2006-2416: DIFFERENCES IN CULTURAL EXPECTATION BETWEEN FACULTY AND STUDENTS IN AN INTERNATIONAL COLLABORATION

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Differences in Cultural Expectation between Faculty and Students in an International Collaboration

Abstract

There have been various attempts in the field of engineering education for international teaching teams to work together. Some projects saw successes and others found difficulties. This paper discusses a case study in developing suitable engineering courses for Japanese students that are taught entirely in English by American engineering professors. A mixed teaching team has been formed between Rose-Hulman Institute of Technology in the US and Kanazawa Institute of Technology in Japan. It consists of Japanese engineering professors, Japanese foreign language and culture professors, and American engineering professors. In order to meet students' needs and to fit into the Kanazawa Institute of Technology's curriculum, the teaching team decided to offer two courses – one engineering content course and one technical writing course. The former is primarily for graduate students and the latter mainly for undergraduate students. Both courses have received positive feedback from the participating students in the end-of-term evaluations. However, in the development process, several problems were identified. These problems are attributed to differences in thinking patterns, teaching approaches, communications styles, and cultural expectations among faculty and between faculty and students. According to Hofstede[1], cultures are learned and shared by people in the same social and economic groups. It is understandable, therefore, that people from different backgrounds have different cultural ideas, behaviors, and expectations. These differences can lead to frustrations, conflicts, and culture clashes. The teaching team has found various degrees of such difficulties in communication and in actions, not only between American faculty and Japanese faculty, but also between Japanese engineering faculty and non-engineering faculty. It has taken time, mutual tolerance, willingness to understand, and open communication to resolve these difficulties. The authors hope that this knowledge and experience can help those who plan to engage in similar collaboration efforts.

Introduction

Rose-Hulman Institute of Technology (henceforth RHIT) is a private engineering college located in Terre Haute, Indiana, in the United States. It has approximately 1700 undergraduate students and 100 graduate students. Kanazawa Institute of Technology (henceforth KIT) is also a private engineering college, located in Kanazawa, Japan with 6500 undergraduate students and 500 graduate students. The two institutions established a sister-school relationship in 1993 and have been exchanging students and faculty since then.

In 2001, faculty from Mechanical Engineering at both colleges agreed to collaborate in order to develop courses taught in English at KIT. The main purpose of these courses was to expose Japanese students to the American style of teaching and to courses taught in English. The faculty also hoped to provide these students with training in listening, note-taking, academic paper writing, open discussions, and paper presentations. This was one way to respond to the Japanese faculty's urgent request for help in providing their students with extra English training for academic purposes. Engineering students in Japan are also aware that they need more skills in English in order to function in the academic setting[2].

Collaborations in Developing Curricula

Planning phase

A teaching team was formed which consisted of two Japanese engineering professors and one foreign language professor at KIT, and one American engineering professor from RHIT. At this stage, communication was primarily via e-mail in English, with some telephone conversations. After several discussions, the faculties at both schools agreed to offer two types of classes. One was an engineering course and the other focused on academic paper writing and presentation.

Arrival of teaching professor

Upon the arrival in Japan of the American professor, syllabi started earlier were finished and translated into Japanese for administrative purposes. All courses offered at KIT must first be approved by appropriate administrators. Students were then recruited to take these courses. The American engineering faculty, Japanese engineering faculty, and Japanese language and culture faculty met several times in sessions to decide the details of the courses. The Japanese engineering faculty suggested offering one engineering course in which contents were already familiar to the participating students. They understood the difficulty with the language and wanted the students to focus on learning academic English more than new concepts or facts. Thus, one course was chosen to be on compressible fluid flow. It was mainly for graduate students. The other course was for academic paper writing and presentation for mainly undergraduate students, though graduate students were welcome. These meetings were conducted in English with very little translation. The engineering faculty from both sides wanted to see the students' reaction to the material, and their problems and concerns. It was helpful that the American professor had had two years of experience developing engineering design curricula at KIT and teaching its students between 1995 and 1997.

Developing course schedules

The two courses' class schedules are shown below. Both courses met once a week for two hours for nine weeks.

