

# Overcoming an “allergy” to internationalization

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## Allergy to internationalization

In 2007, the Graduate School Education Improvement Subdivision of the Chemistry Division of the Science Council of Japan conducted a questionnaire survey of faculties targeting the main graduate schools of chemistry in Japan based on the Subdivision's discussions about graduate school reform, suggestions from industry and proposals from the Meeting on Educational Rebuilding for university and graduate school reform. The results of the survey have been compiled into an external report by the Science Council of Japan. According to these results, the prospects for the internationalization of graduate schools are more pessimistic than expected and graduate schools have a deep-seated allergy to internationalization. Although internationalization in the field of chemistry has advanced more than in any other field, and the main targets of the questionnaire survey were graduate schools of chemistry, 73% of the respondents opposed the suggestion that “foreign students should account for more than 20% of the proportion of students of each graduate school.” The internationalization of graduate schools requires bilingual systems, but many faculty and clerical employees have the opinion that it is impossible to establish such systems at present. There has long been a common recognition that the education system for studying English up to graduate school entrance is highly problematic. Although I do not know whether the educational authorities have tried to respond to this recognition, as a result of the revision of the English education guidelines for high schools, it has been decided that English lessons should be conducted in English from the academic year of 2013. It is said that France and Italy have few English teachers who can speak English properly, but Japan is in a similar situation. Although this may have improved to some degree, when I was a high school student, the pronunciation was the so-called “Japanese English,” which was totally different from genuine English. When I went to the US for the first time as a postdoctoral fellow, I was greatly vexed when my “Japanese English” did not work at all. It took two years for me to speak English freely.

This so-called “Japanese English” seems difficult to understand for non-native English speakers. A dozen years ago, I participated in an international symposium held in Japan. When the first Japanese lecturer began to speak in “Japanese English,” an Israeli next to me, who was able to speak English fluently, asked me why he was using Japanese in an international symposium. For a moment, I thought he was joking. One hundred years ago, Soseki Natsume lamented in London as follows: “Even ordinary Englishmen often make mistakes in their accent and pronunciation. In light of this, it is understandable that Japanese people make mistakes in English. However, Japanese people's English ability is extremely poor in general. Our English speaking ability is not consistent with the times and is irregular. Because of this, although we have knowledge, we are regarded as absurd.” I have to say that this holds true even now. Although it is very fine for high schools to provide English lessons totally in English to reform the current situation, this is likely to cause confusion in the classroom. English education at the university level is even worse. It is often said that students reach a peak in their English ability when they enter university. Because there are no educational guidelines for universities, they need not carry out reforms like high schools. However, because grants-in-aid for university management have been reduced every year, universities have to acquire competitive funds for their education programs, with the result that English education at Japanese universities has been gradually changing through Support Program for Contemporary Education Needs (Contemporary GP), for example. Next, let's take a look at Europe's strategy for the internationalization of graduate schools.

## Europe's strategy for the internationalization of graduate schools

For more than 20 years, European countries have provided their students with opportunities of studying in other European countries under the Erasmus program, a program to promote exchanges among students and faculty members. This plan has accomplished great achievements

through cooperation in education and research internationalization within Europe. The name of this plan comes from Erasmus, a Dutch scholar active in the 15th and 16th centuries and a humanist who continued his studies while traveling around Europe. This plan has been extended beyond Europe and developed into the Erasmus Mundus plan. About 2,000 students and more than 450 faculty members have been chosen as recipients of Erasmus Mundus Scholarships in 2008/2009. These students and faculty members can study in Europe for one or two years using the scholarship and acquire a master's degree through any of the 103 high-quality Erasmus Mundus Master's Programs provided by a European consortium of higher education institutions. The participants in these programs can live and study in at least two European countries. The second term (2009 to 2013) of the Erasmus Mundus plan is planned to start with a total budget of 950 million euros. The second term will include common doctor's courses and strengthen cooperation with non-EU higher education institutions. In this way, Europe has been making active efforts to internationalize its graduate schools. Compared with this, I have to say that the internationalization strategies of Japanese graduate schools have lagged far behind.

## China's and South Korea's strategy for the internationalization of graduate schools

Tsinghua University, a top-level university in China, provides lessons in English, and about 70% of the graduates go on to first class graduate schools in the US. Although there are many Chinese who have stayed in the US and have been playing an active part there, some of those who completed graduate courses in the US returned to China and have been leading graduate school education in China. To become a faculty member of the Institute of Chemistry of the Chinese Academy of Sciences it is essential to have eight years of experience in studying abroad. In the top-level graduate schools in China, the faculty members and students can freely hold discussions in English. Chinese themselves have been internationalized, as represented by the large number of

Chinese living overseas. However, there is only a unilateral flow from China to the US. Americans other than Chinese Americans rarely go to Chinese universities. South Korea's university system has also been Americanized. Many professors have experience of staying for long periods in the US. In South Korea, the new government's English education policy is being actively discussed. Under the instructions of President Lee Myung-bak, the government has officially announced its policy to strengthen English education (English conversation). English education has been gradually introduced into elementary schools as a regular subject since 1997. It was gradually introduced into the third grade classes in 1997, the third and fourth grade classes in 1998, the third, fourth and fifth grade classes in 1999 and the third, fourth, fifth and sixth grade classes in 2000. Conversation-centered English lessons are provided two hours a week, using English only. In China as well, public elementary schools in Beijing, Shanghai and other metropolises have begun to give English lessons where the Chinese teachers teach only in English. In both cases, however, the great disparities in teaching ability among the teachers have become a major problem. In Japan the same problem will arise if English lessons are introduced under the new educational guidelines. South Korea is planning to train many specialized teachers who are able to freely use English.

