures, and make oral presentations in English. Among them, the greatest demand is to read the English literature of this major, the percentage is as high as 84%. In general, the proportion of students who need academic English listening and reading is greater than the proportion of students who need writing and speaking, which shows that students have more demand for academic English input skills than output skills, and the demand for academic English reading is greater than that of academic English students. The demand is greater than the demand for the other three skills.

2.3.2 Expectation for the academic language knowledge and skills

As shown in Table 3, the average values of the four academic English skills are all higher than 4, indicating that students have a relatively strong willingness to learn these four skills. Although the above results show that students' current input needs are greater than their output needs, the data in Table 3 shows that what students most want to learn at present is academic oral English, an output skill. Academic English listening and reading followed. Academic English writing is the skill that students are least willing to learn. The interview results also showed a strong desire of students to learn academic speaking skills. Among the students interviewed, more than half of the students said that among the four skills, they most want to learn oral English for academic purposes. They generally believe that good oral English skills can enable them to communicate with foreign scholars and students smoothly and enhance their confidence in learning English for academic purposes. However, they lack systematic oral English training and rarely have opportunities to practice oral English. The knowledge that students want to learn is professional English vocabulary, knowledge of academic norms and knowledge of discourse structure, which is what students think they need to learn.

Table 3: Skills and knowledge students want to learn

Skills expected	Category	Mean score	Standard Deviation
Academic English Skills	Academic Listening	4.28	0.72
	Academic Reading	4.21	0.70
	Academic Writing	4.10	0.79
	Academic Speaking	4.31	0.74
Academic English knowledge	Profession Vocabulary	4.15	0.89
	text structure	4.01	0.75
	academic norms	4.11	0.85

(1 = don't like it very much 5 = like it very much)

2.3.3 Attitudes towards academic English courses

Students generally recognized the importance of academic English to their professional studies, believed that they needed to take academic English courses, and had a certain interest in taking such courses. The interview results were consistent with this result. Among the students interviewed in the interview, 11 students think that they need academic English learning and training very much, but they

are worried that it is difficult to understand such courses with their own English level. Although they all recognize the importance of academic English and believe that they need to learn academic English systematically, they lack interest in taking academic English courses because they are worried that their English level will not be able to keep up with the course progress.

2.3.4 Student Suggestions for Academic Courses

First, they demonstrate a willingness to participate in class interaction. The interviewed students believe that the teacher's guidance and feedback can greatly mobilize their enthusiasm for learning English. Secondly, they generally hope to have various, interesting and informative classroom activities, and hope that these activities can help them exercise and improve various skills, especially oral skills and communication skills. Third, they tend to position the academic English course as a skill-drilling course, and they hope that teachers will act as organizers and drive them to practice.

2.4 Summary

Based on the above analysis, this research draws the following conclusions and suggestions:

(1) It is necessary to carry out academic English teaching. The survey results show that the students' current English level cannot meet their needs for academic English, and they lack and need systematic learning and training of academic English skills; at the same time, they fully understand the importance of academic English for professional learning, and they are very interested in participating in There is great interest in such courses. We believe that it is necessary to offer academic English courses to meet the needs of students for academic English.

(2) Academic English teaching should help students practice oral English skills through various classroom activities. The student demonstrates a strong desire to learn speaking skills. In addition, they hope to improve their academic English skills by participating in interesting and informative classroom activities. Therefore, academic English teaching should create a "learner-centered" classroom, guide and encourage students to participate in classroom interaction, and provide students with as many speaking opportunities as possible.

(3) The academic English class should introduce a large number of high-quality real language materials, including reading materials and listening materials. On the one hand, it can help students increase vocabulary input and acquire vocabulary in a real context; on the other hand, it can help students understand, analyze and use discourse through genre teaching methods, so that students are familiar with and master academic norms and discourse structure Knowledge.

