

Globalisation of Education: The Experience of the National University of Singapore

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ABSTRACT

Globalisation has deep impacts on today's world and in order to prepare students for the globalised world, universities have to adopt strategies to plug their students into the real world. How could universities leverage on their strengths and partners to achieve this? I will share some experiences which NUS has gone through in this aspect.

Phenomenal Changes in the Global Economy

The global economy is undergoing tremendous change brought about by technological innovations in transportation, communication and manufacturing. Advances in information technology and the Internet have radically changed the way we live, work, play, and learn. Time and space have shrunk. With shrinking space-time, the world has become increasingly interconnected and interdependent.

The shrinking, borderless world has flattened the global playing field, fueling the rise of Asian economies. China, the manufacturing powerhouse, and India, a growing IT powerhouse, have been forecast to join the United States as the world's largest economies by the middle of the 21st century.

Today's Elite Dozen of the world's universities comprise Harvard, MIT, Stanford, University of California Berkeley, Cambridge, Caltech, Princeton, Yale, University of Chicago, Oxford, Cornell and Columbia. Currently, no Asian university stands among the Elite Dozen.

In 2025, how might the Elite Dozen change? For whom would the bell toll? For whom would the bell ring? I think we can expect the bell to

ring for at least one Asian university, if not more, most probably located in Asia's global cities. The Chinese phrase for "crisis" – wei ji – suggests that danger and opportunity are two sides of the same coin. For cities, the sea change brings both danger as well as opportunities. The leading edge of the global economy has shifted from production, based on codified knowledge, to innovation fueled by creative talents. In the innovation era, a country's size and natural resources matter less. People matter more. Universities have a critical role in identifying, attracting and nurturing talents.

How might universities prepare graduates for the increasingly complex world? A university would have succeeded in its core mission if its graduates are independent, confident, adaptable and able to thrive despite the numerous changes to their environment. We shall share some of NUS experiences in the past decade.

Student Exchange Programs

NUS targets to send about 1,200 students for a semester of exchange overseas. This is about 20% of the annual enrolment cohort. Currently, we are hitting about 17%. Principally, the benefits are as follows:

- **Invigorate Students' Curiosity:** Students get a fresh perspective on the subjects that they study, i.e., they learn an American's perspective on world politics or a German's insights into molecular biology or a Chinese perspective on differential geometry.
- **Character Development:** Studying in a different environment inculcates in students the skills employers desire, such as versatility, maturity, confidence, independence, and the ability to work with people of different cultures.
- **Develop Language Competencies, Communication Skills and EQ:** There is no better way to learn a language or to improve one's communication skills than by immersing yourself in it every day. Students learn how people on the street use the language and gain confidence by using the language.
- **Out of the Same Routine:** Students make lifelong friends, experience a new culture and bust out of the same old routine. Studying abroad is what a student can make of it, and many make it the time of their lives.
- **Experience an Adventure:** Further, students may take a chance to trek through the Grand Canyon or the Great Wall of China, look

out from the top of the Eiffel Tower, or ski the Swiss Alps – these memories will last a lifetime.

Globalizing Universities Through Deep Engagement

“Internationalization” is a popular word in higher education today. It often involves interaction at the periphery, including student exchange programs, overseas stints and short-term student and staff visits. These efforts, if not done properly, are quite like diplomacy – we tend to defer to one another’s traditions and practices. As a result, one might not see any significant impact on educational innovation, research collaboration and organizational culture.

“Globalization” goes beyond internationalization. To globalize, universities need to engage each other in a deeper and more substantive way. This involves multiple levels of interaction, closer to the centers of the respective institutions. The effects are transformative and significantly impact the organizational practices and culture of partner universities. Examples of deep engagement include dual and joint degree programs, jointly managed research centers in strategic areas, and talent sharing.

Joint Educational Programs with Overseas Universities

Our first program was with MIT in the training of Masters level students in a few strategic areas of science and technology. That was started in the mid-90s. Currently, NUS has a broad spectrum of collaborations with overseas universities. Some recent ones are as follows:

- NUS Lee Kuan Yew School of Public Policy – **London School of Economics** double degree in MPP and MPA,
- NUS – **University of Illinois at Urbana Champaign** joint Masters and PhD in Engineering,
- NUS – **University of North Carolina at Chapel Hill** joint degree in humanities and social sciences,
- NUS – **New York University** double Masters in Law,
- NUS – **Waseda University** double degree in international liberal studies,
- NUS University Scholars Program – **Peking University Yuan Pei Program** joint program,

- NUS University Scholars Program – **Stanford University** summer program in California and Singapore,
- NUS University Scholars Programme – **University of British Columbia** summer program in Vancouver and Singapore,
- NUS – **University of Toronto** summer program in Toronto and Singapore.

