

Developing international standards for learning, education, and training: A librarian's perspective

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Simone Laughton
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LIBRARY
Hazel McCallion
Academic Learning Centre

Standards are ...

“documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics, to ensure that materials, products, processes and services are fit for their purpose”

From specification to standards

- IMS Global Learning Consortium Inc.
- IEEE Learning Technology Standards Committee (LTSC)
- International Organization for Standardization (ISO)
- International Electrotechnical Commission (IEC)
- And others (e.g., International Telecommunication Union (ITU))

Friesen, 2005a, IMS, 2008; IEEE, 2008; IEEE LTSC, 2007; ISO, 2008abc; IEC, 2008

Joint Technical Committee 1 (JTC1)

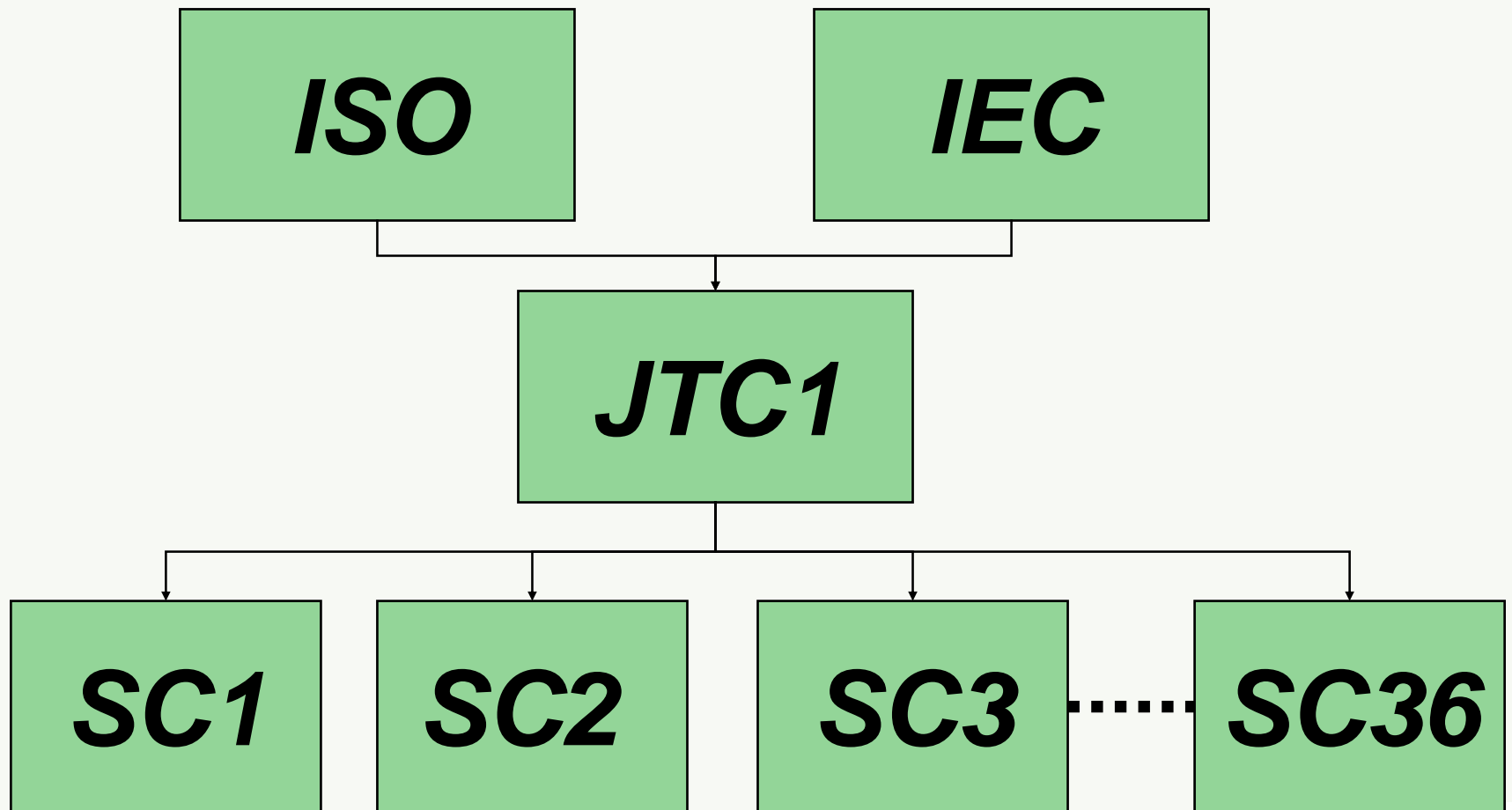
- Formed in 1987 by agreement between IEC and ISO and receives input from the International Telecommunications Union (ITU)
- Mission Statement: Develop, maintain, promote and facilitate IT standards required by global markets meeting business and user requirements concerning:
 - design and development of IT systems and tools
 - performance and quality of IT products and systems
 - security of IT systems and information
 - portability of application programs
 - interoperability of IT products and systems
 - unified tools and environments
 - harmonized IT vocabulary
 - user friendly and ergonomically designed user interfaces

