INCORPORATING THE NEEDS OF SUBJECT SPECIALISTS IN CURRICULUM DESIGN OF ESP PROGRAMS: THE EXPERIENCE OF A JAPANESE UNIVERSITY OF SCIENCE AND ENGINEERING

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Abstract

• In EFL context, course development for EGP or EGAP differs from that for ESP
• Needs of stakeholders are placed in a more central position.
• This presentation reports:
  ✓ the setting up of new ESP program at a Japanese university of science and engineering
  ✓ the role played by the subject teachers/specialists
  ✓ the extensive skills and genre-based needs survey
  ✓ the rationales and the results of the needs survey
Factors that affect ESP course design

What?

Language descriptions

ESP course

sylabus

methodology

How?

Learning theories

Nature of particular target and learning situation

What?

Language descriptions

(Hutchinson and Waters, 1987)
The nature of ESP and challenges

• Teaching with a purpose/purposes
• Teaching with the learner in mind
• Teaching with the needs of current and future academic and professional practice in and demands of English

• Challenges facing ESP teachers:
  ➢ course design
  ➢ subject knowledge
  ➢ teaching materials development
Necessity for Needs Analysis in ESP

• Needs Analysis are inevitable for ESP course and program development: defining goals, selecting types of syllabus, content materials, testing, etc.

• General needs analysis focuses on proficiency, skills, learner wants and wishes, etc. in general.

• ESP needs analysis considers wider interests or wishes of the learner and other stakeholders, disciplinary content, professional requirements, etc.

• Gap investigation is also needed.

• Choices of needs surveys or assessments (formal, informal, or quantitative and/or qualitative) depend on the needs of the course/program developers.
From a long-standing “wish” to a tangible program

• Opportunity: 2012 UEC Reform
• Creating a new ESP component in the 3rd-year curriculum as part of the Technical Practicum Education
• August 2011: setting up a preparatory committee for the new component
• “Undergraduate Technical English Spring & Fall” (学部技術英語前期・後期)
  ➢ Basic Technical English (BTE)
  ➢ Intermediate Technical English (ITE)
The ESP components at UEC: English for Science and Engineering

Undergraduate

Intermediate Technical English (ITE)

Basic Technical English (BTE)

Technical English for Graduate School

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NEEDS SURVEY ON FOUR DEPARTMENTS (学科教員アンケート)

- For course/syllabus design of BTE ITE, a needs survey developed by Shi Jie was distributed to all members of the Undergraduate Technical English Preparation on August 9, 2011.
- Through the committee members, the survey was conducted at all departments.
- The results were collated and reported to the committee by Shi on August 30, 2011.
- The highly valuable results of this survey were incorporated into the course design of BTE and ITE.
- The syllabuses were approved by the committee and by the university Educational Affairs Committee for implementation in 2012.
1. **Needs Survey**

- Problems with students' English
- English activities in labs and skills needed
- ESP/EAP genres: Types of readings, writings, presentations conducted in labs
- Desirable evaluation methods
- Staffing
Main results of the UEC Needs Analysis

Expected and unexpected results
## Summary of the genres incorporated into the curricula of the Technical English programs

**BTE**
- Popular science readings
- Online materials
- Oral report
- Definition
- Experimental procedure
- PPT presentation
- Summary
- Science and engineering textbooks

**ITE**
- Journal article or RA
- Proceeding or short conference paper
- Reflection
- Research theses
- “1st-person” style of presentation
- Abstracts (conference and paper)
- Poster presentation
No. of Classes and Students of Undergraduate Technical English

(First commencement: 2012)

- **Day School: 3rd year**
  - No. of students: 687
  - No. of students per class: 25-30
  - Total No. of classes: 24 classes/semester; (26 classes in subsequent years)

- **Night School: 3rd year**
  - No. of students: 90
  - No. of students per class: 25-30
  - Total No. of classes: 3 classes
3. Materials Development

1. Textbooks of science English: Professional series of Cambridge University Press
2. Real-life conference proceedings, research articles and journal papers, preferably published by the science faculty of UEC Tokyo
3. Student-generated scientific English materials, typically prepared for various talks and project such as presentations and writings
4. Teacher-generated teaching materials