Such collaboration with overseas universities takes various forms:

- joint, dual or concurrent degrees offered to a select group of students from partner universities. Students typically spend 40% to 50% of their time in the foreign university. These programs can be at the undergraduate or graduate levels.
- short programs offering certificate status done jointly between partner universities.
- joint programs of a shorter period of between 4 to 8 weeks, involving 20 to 50 students, with partner universities rotating to be the host. Such programs are usually held during university vacations, and are usually known as “summer” programs. As an example, NUS collaborates with University of New South Wales (UNSW) on a summer program in July-August. Every year, about 30 students from UNSW will join a similar group of NUS for a 6-week program in NUS covering a language module (either Mandarin or Malay), a biodiversity module with a week-long field trip in one of the exotic islands in Malaysia, and a business module focusing on business trends and practices in South East Asia and China. The same group of students will return to Sydney for a program in January. The Sydney program will capitalize on special academic offerings by UNSW.

NUS Overseas Colleges

NUS first set up her Overseas Colleges in 2001. Currently, there are 5 Colleges at:

- Silicon Valley in California, in partnership with the Stanford Business School,
- Biovalley in Philadelphia, in partnership with the Wharton School,
- Shanghai, in partnership with Fudan University,
- Stockholm, in partnership with the Royal Institute of Technology,
- Bangalore, in partnership with the Indian Institute of Science.

This is an innovative initiative to inculcate a spirit of entrepreneurship in our students. Each year, we send 20 to 30 students to each location. Each student works as an intern in a startup company for one full year. Usually, these are small startups, and the student learns most aspects of startup business during such an attachment. At the same time, they take classes with the partner universities in some of the evenings. The internship experience is a life-changing one, and we have produced a handful of graduates who learn to take some risks and venture into the business arena.

Joint Research Collaborations with Overseas Universities

More universities are gearing towards a research orientation. As a matter of fact, the international stature of a university is very much dependent on its research capability. There is therefore an impetus to enhance this aspect. Research collaborations with overseas universities are on the rise, and these are usually driven by faculty members from the ground (and is best done in this way). Partner universities usually provide seed funding for such collaborations. Recent examples are as follows:

- Image Processing and Applications with CNRS in France,
- Structural Biology with the University of California at San Diego and MIT,
- Molecular genetics with Kurolinska Institute in Sweden,
- Materials and nanotechnology with Shangdong University,
- Interactive and Digital Media with the University of Southern California, etc.

Singapore is experimenting with a unique way of enhancing its research vibrancy. Its newly established National Research Foundation which has an annual budget of S\$1 billion, will be forming a Campus for Research Excellence And Technology Enterprise (CREATE). CREATE will host top research groups in a facility to be sited next to NUS's new campus. Right now, MIT and the Swiss Institute of Technology (ETH) have agreed to set up base in CREATE, and more top universities and research organizations are coming to join us. These research groups will be based in Singapore, and will leverage with the expertise in the universities and research institutes to make Singapore an important research hub in Asia.

International Alliance of Research Universities (IARU)

The International Alliance of Research Universities (IARU) consists of 10 research-intensive universities – the Australian National University, ETH Zurich, National University of Singapore, Peking University, University of California at Berkeley, University of Cambridge, University of Copenhagen, University of Oxford, The University of Tokyo and Yale University.

“The IARU is an exciting development with the potential for global benefit. It offers a chance to enhance the education of future leaders around the globe and produce research outcomes that benefit people beyond each of our national borders ... This partnership between universities that share similar values opens the door to greater opportunities than any one university could provide on its own, particularly for global collaborative research.” said Professor Ian Chubb, President of ANU and Founding Chairman of IARU.

IARU provides a platform for these universities to exchange ideas and experience in all aspects from teaching and education through to intellectual property and commercialization of research. IARU will also explore the possibilities for joint teaching and joint supervision of graduate programs. Exchange opportunities for students and staff will also be enhanced. This alliance also provides an opportunity for research-intensive universities to exchange best practice and protocols and benchmark against like universities around the world. Discussions on research have focused on migration, ageing and health, food and water, energy and environment, and security.

Sharing Global Talents

“Within a university, sharing talents across disciplines through joint appointments is becoming a common practice. Could we take this to the next level by sharing talents across universities, and attain a global mix of creative talents through joint appointments of academics and researchers? Talent-sharing is an idea whose time has come. It could give us all an extra competitive edge. Could deep engagement encompassing talent sharing be a way to help one another leap-frog into the company of the Elite Dozen?” asked President Shih Choon Fong of NUS.

NUS has just finalized an agreement with Cambridge University to cross appoint faculty members. Faculty members appointed in NUS can now spend up to 3 years and be recognized in the similar capacity in Cambridge University. These appointees are in areas such as organic semiconductors and areas where there are on-going collaborations in research between the two universities.

Conclusion

The landscape for university education is changing continuously. NUS, like many universities, is grappling with the vast challenges thrust upon them. Globalising education is one of these challenges. We are still learning and adapting, hoping to groom the right type of graduates for this ever “flattening” world.