JTC1 SC36 (Sub-Committee 36)

Information Technology for Learning, Education, and Training

- Scope: Standardization in the field of information technologies for learning, education, and training to support individuals, groups, or organizations, and to enable interoperability and reusability of resources and tools.

Relationship of SC36 to ISO/IEC



JTC1 SC36 (Sub-Committee 36)

- 32 National Bodies (25 Participating (P) members and 7 Observing (O) members)
- 23 liaison organizations
- 3 published standards, 8 final draft international standards (FDIS), 27 projects under active development
- 7 Working Groups (WGs)

Developing ISO/IEC standards

3 Principles:

■ **“Consensus**

The views of all interests are taken into account: manufacturers, vendors and users, consumer groups, testing laboratories, governments, engineering professions and research organizations.

■ **Industry wide**

Global solutions to satisfy industries and customers worldwide.

■ **Voluntary**

International standardization is market driven and therefore based on voluntary involvement of all interests in the market-place.”

Definition of “consensus”

- “General agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interests and by a process seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments.”
- NOTE: “Consensus need not imply unanimity.”

ISO Standards Development Process

***Need to participate
in the work to vote!***

0 Preliminary Stage
Preliminary Work Item (PWI)

1 Proposal Stage
New Work Item Proposal (NP)

2 Preparatory Stage
Working Draft(s) (WD)

3 Committee Stage
Committee Draft(s) (CD)

4 Enquiry Stage
Enquiry draft, Draft International Standard (DIS)

5 Approval Stage
Final Draft International Standard (FDIS)

6 Publication Stage
International Standard (IS)

At least 5
P-Members
must approve

2/3 majority of
P-Members. Need
to resolve negative
votes

2/3 majority of
P-Members. No
more than $\frac{1}{4}$
negative.

Maintenance of
IS – 5 years

JTC1 SC36 Working Groups (WGs)

- WG1 – Vocabulary
- WG2 – Collaborative and Intelligent Technology
- WG3 – Participant Information
- WG4 – Management and Delivery
- WG5 – Quality Assurance and Descriptive Frameworks
- WG6 – International Standardized Profiles (ISPs)
- WG7 – Culture, Language, and Human Functioning Activities

WG3: Participant Information

- Scope
- Update regarding current projects:
 - ISO/IEC 24703 Participant Identifiers [Published] (not adopted in Canada)
 - TR24763 Conceptual Reference Model [Working Draft]
 - Competencies and Skills Management Architecture [Study Period]
 - Nomadocity and Mobile Technologies [New Work Item]
 - ISO/IEC 19787 [Letter Ballot for withdrawal]

WG3: Participant Information

SCOPE:

WG3 develops standards related to Participant Information, i.e., information associated with, tracked by, tracked for, and about participants in information technology systems for learning, education, and training (ITLET). This includes:

- Information about roles and organisational positions held by participants within an ITLET system;
- Personal information about participants using an ITLET system, including factual (name ...), contextual (location, job title ..) and biographical information (Birth date, qualifications ...);
- Shared information (competencies ...) between a participant using an ITLET system and an organisation, about the activity of the participant within the organisation;
- Information needed by a LET environment to provide adequately the relevant products and services of an ITLET system to which the participant is a registered member.”

