Internationalization of Education: POSTECH Experience

Kyung Seop Han
Prof. & Dean of Planning and International Affairs
Pohang University of Science and Technology (POSTECH)
San 31, Hyoja-dong, Nam-gu, Pohang 790-784 Republic of Korea
iao@postech.ac.kr

ABSTRACT

POSTECH was established in 1986 as Korea’s first research-oriented science and technology university. Implementing the founding philosophy of educating a small number of bright students in a research-oriented environment, POSTECH has in its short 20-year history, become the top university in Korea and one of the leading science and technology universities in Asia.

In recent years, the idea of internationalization of education has been the subject of much discourse for universities world-wide. Universities are continuously seeking ways to internationalize their campus and curriculum to provide students with a global frame of mind to answer growing demand for talented, globalized individuals.

POSTECH, in its effort, has pursued providing students’ opportunities to participate in outbound programs, recruitment of international students and other international activities on campus to enhance their university experience.

With POSTECH’s aim to become one of the world’s top 20 research-oriented universities by the year 2020, internationalization is a key strategic policy which the university will aggressively pursue.
Internationalization of Education: POSTECH Experience

POHANG UNIVERSITY OF SCIENCE AND TECHNOLOGY
February 2007

I. POSTECH Overview
II. Internationalization of Education
III. Conclusion & Suggestions

POSTECH Overview

POSTECH Vision 2020

Vision
World-class research-oriented university (World's top 20 by 2020)

Objective
- Foster science and technology manpower with creativity, progressiveness, global leadership
- Continual generation of research achievements with high academic and industrial impact

Strategy
- Selection & concentration
- Interdisciplinary cooperation
- Globalization

1. Education
- Promote core areas of research
- Interdisciplinary education/research cooperation

2. World-class faculty

3. Globalization
- Financial resources
International Network

POSTECH Overview

60 sister universities in 15 countries across the world

International Policy

Internationalization of Education

Education
Train elite students with global background

Research
Create world-class research outcomes

Infrastructure
Globalization of administration & infrastructure

Action Plan

Int'l Cooperation Strategy
Expand int'l education program
Global leadership program
Recruit int'l students
Expand English lectures

Exchange Program (Semester and Year-long Program)
In participation with approximately 20 overseas partner universities
1989-2006 Outgoing Students: 290

Summer Session Program (Summer)
Courses or language training through summer programs in overseas universities
2004-2006 Outgoing Students: 299

Language Training Program (Summer & Winter)
English language training program for early entrance students
2001-2006 Outgoing Students: 299

Cross Strait Symposium
Tri-party symposium for graduate students of
POSTECH, Busan National University & Kyushu University
1999-2006 Participants: 228
Expand Int’l Education Programs – Planned

Global Leadership Programs

Global Leadership Programs for POSTECH Students
Annual Student Camp by 17 AEARU member universities
Student Limit: 10 (annually)
Cost: Not specified
Partner University: N/A

Bang Doshie Global Expedition
Funded with an endowment from Mrs. BANG Doshie
2000-2005 Outgoing Students: 46

Study Tour for Student Leaders
Visit several universities and research institutes abroad
2004-2005 Outgoing Students: 28

Recruit International Students

POSTECH-Partner Universities Networking Convention 2005
Purpose
Invite partner universities administrators to POSTECH campus and introduce campus environment and degree program
Participants
12 from 10 universities in China and Taiwan
Main Program
Campus tour, degree program introduction and networking
Meeting with President and home university alumni
Networking and discuss future cooperation

Recruit International Students

POSTECH-Partner Universities Networking Convention 2005
Purpose
Introduce POSTECH campus, education environment and degree program
Participants
12 from 10 universities in China and Taiwan
Main Program
Campus tour, degree program introduction and networking
Meeting with President and home university alumni
Networking and discuss future cooperation
Recurit International Students

Internationalization of Education

Int'l Student Enrollment / Department (2002~2006)

<table>
<thead>
<tr>
<th>Department</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Chemistry</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Life Science</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ME</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>EEE</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GSIT</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>SEE</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Chemical Eng</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GBT</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>GIFT</td>
<td>9</td>
<td>6</td>
<td>13</td>
<td>15</td>
<td>4</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>19</td>
<td>25</td>
<td>30</td>
<td>17</td>
<td>119</td>
</tr>
</tbody>
</table>

Incoming Exchange Students

General Exchange Program
- Take courses
- Semester or year-long program

Research Program
- Participate in research projects
- Several months or year-long program

Combined Program
- Combination of the two programs above

Internationalization of Education

Increase English Lectures

English Lectures (2002~2006)

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>14.3%</td>
<td>17%</td>
<td>17.6%</td>
<td>16.8%</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td>Graduate</td>
<td>29.6%</td>
<td>28.3%</td>
<td>26%</td>
<td>33.5%</td>
<td>5%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>22%</td>
<td>22.7%</td>
<td>21.8%</td>
<td>25.2%</td>
<td>40%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Policy to Increase English Lectures

Korean Government promotes English lectures
- BK21 Program, IT Scholarship
- Recruit international faculty and students
- New faculty are supposed to teach ALL lectures in English
- Provide additional stipend to faculty who gives English lectures
- Promote English seminars and group meetings

Invite World-Renowned Scholars

Guest Lecture Program
- Invited Fields-Nobel Laureates or world-renowned scholars
- Funds for development of science and technology

