

A New Awakening

by Donald E. Purcell

Background

Since 2000, a new awakening has been taking place concerning the strategic value of standards education. Countries all over the world are taking a fresh look at standards education and its strategic relationship to development of international standards in a global economy. Consider, for example, that several countries have developed a national standards strategy since 2000: China, Canada, Germany, Japan, the United Kingdom, and the United States. Standards education plays a prominent role in several national standards strategies.

US Standards Education Activities

Since 2000, ABET, the accreditation body for all engineering schools in the United States, has established an educational requirement that all engineering students are required to study "engineering standards" in their senior year of undergraduate study. The American National Standards Institute has overhauled its standards education program and established a Standards Education Committee to oversee its participation in standards education programs. The American Petroleum Institute has established a grant program that provides a complete set of petroleum standards to any university in North America that establishes a petroleum engineering program. ASTM International has established a program to attract college students on a worldwide basis to become ASTM members and learn about standards. Several thousand college students now participate in this program. The Institute of Electrical and Electronics Engineers has reviewed and substantially expanded its standards education program and activities. The Standards Engineering Society has reviewed and

expanded its educational efforts. In the government sector, a few federal departments and agencies, such as the National Institute of Standards and Technology and the Department of Defense, have expanded their standards education activities.

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International Standards Education Activities

Internationally, South Korea launched the most ambitious standards education program in the world in 2004. This program now includes more than 50 universities and 7,000 engineering students who are required to take a standards course which is at least one semester in duration. The South Korea program also covers secondary education. In 2006, the Asia-Link program launched an international standards education program supported by two universities in Europe and universities from six countries in Asia. In 2006, Japan expanded its standards education programs through the Japanese Standards Association. In addition, Hitosubashi University in Tokyo has established a Standards Study Group that involves every graduate department at the University. The Hitosubashi Standards Study Group plans to create a graduate standards education program for all graduate schools at the University, supported by a standards research center.

ICES

In February 2006, a relatively small group of countries and representatives met in Tokyo to discuss standards edu-

cation programs around the world. Countries represented at the meeting included China, Japan, Singapore, South Korea, The Netherlands, and the United States. The International Committee on Education about Standardization (ICES) was formed at this meeting. ICES is an unincorporated group of interested countries and representatives that meet once a year to review and discuss standards education programs around the world.

In February 2007, ICES held its second meeting at Delft University of Technology in The Netherlands. Eleven nations were repre-

sented including China, Belgium, France, Germany, Greece, Korea, Japan, The Netherlands, Sri Lanka, Switzerland, and the United States. The Conference was divided into four parts: 1) need for standardization education; 2) audience and learning objectives of standardization education; 3) education content; and 4) educational material for standardization courses.

It was agreed the next ICES conference will be held at the US National Institute of Standards and Technology in February 2008. It is possible that the 2009 conference will be held in China.

Discussions in the 2006 and 2007 ICES conferences were similar, however, the detailed scope of review and number of participants in the 2007 conference represent a significant increase in international awareness given to standards education. In fact, the number of participating countries in the 2007 conference virtually doubled. For all interested parties, the 2007 ICES conference makes a clear statement that standards education is no longer a "backwater issue" of secondary importance in the international standards community, but rather a top priority issue to be taken seriously.

The Strategic Value of Standards Education

The new awakening concerning the strategic value of standards education has some important implications. Consider, for example, the demographic profile of the United States standards community. A "best guess" is that at least 50 percent of standards practitioners in the United States are close to retirement, or retirement is within their foreseeable future. Who is going to replace these practitioners when they retire? Do most standards organizations such as corporations, standards development organizations, engineering firms, and government departments and agencies have a plan to replace the practitioners who are currently engaged in developing standards through national, regional, and international standards programs? I don't think so.

In a world where economic globalization is rampant and technology standards directly affect at least 80 percent of world trade with an estimated value exceeding \$7 trillion, the United States faces a situation where major strategic investments are being made in standards education programs by other countries to educate their best and brightest students in the field of international standards and standardization systems. By comparison, there is only one university in North America that teaches *Strategic Standardization* - The Catholic University of America School of Engineering.

In the future, which countries do you think will be better prepared to help influence development of a new global market where international standards influence everything we do and control access to markets? Is it time for the United States to participate more fully in the new awakening concerning the strategic value of standards education?

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Editor's Note: For additional information about the 2006 and 2007 ICES conferences, go to www.euras.org/ices.htm. Also see the sidebar on this page regarding the 2007 ICES meeting.

Increased Interest in Standardization Education

Four years ago, universities in Korea hardly spent any time on standards and standardization. However, in 2006, 87 standardization courses at 46 Korean universities were attended by some 6,681 students. The reason for this enormous increase is that the Koreans have recognized that standards shape the market for products and services. As they want to increase their influence in the process of developing these standards and make their companies profit from standardization, they indeed understand the need for education.

In other Asian countries, such as Thailand and Japan, the interest in standardization education is increasing as well. The most extensive courses in standardization can be found at China Jiliang University in Hangzhou, China. In comparison, Europe and the Americas lag far behind.

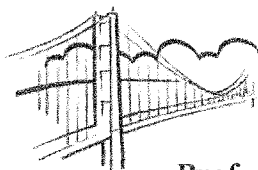
In order to discuss these developments, to learn from each other, and to further develop and spread standardization education, 33 standardization experts from companies, academia, standardization bodies, and government in Asia, Europe, and the USA met in Delft, The Netherlands during February for a two-day interactive workshop. They discussed the need for standardization education, defined target groups for education, formulated learning objectives for some of these groups, designed the essential elements for a basic academic course on standardization edu-

cation, and made an inventory of the currently available educational material. The workshop was an initiative of the International Committee on Education about Standardization (ICES), established at the February 2006 meeting in Tokyo. The aim of ICES is to share knowledge and experience in standardization education.

Their main observation from this workshop was that an enormous gap exists between manifest and latent needs for standardization education. In general, policy makers are not conscious of the contribution of standards to industry and society. Company managers lack awareness of the strategic importance of standards for their company in terms of market share and effectiveness of the organization. People who carry out standardization tasks, such as experts who participate in standardization committees, mostly do so without any related education. They are not aware that findings in standardization research and training in professional skills could enhance the effectiveness of their tasks considerably.

An important lesson to be learned from some of the Asian countries is that the gap can be bridged in several ways - first, developing a strong national policy, which may be part of a regional policy; and second, enhancing cooperation between government, industry, national standards bodies, and academia and other organizations for education.

Standards – The Bridge to Global Markets



2007 SES/IFAN Conference
San Francisco, California

Conference: August 20-21, 2007

Professional development courses: August 22-23, 2007

IFAN General Assembly: August 22-23, 2007

Go to www.ses-standards.org for updated conference information