WG3: Participant Information

ISO/IEC 24703 – Participant Identifiers

- Published in 2004
- Canada, U.K. and other NBs are not adopting this standard
 - Does not support privacy/data protection requirements
- Under review

WG3: Participant Information

TR24763 Conceptual Reference Model for Competencies and Related Objects

WHY ARE WE DOING THIS?

- Changes – government, schools & academia, corporations
 - Standardization of higher education programs in Europe, - Sorbonne Declaration (1998), Bologna Process (1999) ...
 - Transnational agreements to recognize credentials and prior learning, - The Washington Accord (1998), The Sydney Accord (2001), The Dublin Accord (2002)
 - Information Technology system initiatives and implementations, - IMS Enterprise Specification, HR-XML, TENCompetence Project, Korean Cyber Home Learning System

Field, 2003; Engineers Ireland, n.d.; Standards Australia, 2003; IMS, 2003; Hirata, 2007; TENCompetence, n.d.; KERIS, 2006

WG3: Participant Information

TR24763 Conceptual Reference Model for Competencies and Related Objects

- Based on ISO/IEC 21127 Information and Documentation – A reference ontology for the interchange of cultural heritage information

WHY A CRM?

- A Conceptual Reference Model (CRM) “provides definitions and a formal structure for describing the implicit and explicit concepts and relationships” within a system.

WG3: Participant Information

TR24763 Conceptual Reference Model for Competencies and Related Objects

- Call for Use Cases – an information technology system that is used to manage, develop, describe, transfer and/or assess competency information or other related objects
- SC36 N1499 Resolution 20 (London)
 - Deadline was May 2007
 - 6 Use cases were received (Japan, Luxembourg, U.K. – 2, Canada – 2)
 - Ontario Ministry of Education, - Ontario Education Resource Bank
 - Ontario Universities' Application Centre

WG3: Participant Information

Study Period on Competencies and Skills Management Architecture

Example from Japan

- 2002 Information Technology for IT professionals (ITSS)
- 2004 Embedded Technology Skills Standard (ETSS)
- 2006 User Information system Skills Standard (UISS)
- Others: for accounting, for bio industry, for MOT, for various mechanical technicians

- Initiation and definition
 - by Ministry of Economy, Trade and Industry (METI)
- Promote and development
 - by Information-technology Promotion Agency (IPA)

WG3: Participant Information

NWI on Nomadicity and Mobile Technologies

WHY ARE WE DOING THIS?

- *Need for common definitions and framework*
- *Better alignment of industry with learner needs*
- SC36 N1517
 - 5 countries – Korea, Germany, Luxembourg, Japan, Canada
 - Part 1 – Learner Reference Model for Nomadicity
 - Part 2 – Learner Information required for M-Learning

Deconstructing the cellphone

3G telephone

Video

Wireless

PDA



- *Use and coordination of different standards*
- *Possibly each created by a different standard setting org.*

Different operating systems

Host multiple programs and services

Web browsing

WG3: Participant Information

ISO/IEC 19787 – Participant Performance Information- WITHDRAWN

- Missing text, requested changes agreed upon during ballot resolution process not implemented by the Project Editor
- Based in part on technologies that are unproven and at various stages of development (e.g., 20944)
- Overall approach does not address privacy concerns
- Unclear that this standard is based on any actual IT systems (currently in use or planned)

WG3: Participant Information

Some Trends and Considerations

- Movement away from labeling to mapping (e.g., competencies, skills, needs)
- Questioning and exploring how IT system can be structured to be:
 - Responsive to individual learning needs
 - Interoperable (e.g., regional, national, transnational)
 - Compliant with privacy requirements

Trends & Considerations

- Standards development infrastructure needs to balance responsiveness to technology innovation cycles with time required to review technologies
- Need for “universal, global adoption of core-enabling standards” that respect individual cultures, access requirements, and data privacy concerns
- “Vulnerability to uncooperative owners of necessary patent claims” (e.g., “patent thickets”)
- Convergence and complex standards (e.g., mobile devices)
- Globalization – “royalty loads”, trade implications

