佐世保工業高等専門学校
SASEBO NATIONAL COLLEGE OF TECHNOLOGY

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Fostering Practical Engineers Through Cooperative Problem-Based Learning with Students from Overseas Universities

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Introduction

Sasebo National College of Technology (SNCT) and Xiamen University of Technology (XUT) cooperatively launched a mutual student exchange program in 2005. One of the aims of this program is to educate and train young Japanese engineers who can apply their knowledge and skills fully to work in factories in China. The other aim is to educate and train young Chinese engineers who will acquire not only technological knowledge and skills but also an understanding of the organizational structure and cultural background of Japanese companies. In order to achieve these aims, three main activities have been planned as follows.(1)Exchange program between SNCT and XUT. (2)SNCT faculty visiting Chinese University and Japanese factories operating in China. (3).Holding international forums and students' reporting sessions

Exchange program between SNCT and XUT

2005, 4 XUT students and 2 faculty visited SNCT for three weeks.
2006, 6 XUT students and 2 faculty visited SNCT for three weeks.
2007-9, 6 XUT students and 3 faculty visited SNCT for three weeks.

Staying in the SNCT dormitory each year, XUT students and faculty joined classes, visited factories, laboratories and historical sights in northern Kyushu, Japan.

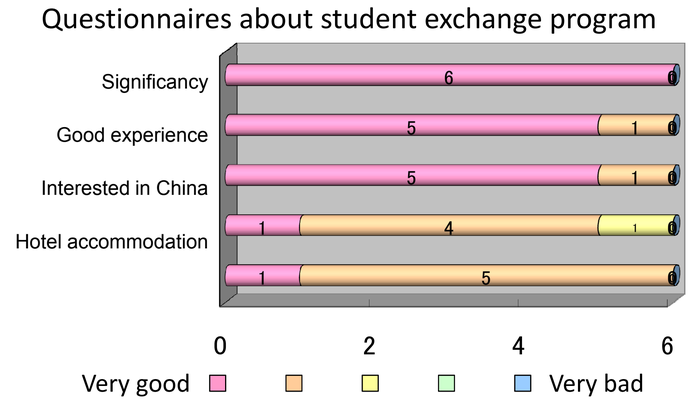
SNCT faculty held special training seminars for XUT students to become familiar with advanced technology using highly sensitive experimental instruments. They also did internship program in Tuji Co. for 3 days, in 2007.
6 SNCT students had their internship at Xiamen FDK Co. in 2006 ～ 2008 for four days. Though this internship term was short, 6 SNCT students reported that they learned a lot about factories in China.

2005: 4 SNCT students and 3 faculty visited XUT
2006-8: 6 SNCT students and 3 faculty visited XUT

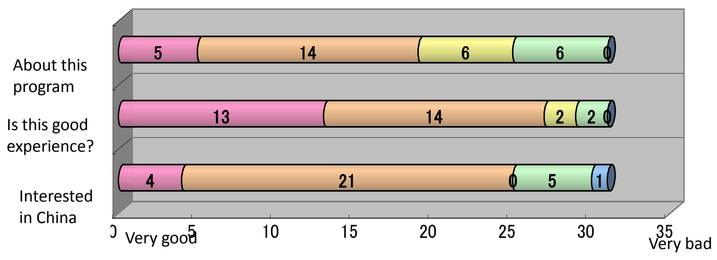
Staying in XUT guest houses for three weeks each year, SNCT students also attended classes and visited cultural and historical sights in Xiamen City. They also had opportunities to learn Chinese traditional arts, such as calligraphy, the tea ceremony and tai-chi. Though they had these experiences for the first time, SNCT students really enjoyed these activities and were impressed by how splendid they were. Although the SNCT students and faculty just had an introductory seminar at that time, these experiences surely helped them to deepen their understanding of Chinese culture.

The fourth grade students of SNCT performed the factory tour of Shanghai and Xiamen in 2007.
They also visited to Xiamen University of Technology. (First time overseas factory tour)

