Establishing an American Global Campus in SUNY Korea: Challenges and Excitement in Preparing Global Engineers

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Abstract: Global outreach and collaboration of education and research in a globalized world will play a significant role in the 21st century to prepare global engineers. In a global campus, students and faculty are thrust into a cross-cultural environment that challenges intellectually the modes of being and the ways of learning. A global engineer often has to face such cross-cultural tension when interacting with people under the context of globalization. Stony Brook University (SBU) in New York has established a global campus, called SUNY Korea, in Songdo, Republic of Korea, which serves as a venue for the preparation of global engineers. With a diverse student body and faculty, SUNY Korea reflects the spirit of globalization in offering an education that requires students to learn not only the skills of engineering and technology on the SUNY Korea campus, but also the American hallmarks of liberal arts education on the home campus in New York by choosing from among a rich variety of courses taught by nearly a thousand faculty members. This is accomplished by requiring SUNY Korea undergraduate students to take residency for at least two semesters on the home campus at SBU.

1. Introduction

Many models of global collaborations exist in forging coalition and collaboration for such international ventures [1-13, 14-17]. Stony Brook University (SBU) was invited by the government of the Republic of Korea to establish a global campus in the new Incheon Free Economic Zone (IFEZ) in 2008 to deliver both undergraduate and graduate degree programs. The dream of a global campus was finally realized when SUNY Korea opened its door to an inaugural class of graduate students in Mach 2012, and subsequently undergraduate students in March 2013—all with the approval of the Ministry of Education, Science and Technology (MEST) of the Korean government. The Ministry of Knowledge and Economy (MKE) and IFEZ have invested well over $350 millions to build the SUNY Korea campus and Songdo Global University Campus (SGUC) central facilities. SUNY Korea becomes the very first American university, and the first global university in South Korea which offers both undergraduate and graduate degrees.

With the ongoing development and evolution of the educational landscape worldwide, we consider SUNY Korea as a laboratory in which experiments of educational pedagogy are conducted with accumulated experience to continuously improve the outcomes of preparing global engineers. In this article, we will share our experiences in this continuing journey, including a plethora of challenges that we have faced and the excitement which exhilarates us.

2. Trends in Global Campuses

More than 40 global campuses established by American universities exist today which offer degree programs and/or extended study-abroad programs all over the world. The degrees offered include Associates, Bachelors, Masters, and Ph.D., with some in the form of dual degrees and under different models of global collaboration. Some of these have been unsuccessful and had closed, while others are struggling to survive. The future of many global campuses is yet to be seen. We presented in the following a few models.

The planning for the New York University campus in Abu Dhabi (NYUAD) started in 2006, and was officially announced on October 12, 2007, with the first class of 148 students entering in 2010. "The university hopes to attract as many as 2,000 students from around the world, not just the Middle East." [1] The campus is "a US-style, research-focused educational institution" and "a branch of NYU New York, operated consistent with NYU New York's academic quality and practices" [2,3,4]. It was lauded as "the first comprehensive liberal-arts campus abroad developed by a major U.S. research university." Abu Dhabi's commitment includes the offer to pay for the entire cost of building and operating the new campus—"to build an A+ university." In addition, the NYUAD campus will "offer the same degrees that are offered in New York, with a curriculum developed by the university's New York-based faculty." [4] According to the same article, the students of NYUAD will be chosen by NYU's Office of Admissions, relying on the same standards used for the New York campus. NYU Abu Dhabi students will be offered the opportunity to spend a semester in New York. However, some critics say that the description of themselves as guests of the United Arab Emirates "turns foreign branch campuses in the region into exceptional enclaves, fearful of engaging with contentious local issues." [3]

A similar model to the NYUAD includes the George Mason University and Michigan State University in Dubai. In 2009, George Mason University "decided to shut down its branch campus in the Persian Gulf emirate of Ras al Khaymah, after its local partners drastically slashed the campus's operating budget while expecting the university to nearly double the number of students enrolled at the campus" [5]. This closure is partly due to a reduction of subsidization of the operating budget and student enrollments which were lower than expected. Michigan State University in Dubai (MSU Dubai) in 2010 cancelled all "undergraduate programs at its branch campus in Dubai, effectively reducing what was meant to be the university's beachhead in the Middle East to a mere office" [6] and paid off severance payments and debts. In [7], the author pointed out in 2011 that "high-profile and expensive failures of Middle East branch campuses run by Michigan State and George Mason were a wake-up call. Suffolk University recently closed a campus in Senegal after concluding it would be cheaper just to bring the students to Boston. The University of Connecticut dropped plans for a campus in Dubai amid criticism of the United Arab Emirates' policies toward Israel. Plans for a University of Montana campus in China never panned out, and Singapore's government shut down a Johns Hopkins University biomedical research center."

