

工学における専門英語教育

— どのようなアプローチが必要か —

Proposal for English Teaching in Engineering

- What worked and didn't work -

○大谷 マーシャ^{*1} 大谷 吉生^{*1}
Marcia OTANI, Yoshio OTANI

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1. Introduction

With English being used more and more as a universal language it is becoming necessary for students whose native language is not English to learn the language. Many institutes of higher education and the business world look for those who have knowledge of the English language so that they can compete at an international level. Prior to entering college, students in Japan have studied English for at least 6 years. This will soon change to 12 years since English is now required at the primary school level. At Kanazawa university students have been exposed to English for at least 7.5 years before they enter my class yet the level of English is very low. I have been teaching at the university as a part-time lecturer for several years in Mechanical Engineering, Chemical Engineering as well as Faculty of Science.

The attempts and outcomes are reported in this paper on improving Students' English ability.

2. Methods and Classes

We conducted a self-evaluation of the students at the start of three classes (total number of students: 130). Depending on the results, we introduced various materials for English study. At the end of the classes, self-evaluation was conducted once more to see the outcome of students.

3. Results and Discussion

Figure 1 shows the result of the self-evaluation. The evaluation was conducted anonymously therefore the students were able to honestly evaluate their levels. We are surprised by the low level of English comprehension according to their own evaluation. Most students have problems with my introduction, and when asked to give a self introduction the best they manage are their names,

^{*1} 金沢大学自然科学研究科物質科学専攻

hobbies and where they live. I wish that I could say this is a unique situation but it is not. Speaking is not an area where they feel comfortable, as shown in Figure 1. When I first started, I felt that complete immersion would be best; the class being done only in English, but after my name and an explanation of the syllabus there were too many blank faces. It is understandable since most students rate their listening skills as bad-poor. Immersion would not work, how can a class be conducted when students do not understand?

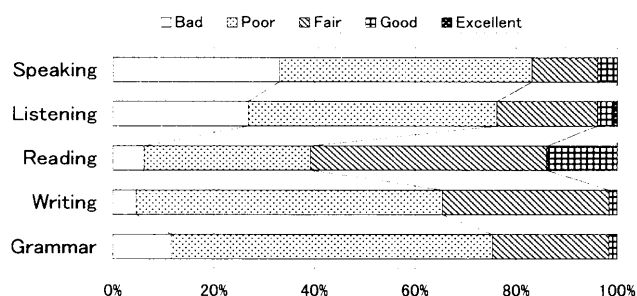


Figure 1 Student self-evaluation at the start of class (total number of students:130)

When we attempted a class on grammar it was very difficult since student needs were so different, it was boring and doing what most say they disliked about English. Also since grammar is stressed in the school system those who understand it feel comfortable while those who were unable to learn it back then are very uncomfortable and tend to tune out of the lecture.

Asking students to write proposes a completely different problem. We used to get assignments that were written primarily with a dictionary. A number of students wrote what they wanted to say, first in Japanese, then looked up the words and wrote them down and turned it in forgetting that Japanese grammar is different from English grammar. The meaning is literally lost in the translation.

Since this happens in each class I have asked students to use words that they know. The results... something a junior high school student might write.

Reading English seems to be the skill that most students are comfortable with. In this area they are able to look up words that they do not understand. The problem lies when you ask them to read in class, there is not enough time to look up words that they are not familiar with. There is also the problem of actually understanding what they read, since they are unfamiliar with words that have multiple meanings they are not able to put it into the right context.

Listening is a major problem. The opportunity for most students does not exist. We tried using taped lectures but they were either too fast or too slow. Accents that vary within a short dialogue make it difficult for an average student to follow. Using tapes or CDs is very difficult.

Using English is not an opportunity that students have. It is important in communication but most students are unable to express themselves. Answering a simple question becomes a very big task for most. The problem is there can be no communication if one does not speak.

Since there is a lack of general English knowledge teaching technical English is out of the question. If the students are able to use general English technical English should pose very few problems.

Our class is divided into listening, grammar and writing, discussion, presentation and trivia quizzes or word games. In order to improve listening skills we read a short lecture twice and have students answer questions after each one. The students correct their papers in class so if they have questions they may ask them. We found that if a topic is something that they have studied in Japanese or is general knowledge they have a tendency to do well. We have started changing the listening to what I feel are problem areas such as numbers, words that are similar in sound, etc. Since these are things that occur in normal conversations.

For grammar and writing we talk about commonly made mistakes as well as those made on writing assignments. After a writing assignment we make corrections and suggestions for writing and return them to the students. During class we pick prevalent mistakes and if necessary work on grammar points.

The class is divided into discussion groups, with 5~7 students in a group, where they work on a discussion topic that is assigned and answer questions that are posed to them. Each topic is given out to them prior to the week of discussion then worked on for 2~3 weeks in class and then presented in English. The presentation can be made by

everyone in the group or by a single person who has been chosen to represent the group. The objective is to use English as much as possible in the small group as well as in class. After a presentation questions are asked by other members of the class and answered by the group that made the presentation.

Near the end of class we play trivia and word games. I read a trivia question twice, the team has 30 seconds to answer, if correct they score points and if incorrect another team gets a chance at the question. They are allowed to answer as many times as they wish in 30 seconds. Word games rely on the meaning of a given word or word searches. This game time makes students listen in order to answer the questions and since it uses variations in vocabulary it makes students try to find key words in the questions or to find words that they understand in order to score points for their team. Sometimes they are unable to understand the question at all, or they manage to pick parts of the question and attempt to answer or understanding the question but not knowing the answer. They are not allowed to answer in Japanese or use a dictionary at this time so sometimes although they know the answer they are not able to score because they cannot give the answer in English.

4. Conclusion

At the end of the semester the students felt that they were able to improve their listening skills and that they used a lot of English during class. The trivia questions were well received and they admitted that it was challenging for them yet once they were able to listen for the main parts of the questions they had more time to search for an answer.

The students admit that at first they were embarrassed at having to do presentations in English but after a few times they were more comfortable.

Whereas a number of students admit to not liking English there are a number of students who change their minds by the end of class and say that they would like to study more and that my approach was very different from other English classes that they have taken and therefore feel that they need to study more so that they can have fun with English. We strongly feel that rather than Technical English an emphasis should be put on English as a communication tool and that once these skills are mastered the students will be able to use the technical terms properly. This way should the student have an opportunity to make a presentation in English they will be able to field questions better and communicate with other foreigners in various situations in which they may find themselves.