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- PRINTABLE VERSION
- HELP & FAQs

# Presentations in the Technical English Classroom

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*A series of techniques for organizing effective poster presentation sessions for the Technical English classroom is explained. The use of PowerPoint presentation software with the use of hand-made posters is also compared.*

この発表会では、工業英語の授業のための有効なポスター提示セッションを行う技術が説明されました。それで、ハンドメイドポスターの使用とPowerPointのプレゼンテーションソフトの使用を比較されました。

## Introduction

In an effort to keep up with innovations in both technology and education, foreign language education is changing at technical universities around Japan. For many universities, introducing technical English (TE) into the curriculum was an initial first step in satisfying the specific language needs of technical students. Technical English (TE) is a course aimed at students who will use English for technologically specific purposes in their future careers. It was introduced into the curriculum to fulfill the specific language needs of engineers and other people who work or plan to work in technical professions.

However, there is still considerable confusion about the content or methodology that is most suitable for TE. In TE, students must learn specific technical vocabulary and language usage while continuing to develop their general English skills. Many teachers focus on new technical vocabulary and base their classes primarily on memorization and comprehensive testing. While there is a clear value in these methods for developing reading and translation skills, they are not sufficient for teaching the wider range of communication skills that have been found to be necessary for the engineer or scientist in today's complex information technology fields.

As Widdowson (1998) points out, an important feature of communicative language teaching is its focus on learning language through language use, preferably in realistic situations where students feel a *need* to use English. One method of providing this need is through project-work. As an example of project-work, each year we organize poster presentation sessions with two groups of TE students. Earlier research such as Furmanovsky & Sheffner (1997) provided a good precedent for the use of posters in content-based instruction. Some of our own

earlier work in this area is reported in Cullen & Pudwill (2002). In particular, this earlier paper places poster presentations in the context of task-based learning, an important influence on project-work.

Out of the many possible kinds of project work, we chose poster presentations because we felt that the ability to give a presentation is a particularly important skill for engineering students to acquire. Both of us have engineering backgrounds, and we realize that effectively presenting ideas orally to superiors, colleagues or potential customers is vital for engineers. Engineers are often asked to give technical explanations on product design or manufacturing processes. Therefore, it is vital for Japanese universities to teach research and presentation skills, so that future Japanese engineers can successfully represent their companies when explaining their designs and products, and working in international teams. This increasing need for an international outlook is well exemplified by the English-only policy adopted at Nissan Motors. Because of the international makeup of the company staff, English has been adopted as the main language for meetings and presentations.

We teach second year students at Nagoya Institute of Technology, a university consisting solely of engineering students. In their first year, they have all completed a general English course with an emphasis on technical topics (Cullen, 2002). There is an average of 35 students in each technical English class. In the following sections, we explain the procedures, which we have found to be effective in facilitating good presentations.

## Choosing a Suitable Presentation Topic

Choosing a topic is often difficult for students. Students in master or doctorate courses usually have a clear idea of their own research area, but students in the second year of a technical university are often not yet familiar enough with their specialization to choose an appropriate area. We provide two guidelines to students to help them choose an appropriate topic. First, the topic should answer one of the two questions; *“How does a \_\_\_\_\_ work?”* or *“How is \_\_\_\_\_ made?”* Second, the scope of the topic should be kept specific, so that it can be explained in detail. For example, “How does a computer work?” is too general. There are too many parts functioning in a computer. A better choice of topic would be, “How does a computer mouse work?” or “How are computer memory chips made?” It is important to check student topics at an early stage in the process to ensure that they remain highly specific.

## Student-generated Materials

We require each group to prepare three items before the presentation. The first two, a speech outline and a poster, are aids for the presenter. The third, a worksheet, aims to ensure that the other students in the class are paying full attention to the presentation.

## The Speech Outline

After researching the topic, students need to plan their presentation. Many students will write out their speech in full. This may be helpful for some learners and provides an opportunity for the teacher to provide feedback to improve accuracy. However, the teacher should emphasize that students should communicate in their own words

rather than reading from a paper that comes from a book or the Internet. To ensure they do not read, we have students prepare an outline of their presentation. In the presentation, they may only refer to their outline, and, thereby, are much more likely to avoid reading and instead interact with the poster, using it as a point of reference.

## The Poster

The poster should be clearly visible from anywhere in the classroom. A2 size or bigger is suitable. A2 is the size of four A4 pages together. Some examples of our students' posters can be viewed on the Internet at the URL given in the references below. A well-designed poster should have the presentation title written in large letters at the top. It should also contain two or three diagrams or pictures, and a few key words. There should not be a lot of text on the poster because this can lead the presenter and listener to read directly from the posters as if reading aloud from a book and it does not encourage the speaker or listener to communicate orally. Many Japanese students are good at drawing, and it is good to get them to use this skill. Hand-drawn diagrams have less detail, which allows the presenters to focus on the important points. In addition, the physical act of drawing the diagram forces the students to understand the topic more fully.