3. Discussion and Conclusion

On the course setting based on the results, we believe that the course should be best started at undergraduate level and progress from EGAP (General English for Academic Purposes) to EAP (English for Academic Purposes). The course places more emphasis on skills training, followed by language knowledge teaching. Students are trained through individual academic language skills such as listening, speaking, reading and writing. Since learners have generally recognized learning activities based on the Internet, we believe that a hybrid teaching mode combining online and offline can be adopted. Courses can also be taught in grades, divided into intermediate and advanced according to the level of learners, so that students can choose the most suitable course according to their English level, so as to have the choice of advanced learning and stronger learning motivation.

On the content, the EAP courses should be closely related to the learning content of professional courses in each semester and kept updated. On the basic stage, the training materials could be the popular science articles and listening materials or choosing textbooks, whose articles are selected from foreign authoritative journals and websites in recent years, with moderate difficulty, scientificity, research significance, critical thinking, and humanity. Under the guidance of the "Learning-Using Integrated Principle" in production-oriented approach (POA) proposed by Professor Wen, we set the EAP skills in each unit as the training objectives and the reading articles in each unit as the miniature academic papers [8]. Teachers guide students to observe the structure of the academic articles and summarize the language characteristics, that is to say, attach importance to summing up the rules so that students can learn by themselves in the future.

On the training and learning strategies, importance should be attached to the imported learning, but drive it with clear input and output tasks as the ultimate goal to avoid inefficient and aimless reading and

listening training. In EAP teaching, research-oriented teaching methods such as task-based teaching method, project-driven teaching method and data-driven teaching method can be adopted. Throughout the whole class, teachers only guide students to explore and actively build a new knowledge system, and students' study and research independently without teachers' spoon-feeding teaching. By setting up the clear tasks, teachers guide students to query materials, read major literature and summarize them in the library, and complete the planning, discussion and other tasks with their group members. In the whole learning process, teachers are always the coordinator of learning. In addition to timely feedback in class and after class, teachers can also make full use of SPOC, WeChat groups and QQ groups to establish an online mutual learning mechanism, like organizing students to conduct activities such as theme-based academic reading discussions, homework discussions, online presentations.

There are still some limitations. The number of samples is insufficient. Some dimensions are not reflected in the questionnaire, such as the assessment mode the course. Considering the role of the Internet and mobile terminals in learners' daily learning, researchers should conduct more surveys of learners' needs for online EAP courses, and conduct qualitative analysis of students' needs through interviews and other research methods. In addition, follow-up research needs to further explore the teaching content and form design, teaching activities and attitudes, and teaching evaluation of EAP courses.

Data Availability Statement

The data used to support the findings of this study are available from the corresponding author upon request.

Conflict of Interest

The authors declare that they have no competing interests.

Author Contributions

The author confirms being the sole contributor of this work and has approved it for publication.

Acknowledgement

References

[1] Krashen S. D. Input hypothesis: issues and implications. New York: Longman, 1985.

[2] Stryker S. B. & Leaver B. L. Content-based Instruction in Foreign Language Education. Washington: Georgetown University Press, 1997.

[3] Cai J. G. A study of CET orientation against the background of the internationalization of higher education. Journal of Foreign Languages, 2012, (1), 69-76.

[4] Shan S J. ESP Teaching Research: Theory and Practice. Zhejiang University press, 2012.

[5] Cai J. G. The development and description of China's first guidance document for teaching English in universities oriented to academic English. Theory and Practice for English Language Teaching, 2012, (4), 1-9.

[6] Wen Q F. Construction of "production-oriented approach" theoretical system. Foreign Language Teaching and Research, 2015, 47(4), 547-558.

[7] Cai J. G. Challenges and subversions of foreign language teaching concepts in higher education: the case of the guide to teaching English at university. Foreign Language Education, 2017, 38(1), 6-10.

[8] Wen Q F. Construction of "production-oriented approach" theoretical system. Foreign Language Teaching and Research, 2015, 47(4), 547-558.