

The development of ESP curriculum: A case study of an academic writing and presentation course for graduate students of science in Japan

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本論文は日本の理工系大学の大学院生のためのESP中心のアカデミックライティングとアカデミックプレゼンテーション・コースの開発の報告です。具体的に、TESOLの分野におけるESPの定義、case study のESPのアカデミックライティングとアカデミックプレゼンテーション・コースの開発の目的とcase study のコースの開発の内容についての報告です。

To some English language professionals, ESP is a debatable concept. Is it necessary? Who will teach the ESP type of courses? How much of students' specialized subjects should be built into these courses? What will happen if English teachers cannot handle the content of students' majors? Why can't students learn by themselves? These questions pose important issues that must be discussed and answered before any ESP programs or courses can be designed.

ESP stands for English for Specific Purposes and is an approach to teaching and learning the English language for specialized subjects or disciplines (usually for non-English-major students) with specific vocational and academic needs/purposes in mind and/or evident in curricula. ESP type of language courses are designed to meet the different purposes and needs of learners of English language, e.g. English for Science, English for Engineers, English for Economics and English for Business. According to Dudley-

Evans and St. John (1998), ESP has the following characteristics:

Absolute characteristics

1. ESP is defined to meet specific needs of the learners.
2. ESP makes use of underlying methodology and activities of the discipline it serves.
3. ESP is centered on the language appropriate to these activities in terms of grammar, lexis, register, study skills, discourse and genre.

Variable characteristics

1. ESP may be related to or designed for specific disciplines.
2. ESP may use, in specific teaching situations, a different methodology from that of General English.
3. ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could, however, be for learners at secondary school level.
4. ESP is generally designed for intermediate or advanced students.
5. Most ESP courses assume some basic knowledge of the language systems.

ESP is not a new area of research in the teaching of English language (Holden 1977; Hutchinson and Waters 1987). The research on ESP is said to have started around 1960s as a reaction to the traditional approach to the teaching of the English language based on literature. The ESP

approach to teaching offered more practical perspectives on course design, pedagogies, genre-specific registers, etc. It is considered to be a learner-centered approach because all decisions as to content and method are based on the learners' reasons for learning (Hutchinson and Waters 1987). Generally, the development of ESP went through four phases: register analysis, rhetoric discourse analysis, skills analysis and needs analysis. There are three types of ESP: English as a restricted language (e.g. language used by a telephone operator or a tourist guide), English for Academic and Occupational Purposes (e.g. English for science and technology, English for business), English with Specific Topics. (e.g. English for different situations and topics) (Carter 1983).

Recent years saw a great increase in both practice by English language teachers and research reported in Japan (Terauchi 2001, Orr 2002) and internationally (Johns and Dudley-Evans 1993; Dudley-Evans and St. John 1998; Swales and Feak 1994, 2000; Bloor 2002). These research (and more) provides ESP community with pertinent theoretical support and the insights for curriculum development.

The author of this paper teaches English to students who major in science, engineering, information and communication at a Japanese university of science and technology. It is her observation that Japanese students who major in science and engineering are amongst those English learners who need to use English or to function in English in realistic environment the most both before and after graduation. For example, more and more professors in science and engineering use English materials in their classes

and/or conduct their subjects in English altogether. Some of them ask students to discuss in English in lab seminars and/or to make presentations in English at international conferences especially for graduate school students. As Japan needs more international students than before, English is not only a research language but also a communicative language in academic environments. Such needs can only be met by courses that are created based on clear understanding of ESP-oriented curriculum design and sufficient understanding of students' fields. This paper reports a case study of an ESP-oriented course for graduate students majoring in science at a Japanese university and discusses that issues involved in the process of ESP curriculum design. Through this case study, it is the hope of the author that more attention could be given to the principles and practice of ESP at Japanese universities.

Methods

This case study reports the development of a course called "Academic Writing and Presentation" offered to graduate students at the Graduate School of Science and Engineering of Tokyo Institute of Technology (東京工業大学大学院理学系理工学研究科物性物理学) in Fall, 2003. This course was the first English language program and the first credited courses for the graduate school of this department.

This course was proposed to the author (teaching at a different university at the time) by the Graduate School of Science and Engineering of Tokyo Institute of Technology (TIT) in Fall, 2002. The main purpose of setting up this component was to improve the English abilities of the Japanese graduate students in terms of academic writing

(writing academic papers in English for publications) and academic presentations (required of them in their study and research at the graduate school and at academic conferences both in Japan and overseas. After rounds of discussions with the TIT professor in charge of the curriculum in 2002, a tentative framework of the first course (Course 1) had been drafted which was then updated and revised after the needs analysis conducted with the students at the beginning of the course in 2003.

