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ISO/IEC JTC1 SC36: *Information Technology for Learning, Education, and Training*

Report to JTC1 Plenary at Nara, Japan

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Information Technology for Learning, Education, and Training

- Areas of Focus

- Vocabulary
- Collaborative Technologies
- Intelligent Systems
- LET Metadata
- Nomadic and Mobile Technologies
- Management Systems Enablers
- Quality Assurance
- Culture/Language/Human Function



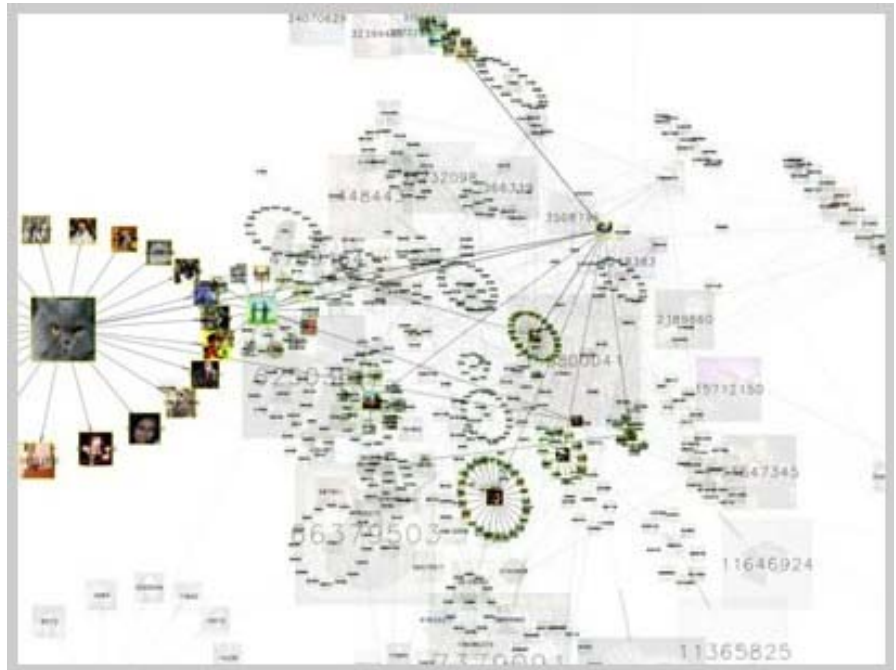
- Standards for Learning-Education-Training technology must allow for cultural specific implementations to exist.
- Standards for Learning-Education-Training technology must satisfy individual user needs.

IT Learning, Education and Training Market

- Learning, education, and training industry is over 1 trillion Euros per annum worldwide.
- “Learners” include home users, nomadic users, institutional users, children and adult users, and *“smart” software (Algorithms and Agents for example)*
- Variety of learning environments includes standalone, classroom, networked, internet-based, nomadic, federated (groups of resources), distance, collaborative, asynchronous, Etc.
 - Learning environments are unique in that standardization and interoperability are required across many "qualities of implementations", including the low-end (e.g., a standalone PC workstation), the middle (e.g., workstations with high-speed internet access)

Emerging IT LET Paradigm

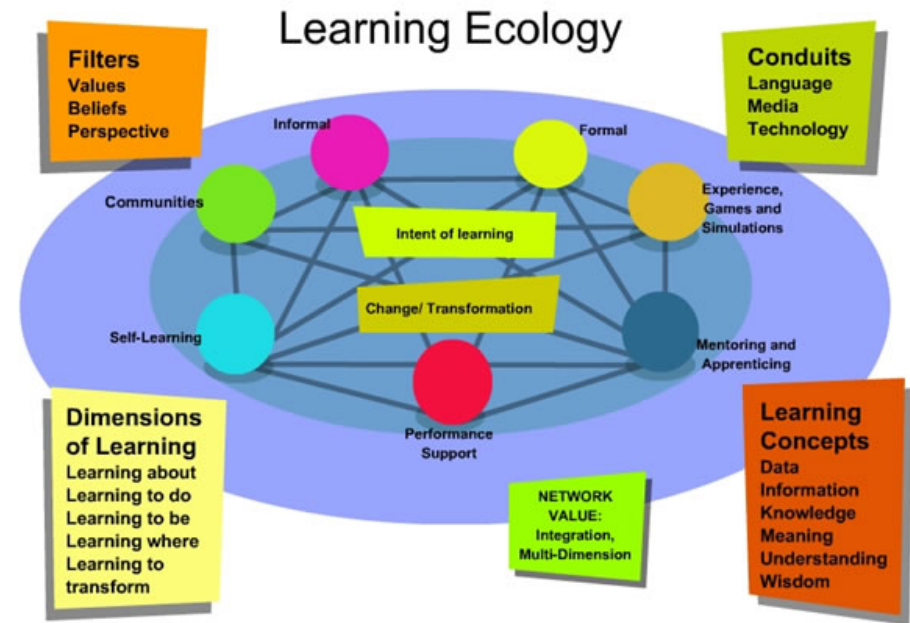
- Connectivism
 - “Connectivism asserts that knowledge is distributed across networks and the act of learning is largely one of forming a diverse network of connections and recognizing patterns.”
 - A “new” theory for learning based on network structures, complex changing environments, and distributed cognition.
 - Knowing “*where*” and “*who*” are becoming more important today than knowing “*what*” and “*how*”.