Standards Council of Canada

- In 1970, Parliament approved Bill C-163 to establish the SCC as a federal Crown corp.
- Mandate: “to promote effective and efficient standardization in Canada”
 - Oversees Canada’s National Standards System
 - Accredits standardization organizations
 - Approves National Standards of Canada
 - Coordinates Canadian contributions at key regional and international standardization forums

National Representation - SCC CAC

Standards Council of Canada; Canadian Advisory Committees

- One Advisory Committee for each JTC1/ISO sub-committee or technical committee
- The Advisory Committee for SC36 meets twice a year
- Informs stakeholders of progress & gathers stakeholder input; FREE membership
- To join, email chair/vice-chairs (emails follow)

eLSACC/CCCNAL

**“eLearning Standards Advisory Council of
Canada”**

**“Conseil consultatif canadien sur les normes de
l'apprentissage en ligne”**

Mission/Objectives

- create and maintain an enabling and sustainable collaborative framework for ensuring and supporting Canadian participation in international e-learning standards development;
- based on user requirements, recommend strategies for standards, specifications and best practices for domestic and int'l e-learning systems development

eLSACC/CCCNAL

Key publications

<http://www.elsacc.ca/> <http://www.cccnal.ca/>

- eLSACC Strategic orientations - Towards the creation of an educational heritage of Standards based learning resources
- What and Why Standards?
- Report on ISO/IEC JTC1/SC36 (International) Standards Development

eLSACC/CCCNAL Current Membership

Stakeholders - Organizations

- 5 provincial ministries of education
 - NB, Quebec, Ontario, Alberta, BC

Other members - Individuals

- CAC JTC1/SC36 Chair and Vice-Chairs
- Standards experts

eLSACC/CCCNAL Membership Opportunities

1. Fees for stakeholders organizations
 - Member of the Board – > \$25,000/yr (5-yr)
 - Member of the Council - > \$5,000/yr (5-yr)

2. Individual members – no fee
 - CAC JTC1/SC36 Chair and Vice-Chairs
 - Standards experts invited to support the work of eLSACC

eLSACC/CCCNAL Structure

■ Board of Directors

- Key stakeholders, decision-makers for policy
- Co-Chairs, members of key stakeholders
- SCC “ex-officio” member
- CMEC Secretariat representative (Observer)

■ Governance

- eLSACC managed by Board of Directors and 5 member Executive Committee

eLSACC/CCCNAL Structure (cont'd)

Executive Committee (the “face” of eLSACC)

- President – M. Robert Thivierge

- Co-Chairs of the Board:
 - M. Denis Allaire, Ministère de l'Éducation du Loisir et du Sport, Québec, and
 - Mrs. Lynn Dunn, Ontario Ministry of Education
- Chair of CAC JTC1/SC36 – Dr. Jake V. Knoppers
- Executive Secretary – Mr. Alain LaBonté

eLSACC Meeting Schedule

- Coincide with JTC1/SC36 meeting schedule
- Board of Directors
 - Three times per year
- Council (all members and observers)
 - Twice annually
- Task Groups
 - As required

Further Information

■ JTC1 SC36 Canadian Advisory Committee Contacts:

Jake Knoppers, Chair (mpereira@istar.ca)

Gilles Gauthier, Vice-Chair (gauthier.gilles@uqam.ca)

Jutta Treviranus, Vice-Chair (jutta.treviranus@utoronto.ca)

David Clemis, Vice-Chair (davidclemis@rogers.com)

■ eLSACC/CCCNAL Contacts:

Robert Thivierge, President (thivierge.r@videotron.ca)

Alain LaBonté, Executive Secretary (alabon@gmail.com)

■ eLSACC/CCCNAL Website:

<http://www.elsacc.ca/> <http://www.cccnal.ca/>

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QUESTIONS?

Simone Laughton

University of Toronto Mississauga Library

simone.laughton@utoronto.ca