Higher Education: The Need for an International Perspective

Hamid Y. Eydgahi, Ph.D., Vice President of Academic Affairs Pine Technical College

Introduction

The continuing demand for availability of engineering graduates with global viewpoint is strategically important to the economic welfare of today's businesses and industries. This unparalleled need is essentially provoked by swift changes in advanced technologies and an evermore-global competitive environment. The success of this workforce will then depend on the availability of an educational system capable of responding to these new requirements. In other words, the public debate and trust which is fading away, is that the educational system as a whole is disconnected from the professional ethics, students and society's needs and equally important the perspective of international issues.

Institutions of higher education, for most part and until recently, have been non-profit organizations with classroom settings, and educational policies based on input. However, the 21^{st} century, with a promise of access at anytime, anywhere, and anyhow, it is necessary to evaluate the success of these policies on output. By and large, institutions are too slow, and perhaps too old fashioned, to respond to change in a timely manner.

Wenk¹ asserts, "If engineering is to be practiced as a profession, and not just a technical craft, engineers must learn to harmonize natural sciences with human values and social organizations." Thus, such issues as HIV; environmental threats (i.e. global warming); social justice, inequality and changes; labor issues and illiteracy; or the growing gaps between the rich and poor; are important issues for engineering graduates. As a result, the communities of the global village need to understand each other's culture and language to advance the cooperation of overcoming these and other vital challenges.

According to American Council of Higher Education, U.S. could play a greater role in setting international education policy; and in their preliminary status report 2000 on internationalism of U.S. higher education, the ACE has called for U.S. higher education to do far more than ever before in order to educate students to perform productively and effectively in the global marketplace (ACE^{2 & 3}).

Engineering education principles, and higher education in general, require the use of knowledge for improving human welfare. Author, in this paper, presents critical statistics to illustrate the essential needs and values of global awareness, including:

- The importance of international education,
- The number of foreign students studying in the U.S.,
- The decline in U.S. international education programs,
- The need for increased participation by U.S. higher education system, and
- Conclusion.

Importance of International Education

Business continues to trade across all boundaries, unlike students and educators who are/were typically based in a certain community with certain values. However, with advances in technology, communication, Internet and distance education such stability is no longer true. Continued advancement in technology guarantees to transform the way we teach more than any other dominance in the past. Moreover, led by the success of global communication, the competitive environment has perhaps become unpredictable to the point that challenges even well run organizations (Lau⁴).

A survey conducted by ACE⁵ shows that Americans think that global matters will increasingly change their lives, and the higher education ought to engage in a major role of preparing students to be connected with international issues. The survey results show:

- 63% strongly agreed that knowledge of international issues are valuable to future careers, while 25% strongly agreed that these issues impact their own careers in the coming years.
- 67% strongly agreed that international issues and events would have an impact on their daily lives.
- Majority pointed out that higher education ought to play a greater role in providing international education opportunities. 75% agreed that foreign languages should be required in high schools, and 71% agreed higher education should require foreign language.
- 80% agreed that an institution's international offering is an important factor to consider when choosing a university to attend.
- 53% believed that it was very important to know about the culture of others to successfully compete in a global economy.

Gerth, president of California State University – Sacramento and President of the International Association of University Presidents, has said (ACE^2) American colleges and universities 'need to be players' in international higher education, because U.S. higher education increasingly is being viewed as 'isolationist' and 'selfish'.

Landis⁶, who is a national leader in preparing and ensuring the success of engineering students; in his book 'Studying Engineering: A Road Map to a Rewarding Career', begins by stating that no one is born knowing how to be effective, we learn from many different sources including educational ones. While educators may not be able to control those learning processes occurring at home, work or other social environments, we do have the ability to design curricula, which seeks to educate effective graduates.

Number of Foreign Students Studying in the U.S.

The number of international students attending colleges and universities in U.S. climbed by over six percent during the 2000-01 academic year, the largest one-year increase in twenty years, according to an annual report on international education published by the Institute of International Education ACE⁷. Other findings include:

- China experienced the largest increase in the number of students studying in the U.S. (up 10 percent).
- Asian students made up over half of all international students in the U.S.