## The Worksheet

One of the most common sights in EFL presentations is one student presenting at the front of the class while the other students practice their own presentations, chat, or simply stare into space. This is potentially an even more serious problem in technical presentations, which include difficult concepts and technical vocabulary. Other students may find it difficult to understand the content of the presentation. Although, the poster

provides good visual clues of the content, presenters must also produce a worksheet, which checks whether the other students understood their presentation. An extract from a student worksheet is shown in Figure 1.

### Figure 1: How to make a Pet Bottle

1. Why we make it a test tube first?
2. What is the original form of a pet bottle (picture 1)?  
[more questions cut]
10. Why we call it pet bottle?  
実験管 :Test tube  
[more keywords cut]

The topic of the presentation is written at the top. Key words from the presentation, along with their translations, are given. Ten wh-questions are also given. As the groups are researching their topic, questions and difficult words will arise. These are the questions and key words that should be included in their worksheets. Each group copies the worksheets and hands them out to the other students in the class. The other students then answer the ten wh-questions on the worksheets during the presentations.

## Schedule

We generally spend three to four weeks on the poster presentation project. If the research element was reduced, the time frame could be shortened. In some courses, it might be more suitable to carry out a number of shorter projects rather than one long one.

## Week one

We like to show a video of a poster presentation from a previous year to introduce the concept to our students. Furthermore, by selecting the best one each year, it is possible to progressively raise standards. We then ask students to form groups and to brainstorm a good topic. If your students are taking too much time to decide a topic, demonstrate a brainstorming session on the blackboard. Be sure to approve each group's topic before they proceed with their research. This assures that the groups stay topic specific. After approving the topic, have groups begin their research and discuss the details of their topic, preferably in English. At the end of class, tell students to bring materials to create their poster in the following week. These include paper and magic markers. For homework, students should research the topic more thoroughly on the Internet or in the library.

## Week two

Research should be carried out as homework as much as possible, but we hold the second class in a room with Internet access so that groups can continue gathering information. After students have identified the important points that they wish to present, they write an outline and draw simple, appropriate diagrams. In this class, we circulate between groups to offer advice or answer any questions they have. It is important to ensure that students understand the idea of an outline (i.e. its note-like format).

## Week three

Before beginning the presentation, allow students a few minutes to practice their presentation to other members of their group. In

addition, asking students to silently practice their presentation in their heads dramatically improves performance. Lack of practice is the single biggest problem in presentation. Students hand out the worksheets that they have copied prior to giving presentations.

Next, have groups present their topic in front of the entire class one group at a time. This gives each presenter experience speaking to a large audience, and the other students in the audience can begin to understand the other groups' topics. In our classes, group presentations last about six minutes. Each member of the group is required to have approximately equal speaking time in the speech. After the presentation, you can ask the group to collect their worksheets from the students, check the answers and give a score to the other students.

## Week four

In the fourth week, the classroom is turned into an exhibition hall. Groups stick their posters up on the walls and blackboards of the classroom. In this manner, all groups exhibit their poster in a less formal setting. We cut the exhibition into two 45-minute halves. In the first half, two students from each group circulate to the other groups to listen to explanations, ask questions from the worksheets or other questions. The other two students stay to answer questions about their group's topic. After 45 minutes the roles are reversed.

## Using PowerPoint

An alternative to using handmade posters is to use the popular presentation software program, PowerPoint. A detailed description of using PowerPoint for making presentations in English classes is given in Peterson (1999). Engineering students

are generally proficient with computers, so they need very little explicit instruction in its use. Instructions will depend on your teaching situation, but here is an example of a set of instructions that we have given:

1. Research your topic on the Internet.
2. Prepare a presentation outline.
3. Open PowerPoint and set up one slide for each item in your outline.
4. Prepare an appropriate photograph or drawing for each slide.
5. Practice giving your presentation in small groups.
6. Record your presentation in PowerPoint.
7. Submit it to your teacher.

You will probably also want to ask one or more students to present in front of the whole class. In this example, students record their presentations directly into PowerPoint. At the lowest sound quality setting (8 KB/sec), this is a feasible option on modern large hard discs. Alternatively, you could ask students to simply use PowerPoint as a presentation aid and to only give the presentation to other students.

## Conclusion

The conflict between the need to develop good communicative skills and to develop the specialized language of technical English creates a challenge for the teacher. It is important to establish a good balance between these two goals. In our experience, a project such as this poster presentation session provides many learning opportunities within a framework of learner autonomy.

## Note

Examples of student presentations using both posters and PowerPoint can be obtained on request from the authors.

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