The other model is a collaborative establishment. Yale University in 2011 started a liberal arts college in Singapore, called the Yale-NUS College, awarding degrees of the National University of Singapore (NUS), not a Yale degree. A total of 150 students were admitted in 2013. In an announcement in March 2011 [8], President Levin wrote "with the enthusiastic support of the Yale Corporation, we have reached agreement with the National University of Singapore (NUS) to create a new liberal arts college that we hope will become a model for Asia." In an article of the Yale Alumni Magazine in May/June 2012, a Yale College Faculty Resolution dated April 5, 2012, expressed their concern "regarding the history of lack of respect for civil and political rights in the state of Singapore, host of Yale-NUS College" [9-11]. In both NYUAD and Yale-NUS campuses, concerns regarding academic freedom and related issues were raised [3,10].

A similar model in engineering program is the Michigan Institute in the Shanghai Jiao Tong

University (SJTU). UM-SJTU Joint Institute (JI) is an equal-partner institution cooperatively sponsored by the University of Michigan and Shanghai Jiao Tong University [12]. The program started slow [13] but is now home to the Mechanical Engineering and Electrical Engineering departments after 6 years with vibrant undergraduate and graduate degree programs.

The Chronicle of Higher Education published a series of reviews on "American Campuses Abroad" in December 2011, just months after "the University of California at Berkeley announced plans to open a large teaching and research center in Shanghai" [14], in which it reported that Duke, Stanford, New York University, Yale, and Carnegie Mellon University announced plans to establish overseas operations in several countries including China, Singapore, and Rwanda. Recently, the New York Times reported that a bigger proportion of US students are interested in studying abroad [15].

Many other ventures for creating a global campus can be found in the literature—most of them are still in the beginning stage of academic operation. It remains to be seen how these operations will flourish or diminish in the next 5 to 10 years. In the commentary published in the Chronicle of Higher Education in 2012, five recommendations were given to university leaders and policy makers [16], including the recognition of the central role that higher education plays in a country's economic health, development of higher-education policy, and seeking new partnerships with Asian (and global) higher education institutions.

2.1 Challenges of global campus

There exists many challenges facing university educators and administrators when establishing global campuses. Here, four challenges are considered.

(1) *Low Enrollment and Financial Sustainability*: Business plans are often formulated based on certain expected levels of enrollment of students. If the enrollment is much lower than planned, the operation of the programs can come under severe financial pressure and become a burden to the host government and degree granting institution.

(2) *Unmatched Expectation*: Unmatched expectation is one of the main reasons which can lead to failure of global campuses. For example, the host nation or university may normally expect the program to be taught by faculty from the degree granting institution. But instead, the programs may be taught by local part-time or adjunct faculty. Furthermore, the degree granting institutions may expect a level of sustained continuous financial support and resources which may change over time. [15]

(3) *Quality of Faculty and Students and Programs*: The quality of students and faculty is key to success. Better faculty and students build a better reputation and image, thus, resulting in more interest from applicants and making the branch campus more competitive. If the quality is not ensured, good students will not be inclined to enroll.

(4) *Academic Freedom*: In many cases, the American-style academic freedom is expected in global campuses. This includes a variety of issues such as woman's advocacy [3], academic freedom in a country which does not respect freedom of expression as American universities

do [9], existing conflicts between ethnic groups or nations [7], and others.

3. Establishing the Campus in Korea to Prepare Global Engineers

Like the global engineers that SUNY Korea seeks to educate in an American global campus with cross-cultural exposure and innovative approaches, SUNY Korea has been established through a journey filled with some cross-cultural conflicts, challenges, excitement, and setback. With a trail-blazing effort in an academia-government-industry collaboration—a common concept being manifested at a much elevated and globalized level, SUNY Korea was established to give students unique perspectives on globalization. This is accomplished through the delivery of an American education intermingled with Korean economic vibrancy that aspires to global co-prosperity, global entrepreneurship, and imaginative business development in the graduates of this first American university in Korea [17].

The first question for Stony Brook University to establish a global campus may be "Why Korea?" Here, we offer some perspectives and inspiration for the establishment of the campus in Korea to provide the necessary preparation of global engineers at SUNY Korea

- Korea has become a gateway of economy and a rising star in technological innovation.
- SUNY Korea is located within a 3.5 hours flying time to cities and regions that include 1/3 of the world's population.
- The campus is situated in the middle of one of the most vibrant economies and technologically advanced countries in the world.
- The campus is built in a brand new Incheon city on land-fill of low tide coastal area, and is now the headquarter to the UN's Green Climate Fund (GCF). The Korean government has invested over 200 billions, with a plan for global campus.
- The campus attracts a diverse student body from all over the world.
- SUNY Korea is the first foreign comprehensive research university, providing opportunities of research experience and internship to global engineering students.
- It receives supports from government and Incheon City.