Table 1 The compressible fluid course schedule

Week	Description
1	Introduction to compressible flow-continuity, momentum, energy equation
2	1-dim flow, speed of sound, Mach number, normal shock relations
3	Oblique shock and expansion waves
4	Area-velocity relation, flow through variable-area ducts
5	Flow through variable-area ducts with normal shocks
6	Continuation of Week 5
7	1-dim flow with heat addition
8	1-dim flow with friction
9	Course review-preparation for final exam

Table 2 The academic writing and presentation course schedule

Week	Description
1	Introduction of the course Preparing a brief memo explaining an individual's research (due Week 2)
2	Discussing content of a report, title page through reference and bibliography Preparing a short outline for an individual report (due Week 3)
3	Discussing graphical presentations Preparing the abstract for a report (due Week 4) Second hour: mini-oral presentations (self-introduction) in English
4	Advising and reviewing student progress Preparing the introduction, conclusions, and recommendations of the report
5	Discussing tabulation
6	Discussing oral presentations
7	Oral presentations of the reports, feedback, questions and answers, comments
8	Oral presentations of the reports, feedback, questions and answers, comments
9	Oral presentations of the reports, feedback, questions and answers, comments

Processes of the courses

After the two courses started, the compressible fluid course proved to be easier for both the students and the teaching faculty. It involved many graphical presentations, tables, and formulas that were universal. The language was less of an issue in this course. The American professor needed to speak slower and clearer than the way he usually spoke, but students understood well and even enjoyed the course.

The other course, the academic paper writing and presentation presented many more challenges. First, Japanese students are not used to writing academic papers the way American students do. Second, they had to learn basic terminology such as abstract, body, discussion, suggestion, future work, references, bibliography, etc. Even if they knew the terminology, they had trouble comprehending how the terms were pronounced. The difference in sound between Japanese and English is quite large, and even eager students feel overwhelmed when it comes to spoken English. Third, in the flow of a typical paper, these terms are not familiar to many Japanese students. Observing the Japanese students' draft papers, abstracts often resemble the introductions with no inclusion of research results or conclusions. These tended to appear at the end of the papers only. No suggestions for future work sections were typical. Thus, Japanese students had to re-organize the flow of their papers in the Western way. Fourth, the students had to overcome their shyness for speaking in public. The American professor was used to a casual atmosphere classroom, and students who asked questions and made comments. In contrast, Japanese classrooms have more rigid atmospheres, and students are not accustomed to asking questions or making comments. In all, they are not accustomed to speaking in public, let alone in a foreign language. Although KIT provides its students with ample opportunities to make presentations throughout their curricula, it still poses a challenge to many students.

Students' post-course evaluation analysis

There were many difficulties and challenges the students faced, but the general responses from them were quite positive. Post-course questionnaires were distributed to the participating students, and interviews of each student were conducted afterward to clarify their responses. Items of the questionnaire are described in Table 3.

As for the motivations, many were interested in learning communications in spoken and in written English for their skill development. Some were concerned if their English skills deteriorated over past years since they stopped taking English courses after their second year. The most common goal for taking the course was to clarify what they could do and could not do with English and to improve their skills in the language. Other goals were to learn technical terms, to write a paper for the first time, and to learn to give a presentation in English. As for their own assessment of the goals, many of them realized that their skills were not enough to communicate effectively. During the interviews, both the students and instructors could pinpoint most troubled areas as lack of vocabulary, listening comprehension, and expressions for questioning. Difference in pronunciation and sentence structures from their native language also posed a challenge. What the students felt to be most helpful in the course was the collaborative teaching by the American professor and Japanese professors. They could experience authentic American style teaching with the help of language and cultural instructions in Japanese. Learning the basic structure of an English paper and presentation was also very useful. One of their conceived ideas for easing their difficulties in the course was to receive handouts ahead of the lecture. Another idea was to try to take English courses without interruptions.

In written comments, some of them wished for the courses to be offered again and to become regular offerings in the curricula. One suggestion said that the courses should receive more publicity, so that first and second year students would be aware that their required English training would be useful later. It would boost their motivation to learn English.