The number of international students in America has increased by 15 percent since 1993 • and much of that growth has taken place at community colleges.

The demographics of international students continue to change (The Chronicle of Higher Education⁸) and their academic level and origin between 1990 and 2000 (ACE⁹) are shown in tables 1 and 2 respectively.

	Inte	ernational S	tudents' Demographics	8	
Country or		1-year	Country or		1-year
Territory	Students	change	Territory	Students	change
China	54,466	+6.8%	Trinidad & Tobago	2,762	+18.9%
Japan	46,872	+1.0	Romania	2,716	+21.6
India	42,337	+13.0	Australia	2,617	+7.4
Rep. of Korea	41,191	+5.1	U. A. Emirates	2,539	+0.6
Taiwan	29,234	-5.8	Nepal	2,411	+2.2
Canada	23,544	+3.5	Norway	2,329	0.0
Indonesia	11,300	-6.9	Vietnam	2,266	+42.8
Thailand	10,983	-12.1	Poland	2,194	+14.5
Mexico	10,607	+10.0	Ghana	2,127	+21.5
Turkey	10,100	+7.7	Jordan	2,074	+1.7
Germany	9,800	+2.4	Cyprus	2,071	-5.2
Malaysia	9,074	-21.5	Sri Lanka	1,968	+4.9
Brazil	8,600	+6.8	Egypt	1,964	+7.1
Britain	7,990	+2.9	South Africa	1,962	+6.7
Hong Kong	7,545	-13.6	Ecuador	1,939	+8.8
Russia	7,025	+6.3	Bahamas	1,902	-2.9
France	6,877	+10.2	Switzerland	1,893	+1.4
Colombia	6,277	+24.5	Iran	1,885	+13.5
Pakistan	6,107	+3.4	Netherlands	1,751	-4.8
Kenya	5,684	+14.9	Ukraine	1,673	+5.8
Saudi Arabia	5,156	+4.6	Former Yugoslavia	1,631	+4.4
Venezuela	5,125	-0.2	Morocco	1,607	+13.2
Sweden	4,994	+9.9	Lebanon	1,582	+20.3
Spain	4,337	+3.4	Chile	1,429	+4.1
Singapore	4,250	+5.5	Panama	1,389	+4.7
Bangladesh	3,845	+5.3	Ethiopia	1,286	+22.2
Jamaica	3,762	+21.1	Zimbabwe	1,184	+21.7
Nigeria	3,602	+25.2	Hungary	1,166	+6.0
Kuwait	3,298	+9.5	Ireland	1,166	+12.7
Italy	3,286	+7.2	Haiti	1,145	+22.3
Israel	3,238	+4.5	Tanzania	1,091	+9.8
Philippines	3,143	+9.7	El Salvador	1,079	+45.5
Argentina	2,978	+13.0	Denmark	1,066	-0.8
Bulgaria	2,847	+10.6	Botswana	1,053	+19.5

Table 1

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Peru	2,785	+33.1	Guatemala	1,044	+5.4
Greece	2,782	-2.3	Austria	1,041	+10.9

Note: Includes only countries with more than 1,000 students in U.S. institutions.

International Students' Academic Levels and Origin							
			Middle		Latin	North	
	Africa	Asia	East	Europe	America	America	Oceania
Undergraduates	67.2	41.9	51.1	51.1	61.0	53.8	60.5
Graduates	28.4	50.1	39.5	40.7	31.1	42.5	34.0
Others	4.3	8.0	9.4	8.2	7.9	3.8	5.5

Table 2
International Students' Academic Levels and Origin

Decline in U.S. International Education Programs

ACE¹⁰ report suggests that most U.S. colleges show a decline in foreign languages enrollment and low-levels of students' global awareness, at the same time that public interest in international education appears to be growing. The report highlights that the actual number of students participating in campus activities, such as foreign languages and study abroad is much lower than the self reported interest of students and families. ACE's survey of public opinion shows that Americans are experiencing the impact of global issues and economy on their lives, and try to find international educational opportunities for their children. Furthermore,

