

Developing e-learning for internationalization: results and prospects of a seminar style course

Jorg O. Entzinger¹, Kumiko Morimura², Shinji Suzuki³

1. Research Associate, j-entzinger@t-adm.t.u-tokyo.ac.jp, Institute for Innovation in International Engineering Education (IIIEE), School of Engineering, The University of Tokyo. 7-3-1, Hongo, Bunkyo-ku, Tokyo 113-8656 JAPAN.
2. Associate Professor, morimura@t-adm.t.u-tokyo.ac.jp
3. Director, tshinji@mail.ecc.u-tokyo.ac.jp

Abstract

We opened a new seminar style course where students take the lead in creating e-learning course materials. Students discuss about suitable topics and presentation styles, and eventually also create courseware under the supervision of several teachers. With this high level of student involvement, we are sure that our courseware will meet both the needs and the interests of students. In the first semester, we wanted to inventory the main needs, as well as the readily available information regarding international students getting settled in their (academic) lives at the University of Tokyo. The class of 12 international students identified over 300 keywords, grouped around main topics ranging from “Japanese Language” to “Transportation”. Through this course, students learn various skills such as brainstorming, mind mapping, group work, international communication, collecting reliable information, and giving presentations. Creating courseware for their fellow students also helps the participants themselves to integrate in Japanese society.

Keywords: internationalization, cultural exchange, e-learning, academic life support, international students

1. Introduction

To prepare students for the globalized future, the School of Engineering at the University of Tokyo (UT) has been organizing several projects to promote and assist international exchange. One of the goals is to create an environment where both Japanese and international students can study effectively, and where students from different backgrounds can interact with and learn from one another.

The main inhibitors of this interaction are the language barrier, the socio-cultural barrier, and general differences in the way of living. Two years ago, we started the development of an e-learning platform called SNOWBALLS[®], which was in the first place aimed at helping both Japanese and international students overcome the language barrier [1]. The SNOWBALLS platform and its first few content modules were developed in a seminar style course which we will refer to as “e-learning A”. In this course the (Japanese) students took the initiative and discussed about important technical features, ways to maintain high learner motivation, and topics that should be taught. We believe this development style with high student contribution is useful, especially for e-learning, since the students will be the end-users and they know best what kind of technology, presentation style, and topics are most appropriate.

In the winter semester of the academic year 2010 we started the “e-Learning B” course in order to find out more about the specific needs of international students who come to Japan, how we can support them through academic education, and in particular which parts of such education could be done through the SNOWBALLS[®] e-learning system. This paper will focus on the results of this first semester, and additionally give an outlook on how we plan to proceed in the following semester(s).

2. Course Style

The “e-Learning B” course is a seminar style course for international students with the ultimate objective to develop e-learning content to be published on the school’s “SNOWBALLS” e-learning system. It was created next to the existing “e-Learning A” which focuses on the platform development and the creation of content for and by Japanese students [2]. In both courses the students take the initiative, and the teachers are mainly observing the discussion and intervening when necessary to stay on track or when a change of direction is needed.

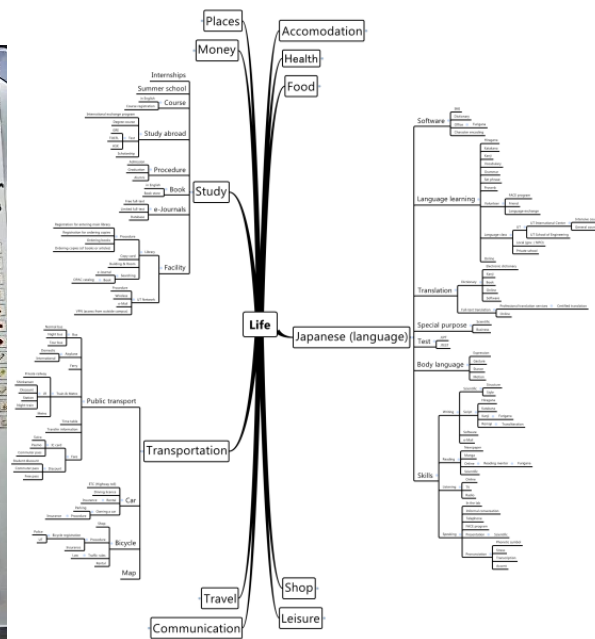
The first step in “e-Learning B” was to listen to international students’ experiences and problems, and to brainstorm about what information international students need when they settle in Tokyo and start their studies at the UT. The second step was to investigate what part of this information is readily available (and compile a list of resources), after which the areas of insufficient information could be indicated. The classes in the following semesters will focus on developing teaching materials to fill these hiatuses for the areas where e-learning seems an appropriate means to provide this information.