Table 3 Post-course Questionnaire

A. What motivated you to take this course? What were your goals (please state as detailed as possible) of this course? Motivations: Goal 1: Goal 2: Goal 3: Goal 4: (continue) Do you think you have achieved these goals? Goal 1: Goal 2: Goal 3: Goal 4: (continue)
B. What did you feel was the most difficult part of the course? 1 2 3

4 (continue)
C. What do you think was useful/helpful in the course? 1 2 3 4 (continue)
D. Concerning the difficulties you described in question B, how do you think they could have been made easier? Please include your requests to the instructors and requests on overall organization of the course? 1 2 3 4 (continue)
E. Please feel free to write comments on the course

Teaching faculty feedback

For faculty, there were also some difficulties and challenges. There were two ways of looking at these problems. The Japanese faculty tended not to make specific requests or suggestions on course contents. This was largely due to their respect for the American faculty's autonomy. Since they wished their students to be exposed to the American way of teaching, they wanted the American teacher to maintain his style. It sometimes made the American wonder if he met the Japanese faculty's expectations.

At one time, a second American professor who came in 2003 for the same courses, asked an observing KIT female faculty member if he needed to change the way he conducted his class. She thought he should have complete control over his class, so she replied that he should decide. She also felt that Japanese students were not used to professors changing their teaching styles because of other's opinions. It would be viewed as lack of authority. In response to her answer, he asked with frustration "why don't you tell me your opinions?" This is one example of difference in expectations. He wanted her to be honest about his teaching and was open to her opinion. It had nothing to do with respect or authority.

The differences also showed when another Japanese faculty suggested his students should write scripts for their oral presentations and memorize them. The American faculty suggested that students could memorize their presentations but with some variations. The focus for the former was that they should present as close to their scripts as possible, whereas the latter was more concerned with spontaneity and flexibility. This difference could partly be attributed to the former studying English as a foreign language and the latter being a native speaker. However, it could be partly due to the Japanese faculty's preference for formatted presentation and teaching.

During the initial meetings, the engineering faculty were able to communicate at ease regardless of their native languages. With the same language, engineering faculty and non-engineering faculty, namely a language and culture professor, sometimes experienced communication problems. It probably was due to the fact that engineering faculty had backgrounds different from the language faculty. She needed to have clear verbal explanations. She had several years of teaching in the US and was familiar with the American way of teaching. It was helpful to meet halfway, but occasionally there were slight disagreements with the Japanese engineering faculty, such as on script memorization.

Some points can be made from observations of the participating students. The students were used to formal relationships with their Japanese professors and it took time to get used to more casual relationships with American faculty, particularly in classes. The students seemed to carry that formal approach to their presentations.

Discussions and suggestions

Differences in approaches to classroom interaction, communication styles, cultural expectations between American faculty and Japanese faculty, and between different disciplines, and between American faculty and Japanese students are summarized in Table 4.

Table 4 Differences among faculty and between faculty and students

	Faculty - Faculty		Faculty – Students
	Engineering faculty – Engineering faculty (US – Japan)	Engineering faculty - non-Engineering faculty (Japan – Japan)	(US – Japan)
Approaches to classrooms	flexible, open to experiments – more regimented	regimented – more spontaneous	flexible, spontaneous - preferred or expected regimented classes
Communication styles	direct – indirect (in relation to respect)	graphical, mathematical - verbal	direct, graphical – indirect, graphical
Cultural expectations	openness as honesty – indirectness as respect	less reliance in verbal communication – more reliance in verbal communication	casual, flexible, open – formal, regimented

When seeking to make cross-cultural collaborations, there will always be confusion, misunderstanding, and frustration. Even openness does not work well in some cultures. The first American professor involved in these courses learned the differences by observing rather than trying to discuss the matter openly. It is very helpful if one can gather information on the cultures one aims to work with as early as possible. Simply opening one's mind and observing carefully what is really going on behind the words and actions, before acting, can also be helpful.

Bibliography

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