Internationalization of U.S. higher education: Preliminary Status Report 2000, shows a decline in foreign languages studies as a percentage of college enrollment, and suggests that the level of internationalization has remained low. Among major findings of the report were:

- The public thinks knowledge about international issues is important, especially for future generations. On the other hand, indicators suggest that current international curricula and activities provide students with only basic levels of international skills and competencies, defined as four or more credits of international studies and a certain number of years of foreign language study. In fact, less than seven percent of all higher education students met these basic requirements.
- The public expects U.S. colleges to require foreign language training for students and provide them with international skills and knowledge. However, foreign language study by U.S. students has decreased dramatically. Between 1960s and 1990, total enrollment has declined from sixteen to about eight percent, and foreign language requirements in universities have decreased from 34% to about 20%.
- The public thinks college students should have an international experience as part of their overall education. Nonetheless, very few students have a study abroad experience. In fact, report indicates less than one percent of students study abroad each year, and less than three percent will do so by the time they complete their studies. Furthermore, it should be noted that these experiences are usually less than a semester.

The need for increased participation by U.S. higher education system

ACE in its report (Cited in Zhang¹¹), 'Educating Americans for a World in Flux: Ten Ground Rules for Internationalizing Higher Education', underscored the essential need for international education:

"If our nation and its people are to prosper in the new environment of the 21st century, our colleges and universities must truly become institutions without

boundaries. Their leaders must rethink what is taught, how it is taught, where it is taught, and who teaches it. Young people who do not possess the skills and competencies required to function effectively in the new global village will be economically disenfranchised – unable to find or hold challenging employment and the financial rewards attending such work. Firsthand experience with other people, languages, and cultures is an essential complement to formal study. Study and internship abroad are among the most valuable educational experiences any student can receive. If the transformation called for is to become a reality, existing structures and processes need attention. It is highly unlikely that most do not provide the support required for effective international education program."

According to a report by the Institute of International Education (ACE¹²), a record number of U.S. students were studying abroad during the 1999-2000 academic year. The report's major finding were:

- An eleven percent increase in number of students studying abroad, from the previous year.
- The top destinations among U.S. students studying abroad were U. K. (20%), Spain (10%), Italy (9%), and France (8%). Another fourteen percent (14%) studied in Latin America.
- The most popular fields of study among U.S. students studying abroad were social science (20%), business and management (18%), and humanities (15%).

Conclusion

Today's rapidly changing technological and competitive global environment, continues to demand quality personnel. The strength of our economy and the success of its workforce will be based upon the presence of an education system that ensures the development of not only strong technical skills but also sound global knowledge. To be successful, higher education needs to bring together a system that prepares students for engaging with global communities; understanding the interactions of local and global issues; exploring cultures, addressing global concerns and connecting diverse points of view.

While foreign languages, international studies, and studying abroad are all very important elements, the question remains as how do we prepare our students for the challenges of the new millennium? Although there is not any common standard, an integrated process based on outcomes can further the development of effective curricula (in reference to the need for an international perspective), through a sequence of questions:

- 1. Does a course of introductory foreign language really prepare students for the complex challenges of our world?
- 2. Is a semester of studying abroad sufficient to present students the opportunity to develop critical and international perspectives?
- 3. What elements would best promote the development of social justice and change, illiteracy, or labor issues?

The significance of these questions cannot be overstated, and to achieve this goal, these and other important questions collectively would help in crafting a curricula focusing on this outcome. The curriculum to be successful, must integrate these skills, and educators must be

devoted to required changes even though some may not be easy to achieve. Lastly, no change could be achieved without substantial faculty professional development. It is hoped that this paper has provided significant statistics and information, although an overview and not conclusive, it perhaps has provided a starting point for continued discussion on the need for change and international perspective.

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Hamid Y. Eydgahi

Hamid Y. Eydgahi is the Vice President of Academic Affairs at Pine Technical College. He previously served as the Dean and Associate Professor of Engineering and Industrial Technologies at Lima Technical College. He has also taught at community and technical colleges, and practiced engineering and project management for more than ten years in private industry and consulting. Dr. Eydgahi has published and presented at a number of national conferences including American Society for Engineering Education, The Chair Academy, The League for Innovation and others.