Questionnaires about student exchange program



Questionnaires about fourth graders' factory tour in 2007



Future Plan

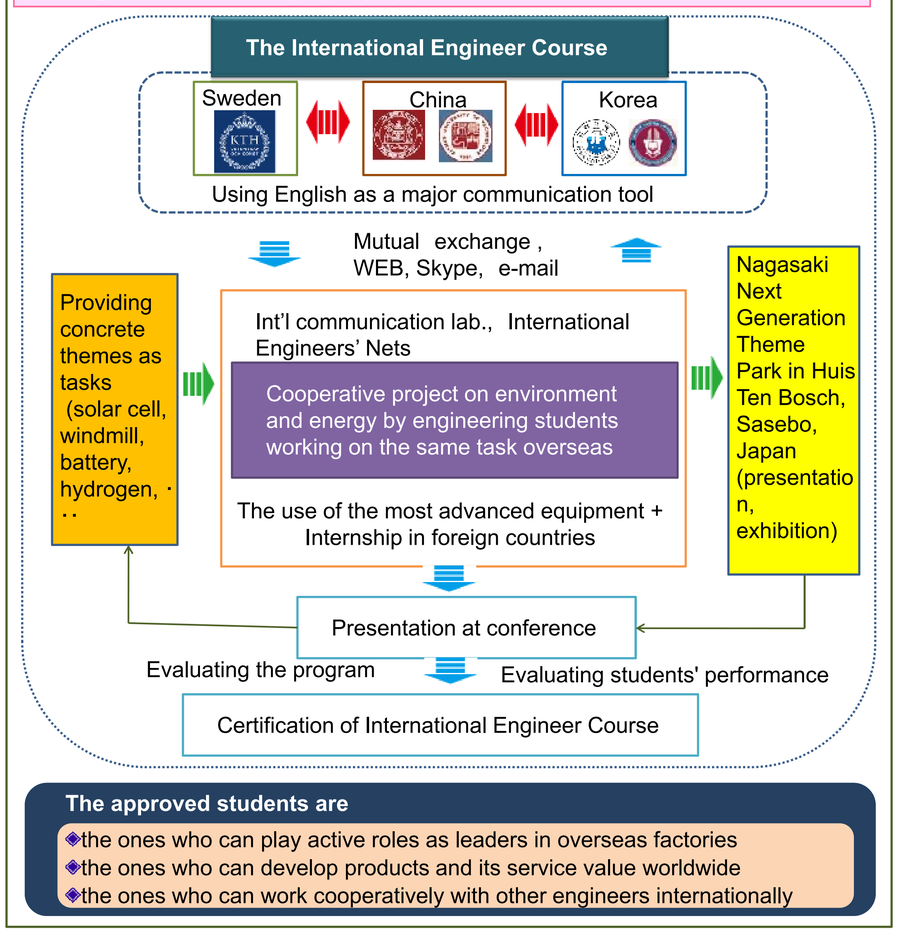
- Working cooperatively with factories to create new products
- Demanding environmentally friendly and energy saving products
- Crossover industries based on various fields

- High evaluation of graduates as practical engineers
- Low evaluation of graduates' use of English
- New trial to introduce a course system in which students can pursue their interests further

【Huis Ten Bosch in Sasebo】
Theme park in which people can learn about energy and ecology

【Sasebo National College of Tech.】
High evaluation of starting student-exchange program with Xiamen Univ.

The combination of high level of technology, idea and manufacture
⇒ the innovation to promote international manufacture and service value
⇒ graduates who can play major parts as leaders in overseas factories



The approved students are

- the ones who can play active roles as leaders in overseas factories
- the ones who can develop products and its service value worldwide
- the ones who can work cooperatively with other engineers internationally

International forum

Because the number of students who can join this program was limited, off-campus international forums and in-school reporting sessions were planned.

The first , second and fourth Sasebo-China international forum was held in Sasebo, Japan, in 2005, 2006 and 2008.

The third international forum was held in Xiamen, China in November, 2007.

One of the guest speakers at that time is Mr. Mitsutake, the ex-Mayor of Sasebo, Japan. Around 250 people attended this forum and discussed how we could improve this program in the following years.

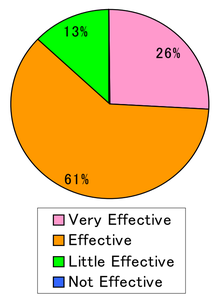
After the forum, we obtain the information by means of questionnaires about our program.

(1) Effect for Fostering young practical engineer in Japan

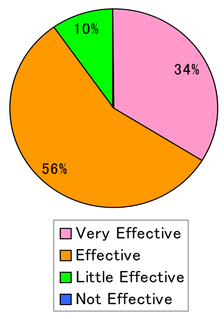
(2) Effect for a mutual friendship between Japan and China

All results of these questionnaire survey suggest that this program is highly admired for educating Japanese and Chinese students.

Questionnaires about our program



(1) Effect for Fostering young practical engineer in Japan



(2)Effect for a mutual friendship between Japan and China

Final evaluation on this program

The final evaluation on this program was carried out on Feb. 9, 2009. The evaluation committee consisted of a total of eight persons (3 SNCT teachers, 1 external technical college teacher, 4 external knowledge persons.) The results of four year trial were as follows. Generally speaking, this program was highly evaluated.

(1)Acceptance enterprise	4.8/5.0
(2)Dispatch enterprise	4.9/5.0
(3)Intership activity	4.9/5.0
(4)Forth grader's factory tour	4.5/5.0

(Maximal point 5.0)

Conclusions

It is expected that each participant makes the most of available opportunities which this program will supply them with, so that he or she can deepen and broaden understanding of each country. It is also expected that the participants' experiences are widely reported to society so as to influence those who don't have any chance to join this student exchange program personally. By continuing this student exchange program taking hands in hands with colleges and Universities in China, SNCT will make every effort to help young future engineers to learn about Chinese and Japanese working environments and culture respectively, and to build friendships over the ocean.