Aspects of designing an English for Science and Technology (EST) course in non-English speaking countries

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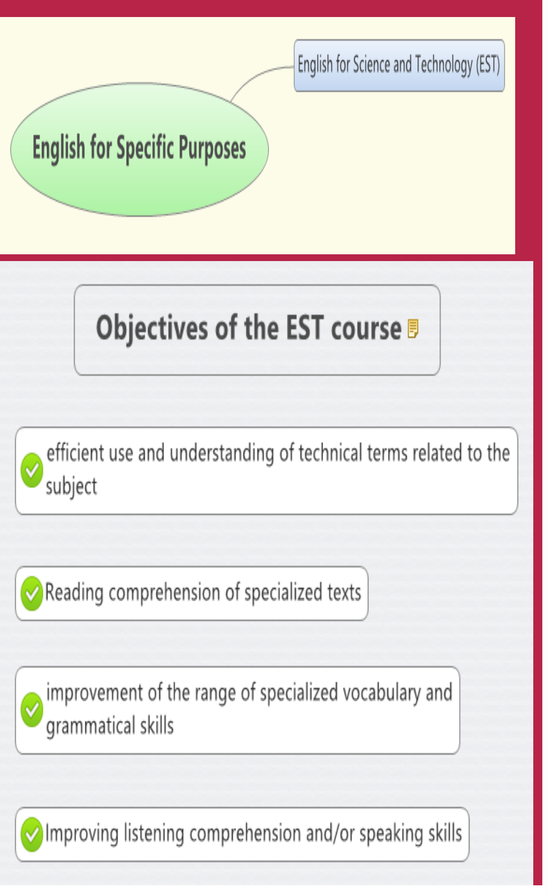
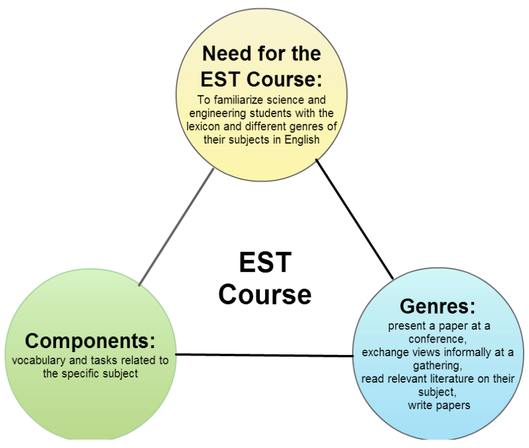
Dr. Sonia Sharmin
Graduate School of Informatics and Engineering
The University of Electro-Communications, Tokyo, Japan
E-mail: sonia.sharmin@uec.ac.jp



EST is mainly a course by which students should be able to learn and communicate in English, not a class for understanding their science subjects.



Needs analysis:
1) What should the objectives of the EST course be?
2) Which objectives should be supported by the materials offered to students in the EST course?
3) How will EST teachers evaluate the texts and/or materials offered in the EST course?
4) Who should teach the EST course, prepare course materials and finally grade the students?
5) Are all the students capable of taking the EST course and benefiting from it?

Choice of textbooks:
Problems in using a standard textbook: unpreparedness of the majority of students for their EST course, the current EST textbooks' high level of difficulty, and lack of suitable textbooks.
Possible solution: The available textbooks contain subject-related vocabulary and how to properly use that in different contexts. Systematic usage of such a textbook can be a helping guide in preparation of course materials

Subject-matter expertise of the teacher:
EST is specialized teaching, so it requires a combination of
❖ subject-matter professionals,
❖English language academics

The overall field of science or engineering has a whole special range of vocabulary, and it is this technical vocabulary that should be the basis of the EST course. Thus the need for subject-matter specialists with a good command of English who can be trained.
Problem: In a non-English speaking country, such instructors may be difficult to obtain.

Possible solution: The curriculum and course material should be such that an English teacher, with limited knowledge of technical terms, because of not having a background in science, can still successfully understand the basic concepts of the subject after studying the course material, and can then teach the course to non-English speaking science majors.

English proficiency of the students:
The continuous usage of English by the teacher for all tasks and instructions during class can provide the students with the opportunity to learn different expressions which they can then use in their own speaking.

A great problem is the students' shortcomings in basic English skills.

Possible solution: An English proficiency exam may thus be required in order to take the EST course.

Evaluation of the students:
There should be a standardized method for evaluating the students' performance so that future workplaces can understand their level of English proficiency.

Problem: Too much emphasis on the IMRD (introduction, methods, results, discussion) pattern.

Possible solution:
Concentrating on increasing vocabulary and grammar skills, which have been shown to be the primary attributes in enhancing fluency.

Stages of EST course design: Needs analysis, Choice of textbooks for the EST course, Subject-matter expertise of the teachers, English proficiency of the students, Evaluation of the students of the EST course