International students from all engineering departments could join, and finally we had a class of 12 students from

5 different (Asian) countries and 8 different disciplines. There we 5 Master and 7 Doctor course students. 4 students arrived in Japan at the beginning of that semester, and 4 had been in Japan for less than one year. This resulted in an interesting mix of cultural backgrounds and experiences of life in Japan, which proved effective in class discussions. Additionally, one teacher used to be a Japanese language teacher and therefore had experience helping foreign students getting settled in Japan, and the other experienced the same problems as the students when he came to study (and later work) at the University of Tokyo as a European several years ago.

3. Main results

The class brainstormed and discussed about the necessary information for private and academic life of international students in Japan (Fig. 1). After the initial brainstorming session in class, we asked the students to find more information resources (mainly websites) regarding these topics and attach the appropriate keyword(s) to each resource. We also encouraged students to broaden and deepen the list of keywords. This finally resulted in a list of over 300 unique keywords in 12 categories: Accommodation, Health, Food, Japanese (language), Shop, Leisure, Communication, Travel, Transportation, Study, Money, and Places (including “online”, “on-campus”, “around the campus”, “greater Tokyo”, “Kyoto”, “Japan”, etc.). We also compiled a list of about 300 useful websites over the semester.



After discussion, it was decided to focus on 4 topics (“study”, “Japanese language”, “transportation & travel”, and “leisure”) and groups of 3 students per topic were formed. After gathering information online, a student suggested to focus more on on-campus facilities and to have on-site interviews to gather more information. Although a lot of general information is available online, the specific information about services and facilities at the UT-campus is often either in Japanese only or difficult to find for international students. Students visited various places, such as the library, bookstore, university museum, several offices for registration of bicycles, student commuter pass, etc., and the various Japanese language classes. They interviewed the staff and collected pamphlets, about which they wrote reports and gave presentations in class (Fig. 2).

stage (after 1 year). By color coding the topics and distinguishing the three stages by different saturation levels, a visual classification could easily be made. This had the additional benefit that the information became more accessible for reference. The collected materials are currently made available within the university network on an improvised website with database and keyword-search functionality.



Figure 2. *The students interviewed staff to gain information about the on-campus facilities and services. Left: at the Japanese language classes of the UT international center. Right: the counter at the coop-bookstore where the students learned how one can pay books directly from the laboratory budget.*

4. Discussion

The course resulted in a wealth of ideas, keywords, information, and recommended information resources. Students identified many online resources that were useful for international students to get settled in their academic lives in Japan. “Life and study on-campus” was identified as a field where more information was still needed and the students started to fill this gap. Through their investigations, the students not only laid the basis for e-learning materials to support internationalization, they also learned a great deal themselves. Apart from the gathered information in itself, they learned brainstorming techniques, discussion, group work, understanding and working with each other’s different international backgrounds, structuring data, and presentation techniques.

Students filled out a short questionnaire at the end of the course. When asked what they liked most about the course, most students mentioned the interactivity (discussions, giving presentations, ability to raise questions about anything). Additionally, most of the students wrote the course proved to be very informative, and had helped them to find their way in Japanese life. We therefore believe that the course was successful in raising awareness of cultural differences and that students learned how to effectively acquire and share information. Some noted that they had been able to make new friends in the course.

One of the main comments from the international students, both in class and in a final questionnaire among the students, was that improving Japanese language proficiency and the capability to interact with Japanese people in the classroom or laboratory should be the focus in the following phase of this project. From a discussion at the end of the course we concluded that specific Japanese language that can be used in the laboratory would be very useful. General language courses are plentiful, both online and face-to-face on campus, but they mostly do not go into the specific vocabulary needed to start a conversation with lab mates about one’s research or to understand a presentation in a lab meeting. Such interaction is not only essential to make progress in research, it will also help to build relationships and make new friends

We believe that e-learning is especially suited for teaching foreign language (technical) vocabulary (i.e., English for Japanese students and Japanese for international students), because each student’s vocabulary needs are different, learning vocabulary requires repeated exposure to the words, and e-learning offers the possibility to learn anytime and anywhere. We consider that creating e-learning content for teaching Japanese vocabulary that international students can use in their laboratories is the most promising direction for the SNOWBALLS project, because it suits the format of an on-line textbook with quizzes and games. For the other information gathered by the students we have to find a practical and sustainable way to share and maintain this data.