"Academic Writing and Presentation" (2003) was the first course in the component of the academic English focusing on both academic writing and academic presentation. It was a regular elective course of 2 credits for both the master's and doctoral students at the graduate school. It was a one-semester (half a year) course in the fall semester of 2003. The class was conducted once a week for 90 minutes. 22 students enrolled in this course. The course was open to students who had had little or no prior experience with academic writing and presentation in English. Before the course was designed, the writer who was also the teacher of the courses conducted a series of discussions and interviews with the professor in charge of the curriculum for the department (Professor S) one year before the course commencement. The following issues were discussed:

- The requirements of the Graduate School in terms of students' performance in English
- The level of students' English proficiency
- Pre-course survey with potential students on their needs of and experience with academic presentations

- Analysis of the survey and discussion with the science professor in charge of the coordination of the component in the Graduate School
- ESP methodology and pedagogy: finding the appropriate approaches for the target students
- Students' fields of research and genres of writing and presentation: textbooks, international journals, academic books (especially recommended by similar courses offered in overseas universities, and video data
- The experience of other ESP teachers (there was a course on technical English taught by a Japanese translator of technical English)
- Variety of presentation genres: reporting in small groups, formal presentation in front of a fairly large audience using power point, short presentation using OHP
- De-emphasis on grammar and vocabulary but focus on communication and self-correction
- Maximizing students' cognitive and critical thinking abilities
- Incorporation of cooperative education principles: student participation in the process of evaluation: peer reviews/feedback and evaluation

Based on the information gathered through the above-mentioned discussions and the reading materials of the authentic textbooks and journals, a course description and a tentative syllabus was drafted before the course and was approved. A general description of the course design is as follows:

1. Choices of teaching methodologies and pedagogy:

- Main frame: task/project-oriented
- Emphasis on hands-on and autonomous learning
- Integration of language skills (Speaking, Listening, Reading and Writing)
- Introduction of academic study strategies/skills, e.g. small group discussion, presentation in small seminars, group presentation, individual presentation, QA session management, and autonomous research

2. Medium of instruction:

- In-class: aimed at 100% of English. However difficult technical terms were translated into Japanese for better understanding
- Outside of class:
Spoken: around 70% English and 30% Japanese
Written: 100% English in emailing and class BBS (class homepage) and when commenting on their written works.

3. Teaching materials:

As the course was designed to be an ESP type of course for physics majors at the graduate school level, the choices of teaching materials became rather difficult to make due to the mismatched levels of students' abilities in English (being rather basic in general speaking and presentations) and in their research (being advanced in their fields). The

final decisions were delayed until after the needs survey conducted during the first class of the course. In the survey, students were asked to indicate their abilities of English in both speaking and writing in general, in their past experiences in presentations of any forms and publications in English. Students also wrote their perspectives of their needs in English and problems that they were experiencing with using English. In addition, students were required to write a short essay on a given topic. Based on the data of the survey, the following decisions regarding the choices of teaching materials were made:

- No fixed and commercial course books or textbooks would be used.
- Students were encouraged to bring the academic papers or journal articles that they were studying to class. Though the students in Course 1 were from the same department of physics, they were engaged in different research areas. Therefore, it would not be sensible to select any one authentic article for all to study in class. Moreover, the structures of the academic articles in physics were divided into largely two types: experimental and theoretical. The two types had different generic organizations and genre-specific writing styles. Having students bring their own choices of articles helped cover all the needs of students within limited time in class.
- Authentic materials published in English-speaking countries were used.
- Emphasis on the use of reference books written by scientists for researchers and scientist: manuals, handbooks, dos-and-don'ts type of books. None of the materials were simplified for Course 1.
- Books written by specialized ESP writers in both Japanese and English were introduced.
- Audio-video samples of presentations were frequently shown in class. Videos of presentations of students in Course 1 were also used as teaching materials for self and class analysis.
- Teaching materials written by the teacher were used.

4. Evaluation of students and student assessment:

The evaluation of students was mainly based on their achievements in the various presentations they did during the course and their paper assignment. Students' individual achievements were given more consideration than the cross-reference considerations. As the course incorporated some of the principles of cooperative education, students were also given the consideration of their support for other students and performance in group activities. For example, students were asked to evaluate all other students' presentations using the "peer evaluation sheets" designed by the teacher.

