The World is Flat – and Beckoning

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In the recent book *The World Is Flat*, it is pointed out that people, governments, and institutions are globally connected because of technological advances in communication, computing, and transportation. It is as if the world is now flat – not round – so that economic and other activities can occur seamlessly from country to country and continent to continent. For example, in 2005:

400,000 American IRS tax returns were prepared in India.

American doctors transmitted CAT scans via the Internet to India and Israeli firms so Americans could get a second opinion more quickly and cheaply.

Indian engineers can handle most technical jobs at one-tenth the cost of American engineers.

Wal-Mart last year imported \$18 billion of goods from 5,000 Chinese suppliers, who represent 80% of Wal-Mart's suppliers.

For American automobile workers, health benefits cost \$6,000 per worker if the car is manufactured in the United States and \$800 if manufactured in Canada.

As a consequence of the global challenge, in 2005:

The dollar value of U.S. exports of goods and services minus imports of goods and services (the Current Account Balance) was -6% of Gross Domestic Product (GDP), a historical record.

Household financial balances (the "household savings" rate) were -4%, the lowest rate over the last 50 years.

The Misery Index, which is a gauge of the economic health of a country, showed the U.S. as the second lowest among G7 countries in 1994 and the highest in 2005. The G7 countries include Canada, France, Germany, Great Britain, Italy, Japan, and the U.S. The Misery Index is a compilation of a country's unemployment, inflation, and interest rates, the federal budget and current account balances, and GDP growth.

These results reflect the fact that other countries have cheaper wage rates, increasing technical and professional expertise, valuable natural resources (especially energy), increasing consumer markets, and accumulation of investment capital. How does the U.S. respond to the challenge?

The answer resides in considering this challenge as an opportunity and stimulus. We need to develop to the highest level the concept of the knowledge worker and knowledge society.

The knowledge society is one which consistently explores, discovers, creates, and innovates. The tools utilized are varied. They include expertise in science, technology, engineering, and math (STEM). These tools also include an understanding of the language, culture, and history of other countries. They include commitment to the highest standards

of professional and personal ethics.

How is the U.S. doing in these areas? Not so good right now. For example,

The percentage of the U.S. college-age population possessing STEM degrees ranks 17th globally. Thirty years ago, it ranked third.

In 2004, 600,000 engineers graduated in China, 350,000 in India, and 70,000 in the U.S.

For many years now, U.S. fourth graders have scored above the average in math and science compared to a bench mark group of 49 countries; eighth graders have scored at the average; and twelfth graders have scored significantly below the average, ranking 47th out of 49 (Cyprus and South Africa are the two countries scoring lower).

Most universities (including RIT) do not require foreign language courses for admission or graduation.

A recent survey of college students at colleges regarded as "highly active" in promoting global and foreign language studies showed that 40% of the students do not believe it is important to study a foreign language.

Almost daily the media recount ethical abuses from all sectors of society.

What is RIT doing? Let me cite some examples:

Today, 57% of our students are graduating with STEM degrees. Most of our other graduates are utilizing STEM tools in their work. That is good.

We have introduced International Studies as a new major in our College of Liberal Arts, and this is accompanied by our previous College of Business major in International Business. That is good.

We are growing our Study Abroad program and our degree partnership programs with foreign universities and countries. That is good but we can do more here.

Eight percent of our students (1,150 students) are from 90 foreign countries. That is good.

Our new flexible curriculum will permit double majors and multiple minors

across colleges, so that STEM courses and international courses can be more readily integrated. That is good.

We offer 9 foreign languages to 1,800 students (13% of the student body). We can do better.

Ethics courses are offered in our College of Liberal Arts and College of Business. However, the study of ethics across the curriculum is not happening. We will be working on this in the coming year.

A number of faculty and students are engaged with K-12 schools to motivate these students to join the knowledge society. That is good, but we can do more.

The flat world is challenging the U.S. right now. The key to making the flat world America's opportunity is higher education. RIT is doing its part, and it will do more.

America's opportunity is in the hands of those of you graduating today and those who will follow you. You are being challenged, but you are in good company. The 2005 international rankings of the world's best universities placed American universities in eight of the top ten ranks and 22 of the top 30.

You graduates are an integral part of the U.S. knowledge engine. As you graduate today, let me leave you with these thoughts:

Utilize to the fullest your STEM education.

Continue to learn as much as you can about the culture, history, and geography of the world around you and remember, it is never too late to refine or learn a foreign language. Multicultural understanding and sensitivity may well be the keys to your professional success.

Most importantly, treat everyone with the respect and courtesy you would like to receive from them. Be ethical in everything you do professionally and personally.

I feel very confident in your ability to successfully navigate this flat world. I am proud of and happy for you. The world beckons you.

Stay in touch and good luck.

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