Furthermore, SUNY Korea has received government research and education grants in its first year of existence, and forged partnerships with global companies which provide internship and employment opportunities to the students to foster the education and intellectual growth of a new generation of global engineers.

A global engineer today will benefit from the establishment of academic programs in an environment which foster the growth of a learning community for engineers of the future. In the following, we address the academic programs and challenges in establishing a global campus in Korea.

SUNY Korea has 85 students in spring 2013, including 25 undergraduate students and 50 graduate students. The plan is to increase the number of undergraduate and graduate degree programs and to reach an enrollment of 2000 students in the next 5 to 10 years.

3.1 Academic program and planning for preparing global engineers

From day one of the planning of academic programs, it is important to have the support of the home University, including the President, Provost, University Faculty Senate, the College of Engineering and Applied Science (CEAS), and various administrative departments and units on the home campus. The planning and delivery of academic degree programs are primarily done in partnership between the home institution, Stony Brook University (SBU), and SUNY Korea.

Because the degrees earned at SUNY Korea are degrees of the Stony Brook University, it is crucial that the degree granting home campus has the control of all quality contents—from the admissions of students to the quality control in teaching and research. Since all degree programs offered in SUNY Korea currently are the degree programs in CEAS at Stony Brook University, CEAS works closely with the many relevant units on campus to ensure the quality of the degrees and the integrity of the curricula.

Graduate degree programs at the M.S. and Ph.D. levels were offered first at SUNY Korea in 2012 after being approved by the Ministry of Education, Science and Technology (MEST) in 2011. Department chairs were sent by the home departments in SBU to impart the continuity and academic governance of the home departments. Research is an integral part of the graduate education in SBU; thus, faculty members are very active in seeking research grants from Korean government and industry. In its short one-year tenure, SUNY Korea has attracted more than 2.5 millions USD of annual research expenditures. In addition, all Ph.D. students at SUNY Korea are required to spend at least one year in residency in their home department at Stony Brook University. During the stay at Stony Brook, Ph.D. students will take courses, as designated by the department and dissertation advisor, and interact with faculty and students to foster their intellectual growth as scholars in their respective fields of study.

The undergraduate degree program in Technological Systems Management (TSM) was subsequently started in March 2013, after the approval by MEST in August 2012. The TSM/BS degree program in SUNY Korea was endorsed by the University Faculty Senate at SBU. The SUNY Korea campus, in partnership with SBU, integrates the strengths of Asian education in science and math, while cultivating the ingenuity and imagination of students through liberal arts general education, as well as the core curricula in various concentrations within each discipline. Undergraduate students at SUNY Korea are required to be resident students on the Stony Brook campus for one academic year (2 semesters) to fulfill the general education requirements in liberal arts, selected from the rich and diverse curriculum and courses that SBU, a comprehensive university, offers. SUNY Korea undergraduate students are expected to be an integral part of the general student body while at Stony Brook and to interact with peer students and advance their careers as proud students of SBU. This obligation for a one-year residency at SBU also help students to foster their intellectual growth, by participating in the unique Stony Brook Undergraduate College experience and in the academic environment offered by a top comprehensive AAU member university. Furthermore, SBU is close to New York City, a mecca of diverse cultures of the world and a global city, offering students the opportunity to broaden their worldview and perspectives with intellectual stimulation.

3.2 Challenges in establishing a global campus

Challenges for establishing such a global campus include the following.

(1) Academia-government-industry collaboration at a much elevated globalized level, with sometimes conflicting government policies and regulations (Figure 1). The level of collaboration is elevated due to the different, and sometimes complex, government laws and policies. To this end, it is important that well-connected local advocates can facilitate such collaboration and resolve issues (such as approval of the Ministry of Education, partnership with the local universities, coordinate grants and proposals, … etc.). Figure 1 illustrates the different roles of each of academia, government and industry in this global partnership. [18-21]
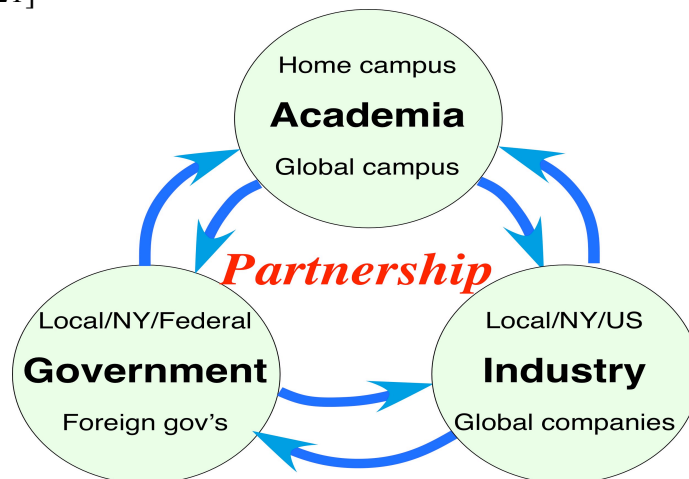