5. Conclusion

In the winter semester of 2010 we opened a course with the double objective of creating content for our new e-learning system SNOWBALLS® and helping international students find their way in their academic lives at the University of Tokyo. The ultimate goal is to have groups of students create academic-level courseware under the supervision of a number of teachers. However, in this first semester we focused on brainstorming and mapping the currently available information and resources, in order to understand the needs of international students and what we

should teach through e-learning.

Putting the initiative with the students results in interesting discussions and innovative ideas about what to teach and how to teach it. The class identified over 300 unique keywords, structured in a mind map with 12 main categories such as “Japanese language”, “study”, and “transportation”. The students also suggested a classification in “survival”, “living”, and “enjoying” stages, to reflect in what phase of life in a foreign country the information is applicable (1st month, up to 1 year, after 1 year, respectively).

The main result of the class is a database of links to online information resources that are useful for international students at the University of Tokyo. One or more of the 300 keywords were attached to each link and a basic web-interface allows searching. Although a wealth of general information on life in Japan appears to be available, specific information about the campus and facilities of the UT is often not available in English. Furthermore, students noted that improving their (academic) Japanese language skills and making friends with Japanese people are their biggest challenges.

We plan to integrate this course with “e-Learning A”, which we previously started to create e-learning content for Japanese students to learn technical English vocabulary. This way, Japanese and international students can collaborate in creating multilingual content, while enriching their vocabulary and gaining intercultural collaboration experience at the same time.

Acknowledgements

We wish to thank Ms. Yoshiko Yamazaki for her assistance in teaching the e-learning B class and all the students of the class for their hard work and initiatives.

References

1. Kumiko Morimura, Jorg O. Entzinger, and Shinji Suzuki, “Teaching Technical Terminology and Practical English Skills using the SNOWBALLS® e-Learning Platform”, ACM Professional Chapter on Elearning and Technical Communication Conference 2010, Aizu-Wakamatsu City, Fukushima, Japan, 30-31 Oct. 2010
2. Jorg Entzinger, Kumiko Morimura, and Shinji Suzuki, “Student-Driven Content Creation for e-learning”, OCWC Global 2011, Cambridge, Massachusetts, USA, 4-6 May 2011.

Biography

Jorg Onno Entzinger was born in The Netherlands, where he studied Mechanical Engineering at the University of Twente. He specialized in control systems and received his M.Sc. degree in 2005. Jorg continued to study and research control engineering as a research student at the department of Aeronautics and Astronautics at the University of Tokyo, with a MEXT scholarship provided by the Japanese government. After entering the doctoral course, he received his Ph.D. in Aeronautics and Astronautics from the University of Tokyo, where he currently works as Research Associate at the Institute for Innovation in International Engineering Education. Jorg is currently involved working on several initiatives to internationalize the curriculum and create a “bilingual campus”. His interests span both global education and research on control systems.

Kumiko Morimura is an Associate Professor at the University of Tokyo, where she teaches technical English to undergraduate and graduate students in school of Engineering. In particular, she is in charge of “Special English Lessons” program for undergraduate engineering students. She studied on sound pressure level (SPL) balance of choir singing taking an interdisciplinary approach and received her Ph.D. in Interdisciplinary Information Studies from the University of Tokyo. She was a recipient of the Takenaka Scholarship while she was in Osaka University, where she majored in psychology and received her Bachelor’s Degree. She is a member of Acoustic Society of Japan (ASJ) and the Institute of Electrical and Electronics Engineers Professional Communication Society (IEEE PCS).

Shinji Suzuki was born in Japan and obtained his bachelor in Aeronautics & Astronautics from the University of Tokyo in 1977, and his master's degree in 1979. From 1979-1986 he worked as a researcher for the Toyota Central Research and Development Inc. on Noise & Vibration analysis. In 1986 he obtained his Ph.D. degree from the University of Tokyo, where he then became an associate professor in Aeronautics & Astronautics, and in 1996 a full professor. His main research interests are flight safety, flight dynamics, control, optimization and Unmanned Aerial Vehicles. Shinji has been pushing internationalization at the School of Engineering, and since 2009 he is the director of the Institute for Innovation in International Engineering Education, next to his full professorship at the department of Aeronautics & Astronautics.