Their evaluation was graded not for the presenters but for the evaluators. In other words, students would get positive points for themselves if they evaluated other students seriously. Students' comments on peers' paper drafts were also given similar consideration. As the teacher assigned several writing tasks for the class BBS (Bulletin Board

System or a class homepage), students were also evaluated for their writing in the BBS. At the end of the course, students were given opportunities to evaluate themselves in terms of their achievements and efforts on the end-of-course survey (see 5 below). Attendance was not used as an important factor as graduate students' schedule was often interrupted by job interviews and academic conferences.

5. Evaluation of the course and the teacher:

First of all, the teacher gathered students' feedback on the course continuously during the course through BBS assignments and talking with students after class. Student feedback and opinions were used to modify the course content, teaching materials, pedagogical techniques and the amount of homework assignments throughout the course. At the end of the course, the teacher used an end-of-course survey devised by the teacher as course evaluation as there were no requirements to evaluate the course by the university. The survey had three sections: course evaluation (which contained major elements of the syllabus, e.g. content, types of presentation, topics, skills/strategies, readings and activities), teacher evaluation (which focused on the general performances of the teacher as a professional), and students' self-evaluation, e.g. their perspectives of their achievements in various aspects and their efforts made during the term. Students' suggestions for future courses were also encouraged. The results of the survey were collated and sent back to the students as final step of the feedback process adopted by the teacher.

Results

Course 1 was a new and the first course of such nature at the Graduate School. The enrollment was open to all students and not restricted based on past experience or abilities. The class gathered students with various levels of English proficiencies and competences in writing and presentation. In general, the course was a success with its primary goals fully achieved. The students enrolled were able to demonstrate their improvements in both writing and presentations individually. Despite the fact that these graduate school students had a very busy schedule, their attendance was more than satisfactory. During the term, some students had to take trips overseas to make presentations at international conferences. Later, they reported that they were able to make use of what they had learned in class for their presentations, especially organization of their presentation, genre-specific language expressions and handling questions from audience.

Specifically, students made good achievements in the academic writing component in the following areas: organization/structure of academic papers in their own fields (i.e. theoretical, experimental and reviews), the understanding of differences between general English and English for academic and/or science purposes, outlining, peer-editing and documentation. In addition, students showed excellent improvements in discussion and presentation components. They learned how to conduct academic discussions in small groups as a regular classroom-based activity as well as a part of a seminar and demonstrated better abilities in speaking up, questioning and reporting to a small audience. Moreover, most of them were able to make satisfactory formal presentations using

OHP and power point. The quality of their organization, slides, language expressions and QA (questions and answers) showed tremendous improvements. Above all, it should be noted that students' motivation of using English for papers and presentations and competences of analysis of new English materials were noticeably better than the beginning of the course.

In students' evaluation of the course, some mentioned that hands-on type of activities in class were a rare experience for them as they had not experienced it in high school and undergraduate studies. They appreciated individual time allocated for their presentations and teacher-student conferences on their writing. Some of them indicated that one of the most surprising changes in them was the change in their way of learning. The frequent peer and self evaluations of their writing and presentations helped cultivate their abilities of autonomous learning. In addition, the cooperative-learning principles adopted in the course trained students to become better communicators of English and team workers: two important qualities of researchers and engineers.

Discussion

This paper outlined a successful case study in the area of ESP for English language education and should be able to help answer some of the concerns and questions that some English teachers have on the necessity and pedagogy of ESP. Courses such as this one are in great need in the field of English language education to students who study English in any fields. However, the students in the case study did not have any opportunities to study academic skills such

as discussion, presentation and writing in both high school and undergraduate studies realized that those were the needs that they faced everyday. As some students wrote in their feedback, they could manage the reading by themselves in their own time, but they could not do the same thing for presentations and writing without teachers' support. To make things worse for such students, the science professors were generally too busy to help students on these skills.

In other words, graduate students were expected to be able function in English independently after they entered the graduate school, which was a difficult task for students who had never had experience before. From the students' feedback and evaluation of the course, it was clear that they desired more of this kind of language support and training because they felt that need of all the skills that they learned from the course. This case study shows that it is necessary to incorporate ESP elements in English language curricula in order to provide appropriate support for student with specific needs for academic study and research. Successful course development depends on the open-mindedness of English professionals and the correct understanding of the principles of ESP as pedagogy and philosophy of education.

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