<table>
<thead>
<tr>
<th>Year</th>
<th>Area</th>
<th>Lecturer</th>
<th>Position / Prize</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>Physics</td>
<td>Norman F. Ramsey</td>
<td>Harvard Univ. / 89 Nobel Prize (Physics)</td>
</tr>
<tr>
<td>1992</td>
<td>Chemistry</td>
<td>Derek Barton</td>
<td>Texas A&amp;M Univ. / 89 Nobel Prize (Chemistry)</td>
</tr>
<tr>
<td>1994</td>
<td>Life Science</td>
<td>Bert Sakmann</td>
<td>Heidelberg Univ. / 91 Nobel Prize (Medical Science)</td>
</tr>
<tr>
<td>1995</td>
<td>Mathematics</td>
<td>John Milnor</td>
<td>New York State Univ. / 95 Fields Medal</td>
</tr>
<tr>
<td>1997</td>
<td>Physics</td>
<td>Efim I. Zelmanov</td>
<td>Yale Univ. / 96 Fields Medal</td>
</tr>
<tr>
<td>1999</td>
<td>Chemistry</td>
<td>Jean-Marie Lehn</td>
<td>Univ. of Louis Pasteur / 97 Nobel Prize (Chemistry)</td>
</tr>
<tr>
<td>2001</td>
<td>Mathematics</td>
<td>Efim I. Zelmanov</td>
<td>Yale Univ. / 98 Fields Medal</td>
</tr>
<tr>
<td>2007</td>
<td>Political Science</td>
<td>Robert A. Scalapino</td>
<td>UC Berkeley</td>
</tr>
<tr>
<td>2002</td>
<td>Life Science</td>
<td>Paul Greenberg</td>
<td>The Rockefeller Univ. / 2000 Nobel Prize (Physiology)</td>
</tr>
<tr>
<td>2004</td>
<td>Physics</td>
<td>Robert E. Laughlin</td>
<td>Stanford Univ. / 98 Nobel Prize (Physics) / POSTECH Chair-Professor</td>
</tr>
<tr>
<td>2006</td>
<td>Chemistry</td>
<td>Jean-Christophe Yoccoz</td>
<td>College of France / 94 Fields Medal</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>Ilya Prigogine</td>
<td>Prigogine Center / 94 Fields Medal</td>
</tr>
<tr>
<td></td>
<td>Physics</td>
<td>Bert Sakmann</td>
<td>Heidelberg Univ. / 91 Nobel Prize (Medical Science)</td>
</tr>
<tr>
<td></td>
<td>Life Science</td>
<td>Robert E. Laughlin</td>
<td>Stanford Univ. / 98 Nobel Prize (Physics)</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>Ilya Prigogine</td>
<td>Prigogine Center / 94 Fields Medal</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td>Jean-Marie Lehn</td>
<td>Univ. of Louis Pasteur / 97 Nobel Prize (Chemistry)</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>Efim I. Zelmanov</td>
<td>Yale Univ. / 96 Fields Medal</td>
</tr>
<tr>
<td></td>
<td>Political Science</td>
<td>Robert A. Scalapino</td>
<td>UC Berkeley</td>
</tr>
<tr>
<td></td>
<td>Life Science</td>
<td>Paul Greenberg</td>
<td>The Rockefeller Univ. / 2000 Nobel Prize (Physiology)</td>
</tr>
<tr>
<td></td>
<td>Physics</td>
<td>Robert E. Laughlin</td>
<td>Stanford Univ. / 98 Nobel Prize (Physics) / POSTECH Chair-Professor</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td>Jean-Christophe Yoccoz</td>
<td>College of France / 94 Fields Medal</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>Ilya Prigogine</td>
<td>Prigogine Center / 94 Fields Medal</td>
</tr>
<tr>
<td></td>
<td>Physics</td>
<td>Bert Sakmann</td>
<td>Heidelberg Univ. / 91 Nobel Prize (Medical Science)</td>
</tr>
<tr>
<td></td>
<td>Life Science</td>
<td>Robert E. Laughlin</td>
<td>Stanford Univ. / 98 Nobel Prize (Physics)</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>Ilya Prigogine</td>
<td>Prigogine Center / 94 Fields Medal</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td>Jean-Marie Lehn</td>
<td>Univ. of Louis Pasteur / 97 Nobel Prize (Chemistry)</td>
</tr>
</tbody>
</table>
Korean-English Bilingual Campus

- Provide Online Information in Korean/English
  - POVIS (POSTECH Vision Information System)
  - POSTECH website

- Provide Offline Information in Korean/English
  - All text books are in English
  - PR materials, guidebook and official documents
  - Signboards and placards

- Improve University Administrators' English Proficiency
  - One of the important requirements for promotion
  - Provide overseas language training and experience
    - POSTECH Language Center

Build International Complex

- Purpose: Aid POSTECH in expanding cooperative relationships and enhancing competitiveness among global universities
- Expected completion: July 2007
- Area: 20,491 m² (6 ground, 2 basement levels)
- Main facilities: conference area (convention, accommodation & board, convenience facility)

POSTECH Vision Accomplishment

- Word-class research-oriented university
  - World’s top 20 by 2020
- Best 10 research accomplishments by the year 2010
- Top 1% gifted youths to 0.1% global leaders
- 2006 New Leap (20th Anniversary)

I. POSTECH Overview

II. Internationalization of Education

III. Conclusion & Suggestions
Suggestions

AEARU Exchange Program

Association of East Asian Research Universities, AEARU
17 Universities in East Asia from China, Hong Kong, Japan, Korea and Taiwan
Activities: 10 science & technology workshops and 2 student camps annually

Main Activities
- Student & teacher exchanges
- Joint development of study program
- International intensive program
- Thematic networks between departments & faculties
- Languages courses
- AEARU credit transfer system

For more information contact
POSTECH International Affairs Office at
iao@postech.ac.kr