

The Strategic Value of Standards Education

By Donald Purcell¹

Introduction

It is generally accepted that globalization is rampant and will remain so for the foreseeable future,² standards influence everything we do,³ standards control markets,⁴ and, in strategic terms, “If you control an industry’s standards, you control that industry lock, stock, and ledger.”⁵ In a similar manner, the process of standardization offers one of the best sources of competitive intelligence available.⁶ Indeed, standardization programs can be a critical means to evaluate current technology and provide a glimpse of future technology innovations and directions. Standardization programs are indispensable for the strategic evaluation of technology and the analysis of competitive issues. In a world dominated by engineering, science and technology, it is therefore of great value to have a fundamental understanding of standards and the process of standardization.

In 2008, the Center for Global Standards Analysis (Center) conducted a global survey of corporations, private and public sector standards development organizations, and universities to determine whether there was a consensus on the strategic value of standards education.⁷ The survey confirmed there is a strong global consensus on the strategic value of standards education. In 2009, the Center conducted a follow up survey in the United States to determine whether there was a consensus to increase resources for standards education programs.⁸ The survey confirmed there is a strong consensus to increase resources for standards education programs in the United States.

2010 Survey

In 2010, the Center conducted a survey in the United States to determine what the content for standards education programs should be and to identify priorities among potential education groups for standards education programs.⁹ The survey was published in August.

To evaluate the significance of standards education content and priorities among potential standards education groups, the survey established four categories: *Essential*, *Necessary*, *Optional* and *Not relevant*. The 17 respondents reported a consensus on the categories below. To determine whether a consensus existed for a particular category, the *Essential* and *Necessary* categories were combined to determine whether a combined category had a value of at least 10.

¹ Chairman, The Center for Global Standards Analysis

² *The World is Flat*, Thomas Friedman (2005)

³ UK National Standards Strategy (2003)

⁴ German National Standards Strategy (2005)

⁵ *Out of the Crisis*, by W. Edwards Deming, Center for Advanced Engineering Study, MIT at 302 (1986)

⁶ Canada National Standards Strategy (2005)

⁷ For a copy of the survey, send an email to Donald Purcell: donpurcell@strategicstandards.com

⁸ Ibid.

⁹ Ibid.

Survey Respondents

The following organizations and individuals responded to the survey.

- Adobe
- Air-conditioning, Heating and Refrigeration Institute
- Andrew Updegrave, Esq.
- American Society of Mechanical Engineers
- ASTM International
- BICSI
- Boston University
- Caterpillar
- Georgetown University
- Institute of Electrical and Electronics Engineers
- National Electrical Manufacturers Association
- National Fire Protection Association
- Society of Fire Protection Engineers
- Society for Human Resource Management
- Toy Association
- Underwriters Laboratories
- University of Colorado (Boulder)

Priorities for Standards Education Content

Value of standards	16
Standards Development Bodies	15
Process & Procedures	14
U.S. Standards System	14
International Standards System	14
Technical Barriers to Trade	14
U.S. Public Policy on Standards	16
Standards Legal Issues	13
Standards and Regulations	16
Standards Research	11

Priorities for Potential Standards Education Groups

Standards Professionals	15
Practicing Engineers	16
Technology Professionals	14
Executives (private sector)	11
Attorneys (private sector)	10
Attorneys (public sector)	11
University Students	14

Interpretation of Results

In terms of standards education content, there is a clear consensus that *Value of Standards, U.S. Public Policy on Standards, Standards and Regulations*, and *Standards Development Bodies* are the top education priorities.

In terms of priorities among potential standards education groups, there is a clear consensus that *practicing engineers, scientists* and *technology professionals* are the top potential education group, and academic students are the second priority.

United States Historical Approach to Standards Education

Survey results confirm the current state of standards education programs in the United States. For more than 100 years, most standards education programs have been part of on-the-job training programs at corporations, standards development organizations, private and public sector groups.

There are approximately 380 accredited schools of engineering in the United States, however, only four universities offer courses on standards and the process of standardization among schools of engineering: The Catholic University of America School of Engineering; the University of Colorado (Boulder) Center for Advanced Engineering and Technology Education, University of Pittsburgh School of Information Sciences and Telecommunications, and Purdue University College of Technology. The Arizona State University School of Law, Seattle University School of Law and Yale University School of Law also offer a course on standards.

The significant issue facing the United States is whether the private sector can continue to maintain on-the-job standards education programs given the process of globalization, mergers, acquisitions and economic changes in the global marketplace. Although the creation of standards education courses among universities which began in the 1990s is important, the contribution of United States universities in standards education appears to be *de minimis*.

Conclusion

My belief is that education programs which cover the development of technology standards and the process of standardization are critical to the growth and development of all private sector corporations, firms, standards development organizations, consortia and industries all over the world. Standards education programs also play a vital role in the public sector because the government relies heavily on private sector standards to carry out its mission. I expect the need to develop and maintain standards education programs will occur within individual corporations, firms, standards development organizations and groups based on their vision of the future. For corporations, organizations and groups that see the need for standards education programs, the future will be bright and productive. For corporations, organizations and groups that do not see the need to establish standards education programs, their future will be problematic and difficult at best.