Chapter 6
Implementing Standardization Education at the National Level

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ABSTRACT

This paper explores how standardization education can be implemented at the national level. Previous studies form the main source for the paper. This research shows that implementation of standardization in the national education system requires policy at the national level, a long term investment in support, and cooperation between industry, standardization bodies, academia, other institutions involved in education, and government. The approach should combine bottom-up and top-down. The paper is new in combining previous findings to an underpinned recommendation on how to implement standardization education.

INTRODUCTION

Interest in standardization education is growing. In Indonesia, for instance, the number of universities cooperating with the Indonesian national standards body BSN to address standardization has increased from none in 2007 to 23 in 2010 (Odjar Ratna Komala, 2011). South Korea is at the forefront of implementing standardization education in academic curricula and does more than Europe as a whole (Choi, 2008, Czaya et al., 2010). Starting from scratch in 2003 (KSA, 2003) Korea has managed to get standardization education implemented at several levels, in particular universities and elementary schools, amounting to 7,490, 10,486 and 9,503 students in 2008, 2009 and 2010, respectively. Standardization education is emerging in other Asian countries as well, both at the academic level and at lower levels including secondary and even elementary schools. Standardization education increases awareness of standards and standardization and prepares

people for jobs in which they have standards-related tasks. In this paper, we investigate what could be done at the national level to stimulate standardization education.

The need for education about standardization has been addressed in several studies (Verman, 1973; Korukawa 2005; de Vries, 2005; de Vries & Egyedi, 2007; Krechmer, 2007; Cooklev, 2010). Implementing standardization education is not easy and despite its recent growth, it is an exception rather than a rule that the topic of standardization is included in education. A combination of barriers has to be overcome. A first barrier relates to the image of standardization. Students may perceive standardization to be 'dull' and if it is the main topic of an elective course, they may choose another, seemingly more appealing course. A second barrier is related to teachers: they may be reluctant to address standardization, because 1) they may be afraid that the topic fails to attract students (this is related to the first barrier), 2) they are not familiar with the topic, 3) they are not aware of its importance, and/or 4) the curriculum is already overloaded. The situation would be different if teachers were required to focus on standardization, but who should convince those who determine curricula and define the final attainment level for students? Standards bodies, of course, are aware of the importance of standards and standardization because it is their core business but should they take initiatives to promote standardization education? What about industry and governments? What role should they play and how aware are they of the importance of standardization as such and standardization education in particular? Lack of awareness on their side may be a third barrier (de Vries et al., 2009).

The 2006 standardization education workshop organized by the International Cooperation for Education about Standardization (ICES) concluded that if standards bodies or other stakeholders take the initiative to promote standardization education, success of implementation depends on (1) national policy, (2) the availability of resources

at the national level, and (3) close cooperation between industry, standards bodies, academia, other organizations in the field of education, and government (de Vries & Egyedi, 2007). These elements will be addressed in the subsequent sections. The concluding section describes what steps could be taken to promote and implement standardization education.

NATIONAL POLICY

Developing and deploying a national standardization education strategy and policy is a prerequisite for a systematic national approach to standardization education (Choi et al., 2009; DeNardis & Levin, 2009). The creation of a national standardization education strategy in APEC member countries was stimulated by a decision taken at the 18th APEC Ministerial Meeting in Hanoi, Vietnam, in November 2006: 'The ministers of the Asia Pacific Economic Cooperation recognized the importance of standards education and encouraged their members to develop reference curricula and materials to address the significance of standards and conformance to trade facilitation in the region' (APEC, 2006). Following this decision, a project was set up and led by the Korean Standards Association (KSA) (Choi, 2008). It includes the development of curricula and teaching materials, and the training of teachers. Most APEC member countries now have a national standardization education strategy. This strategy can be broad (addressing many areas of education) or limited and it can be detailed (specifying exactly what will be done when by whom) or global. It seems that the broader and more detailed the strategy, the more standardization education activities are in place in a country (Choi et al., 2009; Choi & de Vries, 2011). At the European level, the European Commission 'encourages the Member states to improve the position of standardisation in education programmes and academic curricula, in order to familiarise students with the strategic benefits

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