With regard to the internationalization of universities, the Ministry of Education, Science and Technology of South Korea started the World Class University (WCU) Project after collecting a wide range of opinions from universities over a period of about two months. South Korea will invest in the project at the level of 165 billion won in FY2008 and 830 billion won over the following five years. In FY2008, 26 bases were selected from 13 universities. The purpose of the WCU Project is to invite excellent foreign researchers with superior research capabilities and to heighten the education and research competitiveness of South Korean universities to a world-class level. The language used in the base universities is, of course, English. The Lee Myung-bak government's National R&D Investment Strategy includes a policy of "inviting and using 1,000 overseas high-level human resources by 2012." The WCU Project is one of the means of implementing this policy. Given the size of South Korea compared to Japan, I cannot help but be keenly aware of the backwardness of Japanese policies.

### Japan's strategy for the internationalization of graduate schools

In Japan, efforts corresponding to the WCU Project include the World Premier International Research Center Initiative (WPI Pro-

gram), which started earlier than the WCU Project. The WPI Program started in FY2007 as a project of the Ministry of Education, Culture, Sports, Science and Technology (a subsidized project to promote the creation of international research bases) based on the Third Science and Technology Basic Plan (approved by the Cabinet on March 28, 2006) and the General Strategy for Innovation Creation (adopted by the Council for Science and Technology Policy on June 14, 2006). The WPI Program aims to create "world top bases" that will boast an excellent research environment and an extremely high research level. To achieve this aim, it provides concentrated support for plans to create world top-level research bases centering on high-level domestic and foreign researchers and promotes voluntary measures such as the introduction of system reforms. Although five bases have started, no new base has been created since then. This is in contrast with South Korea, which established a centennial national plan even when it faced a severe economic situation and the value of the won was declining. Nonetheless, in Japan the reform of science and engineering graduate schools also started when the focus was shifted to graduate schools 15 years ago. Since then, selective investment programs for graduate schools have been established one after another, such as the 21st COE Program, the Initiative for Attractive Education in Graduate Schools, the Global COE Program and the Education Reform Support Program. One of the common keywords of these programs is internationalization. Recently, a plan to accept 300,000 foreign students started with a great deal of fanfare. The results of the above-mentioned questionnaire survey has pointed out many defects in the establishment of scholarships for foreigners, the residential environment, clerical work and lecture systems in English, etc. Under this severe situation, however, each graduate school is making desperate efforts at internationalization. Although there are only a few research groups where students from Western countries are accepted and English is used daily, the number of such groups has been increasing.

Osaka University, to which I belong, has continued its desperate efforts to internationalize graduate school education and research under the Global COE Chemistry Program. To make up for the delay in implementing English education in high schools and universities, we are endeavoring to improve the English communication ability of graduate students, including the proper pronunciation of chemistry terms, through the preparation of e-learning content and the provision of e-learning lessons. In addition, in our English major courses (educational continuity from master's courses to doctor's courses), we provide training in teaching in English to faculty members conducting les-

sons in English as one of our faculty development programs in the US. Results from this have been steadily emerging. For example, students have improved their ability to make presentations and hold discussions in English at international symposiums sponsored by the bases for the Global COE Chemistry Program. In December 2008, Osaka University's base for the Global COE Chemistry Program took the leadership in holding an Osaka University forum in San Francisco (with the attendance of the President of Osaka University), inviting the main members of the environmental-energy-related chemistry projects of the California Institute of Technology, the Massachusetts Institute of Technology and the University of California, Berkeley. Although some thought that Americans were not willing to cooperate with other countries because they are domestic-oriented, they were actually more positive than Japanese in the active development of exchanges among faculty members and students. Generally, West Coast people feel closer to Japan than to Europe. It is possible to consider that the US could smoothly cooperate with China if Japan plays the role of an intermediary.

In other chemistry-related Global COE Programs, universities have also made various efforts to internationalize graduate schools, as with Osaka University, with the result that their allergy to internationalization has been gradually disappearing. However, since the current ruling parties have been strongly criticized for "pork-barrel spending" on the Global COE Program, the number of bases is expected to be reduced after the end of the five-year program. Of course, it is impossible to complete the internationalization of graduate schools by the end of the five-year program. I would like the Ministry of Education, Culture, Sports, Science and Technology to continue and to develop budgetary measures to promote the pioneering internationalization of graduate schools from the long-term point of view without being confused by the surrounding noise. I also hope that companies employing students who have received an international education will actively support internationalization on the basis of the benefit principle. If they do so, universities will be able to continue their steady efforts. I would like to hope that these steady efforts will bear fruit some day and enable at least the graduate schools of chemistry to eliminate their allergy to internationalization.

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