- Real-life materials:
  - Abstracts
  - Journal articles
  - Manuals
  - Product specifications
  - Posters

- Presentation ppt
- Internet
- Academic magazines
- Popular science magazines

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## Reference materials from 4 departments

**28 Nov 2011**

<table>
<thead>
<tr>
<th>Types of texts</th>
<th>J</th>
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<tbody>
<tr>
<td>1. Textbooks</td>
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<td>2</td>
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<tr>
<td>2. Conference proceedings*</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>8</td>
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<tr>
<td>3. Journal papers*</td>
<td>4</td>
<td>2</td>
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<td>9</td>
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<tr>
<td>4. Abstracts*</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>17</td>
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<td>5. Introductory readings of related research fields of the department, e.g. “Engineering Tomorrow” and other IEEE publications</td>
<td>3</td>
<td>1</td>
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<tr>
<td>6. Popular science newspaper, magazines, etc. (e.g. Scientific American, Discover, National Geographic)</td>
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<td>2</td>
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<td>7. Technical Manuals</td>
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<tr>
<td>8. Internet sources/links of science &amp; engineering sites</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>2</td>
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<tr>
<td>9. Presentation PPT files for: Conferences Lab meetings/zemi</td>
<td>1</td>
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## Evaluation of UTE (BTE)

<table>
<thead>
<tr>
<th>成績評価方法および評価基準</th>
<th>Class participation and attitude: 20%; Homework: 20%; PWT-R: 10%; Oral reports: 10%; Presentation: 20%; Writing assignments: 20%</th>
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<td>(This evaluation system is subject to change.)</td>
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The syllabus of BTE

The purpose of this course is to introduce students to the basics of English for science and engineering with a thorough review of the major academic skills covered in the compulsory English courses in the first and second year English curricula, such as skills for group discussion, critical thinking, academic reading, academic writing, academic presentation and other related areas. This course adopts a student-centered approach to teaching methodology and genre-based approach to subject content, and builds foundation for ITE in the Fall semester.
Features of BTE & ITE Syllabuses

- **Integrated syllabus**: genre, content, skills
- **Academic genres** for both spoken and written language, e.g.:
  - poster presentation, PPT presentation, summary, abstract, research paper, technical manuals, definition, specification
- **Discipline-specific** content and textbooks
- **Program-wide test** on tech. terms
- **Real-life** materials and tasks
- **Semi-programed** curriculum/syllabus
- **Team management**: committee with science teachers, teaching observation system
- **Instruction in English**
- **Task-based** assessment
- **Self-study via e-learning**
Discussion and Conclusion

• UTE syllabus design based on ESP principles and Need Survey with discipline teachers
• The need for cooperation of faculties of English and disciplines
• Flexible approach with core focus
• Difficulties in selecting and developing appropriate teaching materials
• Assessment serving goals of courses (considering admin info incl. course category, type of credits)
References


The Curriculum & Instruction program is designed to meet the needs of our students. The majority of students maintain their current employment while completing their degrees online. We also have students who choose a traditional, residential program and move to Berrien Springs for full-time study. At the master’s level students may select a focus area depending on personal goals. Planned experiences help foster true collaboration throughout the C&I program. Students have opportunity to co-research, co-present, or co-author with other students and/or faculty members.  

13. C&I Program Roles. The specialist program focuses more on practice and less on research than the doctorate. It does not require a dissertation or advanced research course work. Preparation, and to make matters worse, ESP courses often stand alone without a curriculum-wide program of ESP or a resource-rich university center with an English language faculty specialized in this field. As a result, the opportunity for orientation, training, support, and collaboration related to this branch of teaching is quite limited or entirely unavailable for many ESP teachers. ESP, and it illustrates an approach I use in Japan to teach a course in one of the many sub-branches of ESP, known as English for Science and Technology (EST). These needs are customarily garnered from university faculty, current students, graduates who are employed, company personnel, and research in the discourse of the specific discipline (Orr 2010). In 1908 Waseda University became the first private university in Japan to establish a science and engineering department. This achievement was realized through the passion and dedication of Shigenobu Okuma, the founder of Waseda, and was an extension of his desire to conduct wide-ranging education and research that spanned the fields of both science and engineering. The curriculum provided by the school is of an international standard. It allocates courses for each academic year in an effective manner.