Education about Standardization:
Recent Findings

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ABSTRACT

The purpose of this article is to provide insight in standardization education by presenting the results of an international workshop organized by the International Committee for Education about Standardization (ICES) together with findings from literature. The main topics are: needs for standardization education, audiences and learning objectives, contents of an academic curriculum, and available materials for academic teaching. We found an enormous gap between manifest and latent needs for standardization education. The lesson to be learnt from some Asian countries is that this gap can be bridged. First, by a strong national policy which may be part of a regional policy. Secondly, by cooperation between government, industry, national standards body, academia and other educational institutions. The increasing number of initiatives and activities of the last three years indicates that there is a momentum for education on standardization. Our paper provides a structured approach for using this momentum to further develop and implement standardization education. It challenges researchers in the field to interrelate research and education.

Keywords: education; learning; research; standardardization

A few years ago, universities in Korea hardly spent any time on standards and standardization. Last year (2006), however, 87 standardization courses at 46 Korean universities were attended by 6,681 students. Korea's stance is that standards shape the market for products and services. As it wants to increase its influence in the process of developing these standards and help its companies profit from standardization, it indeed understands the need for education.

This article presents the main results of an international workshop on standardization education organized by the International Committee for Education about Standardization (ICES), and discusses these together with findings from literature.

ICES was established in Tokyo, February 6 to 8, 2006, at an expert meeting called The Future of Global Education in Standards. Experts from academia and industry from Asia, North America, and Europe met to share ideas and learn from

each other's education practices. The participants agreed that education about standardization globally is a subject worth pursuing, and that they were to meet once a year, share knowledge and experiences, and proceed under the name ICES.

The ICES workshop discussed in this article is the follow-up of the Tokyo meeting. It took place February 7 to 9, 2007, at the Delft University of Technology in Delft, the Netherlands, and was organized by Tineke Egyedi (Delft University of Technology) and Henk de Vries (Erasmus University Rotterdam). Here, they report about what they think are the main findings from the workshop, grouped into the four thematic sessions.

1. Need for standardization education
2. Audiences and learning objectives
3. Contents of a cross-academic course on standardization
4. Inventory of existing educational material

The first two sessions addressed standardization education in the widest sense, whereas the last two sessions focused on academic teaching.

However, before discussing the workshop findings and the limited literature on standardization education, what is the state of interest for standardization education worldwide?

Momentum

Korea's initiatives in standardization education spearheaded a flurry of activity internationally. Since 2003, the number of activities has increased rapidly. A few examples are as follows.

- The first Strategic Standardization Workshop of the Korean Standards Association is held (KSA, 2003).
- Secondary school program on standardization education in Thailand (2003-2006), 2,354 teachers are trained and 444,600 students receive standardization education.
- Asia Link Project on Standardization Education (2004-2006), a cooperation between six universities of two European and four Asian countries (Hesser & Siedersleben, 2004).
- An article about the need for standardization education is published in the Japanese *Journal for Science and Technology Trends Quarterly Review* (Kurokawa, 2005).
- In the framework of the IEC Centennial (International Electrotechnical Commission), two publicly available lecture series are developed: one series for engineers (Purcell, 2005) and one for business schools (Egyedi, 2007).
- The ICES is founded (2006) and annual meetings are announced.
- KSA organizes its first International Standards Education Seminar (2006).
- The Hitotsubashi University Project (Japan) on "standardology" starts (2006-2009).
- A working group on standardization education within the European Academy for Standardization (EURAS; 2006) is installed.
- ITU (International Telecommunication Union) organizes a consultation meeting called Cooperation between ITU-T (ITU Telecommunication Standardization Sector) and Universities in Geneva, January 18 to 19, 2007.
- Two European projects COPRAS (Cooperation Platform for Research and Standards) and INTEREST (Inte-

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