Figure 1: Academia-government-industry collaboration at a globalized level

...portant to forge and maintain a strong relationship and local connection to ...n the host country. A successful global venture is usually characterized ...and mutual trust in partnership to overcome a plethora of issues and ...gure 2)
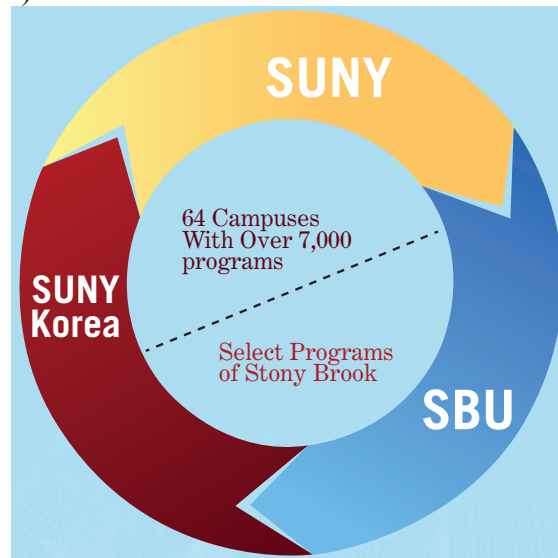

Figure 2: SBU and SUNY Korea

(3) Integrating research and education: SBU is a member of the Association of American Universities (AAU) with a strong focus on research; hence, the integration of research with education is important and consistent with the missions of the university. As illustrated in Figure 3, the integration of education and research results in discovery and invention, to the engineering of products to lead to economic development—all necessary steps in preparing global engineers. For example, a research center CEWIT Korea was established first as a complement to the New York State Center of Excellence in Wireless and Information Technology (CEWIT) at Stony Brook University as the process of establishing SUNY Korea progresses was being developed.
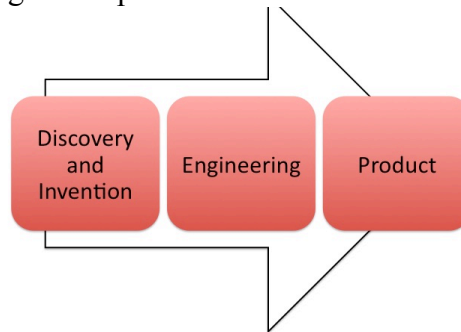
Figure 3: Integrating education and research of engineering/technology in a globalized world

(4) Integrity of degrees: The planning of SUNY Korea involves SUNY, University Faculty Senate, Graduate School, Colleges, and Departments at SBU. SUNY Korea also follows the policy of admission, degree audit and the delivery of courses and curriculum at SBU. This also includes the appropriate curriculum implementation and laboratory development.

(5) Support of the home campus is essential: A global campus poses fundamental and complex challenges on the operations of the home campus, such as student service, academic affairs, registrars, IT, finance, international academic office, admissions and enrollment management. A constructive environment is critical in tackling issues and challenges with creativity and innovation.

(6) Academic matters: It is critical to make plans for the faculty expat assignment from the home campus as well as faculty development. In addition, it is important to have a sustainable strategy for student recruitment. Collaboration with the home campus for recruiting of faculty and students is necessary. Although academic freedom is generally not an issue in South Korea, we always seek to ensure the academic freedom and independence in academic governance.

(7) Accreditation: The US accreditation body usually requires the university to notify it of the establishment of such global campus. SBU is accredited by the Middle States Commission for Higher Education (MSCHE), which had conducted a site visit and approved SUNY Korea as an additional location of SBU. In addition, programs with ABET accreditation on the home campus may be affected by the corresponding programs in SUNY Korea. There are different options of accreditation for the new programs overseas. A comprehensive understanding of the options of accreditation will help in making an informed decision regarding accreditation issues.

4. Summary

SUNY Korea has a slogan of "history maker—we change the world." It is with such ambition that SUNY Korea has aspired to educate and prepare global engineers that will become the engine of innovation and economic development throughout the world. With a global campus ($175 million construction cost, as shown in Figure 4), the dream of integrating research with education at the global level is becoming a reality. While recognizing challenges today and in the future, we also feel the excitement of charging forward in this trail-blazing venture which will ultimately benefit society at large by educating the next-generation global engineers and leaders of economic development.

Figure 4: A photo of SUNY Korea campus on a clear summer day

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