Knowledge is not only a product-it is also a process

New Environments/New Markets

- Learning Ecologies
 - Our technology mediated spaces are becoming *adaptive*
 - The *environment* in which we function *learns* from our activity
 - After the *environment* "knows us" as learners, it *adapts* to respond to our actions
 - *System provides personalized content* reflective of our true learning needs
 - *We want content that is current, relevant, and contextually appropriate.*

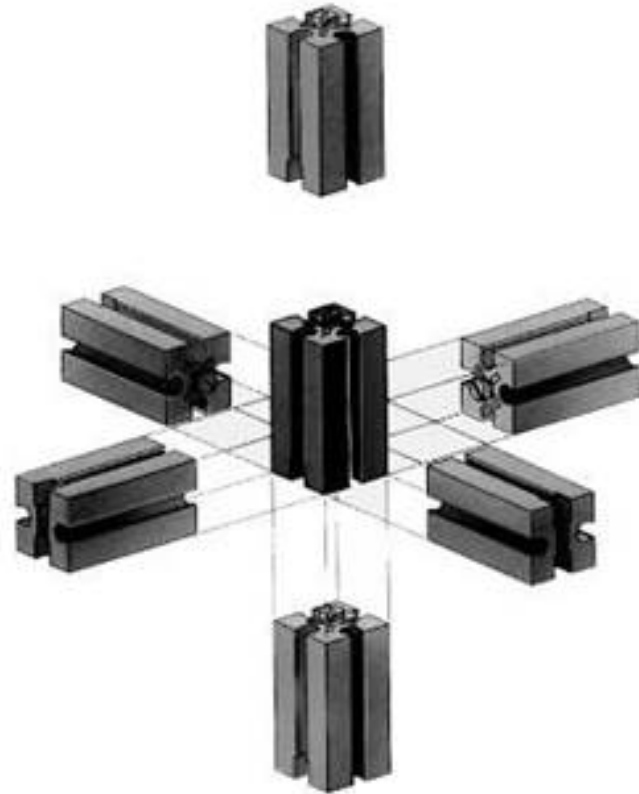


Connectivism: Process of creating network

Adaptive environments are the keys....adaptive to learning entities

New Technologies/New Markets

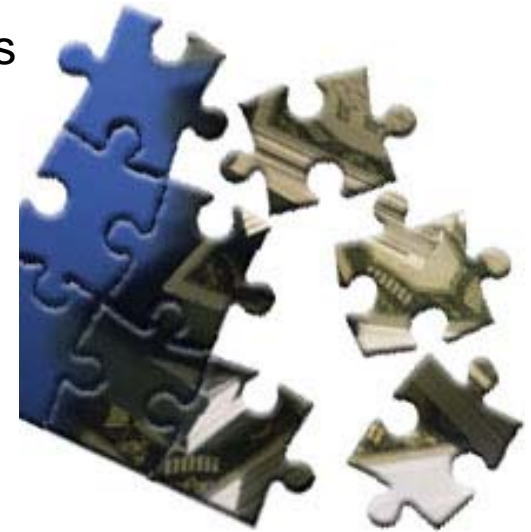
- LET Ecology Systems
 - Learning Management Technologies
 - Content Management Technologies
 - Quality Management Technologies
 - Learning Resource Technologies
 - Mobile Learning Technologies
 - Modeling and Simulation Technologies
 - Preference Information
 - Collaboration Models
 - Competency Models
 - Accessibility Models
 - Multilingual Modules
 - Pedagogic Models
 - More.....



Incorporation of New Technologies Defines Standards Needs

Changing Standards Paradigm

- Monolithic to Small Modular Standards
 - Shorter Development Time
 - Use Across Multiple Domains
 - Reduction of Redundancy/More Available Resources
 - Increased Liaison Relationships Across Domains
 - Enables “Thinking in Multiple Boxes”
 - Easier Interpretation of Standards
 - Helps Eliminate “Stovepipe” Mentality
 - Reflects “Modular System of Systems” Approach
 - Supports Dynamic Creation of Digital Eco-Systems
- Key is understanding Micro and Macro Views
 - How Pieces of the Interoperability Puzzle Fit together
 - How to Create the Pieces of the Interoperability Puzzle.



An Emerging Standards Paradigm for An Emerging Knowledge Society

Summary of Strategies

- Plenary every 6 months, WG/RG mtgs between plenaries
- Use of “industry day” (open forum) to increase participation and feedback
- Use of an awareness system to keep up to date with trends in multiple sectors. This will assist in identifying :
 - new areas for standardization,
 - existing work that can be used as input material for new standards,
 - existing standards that can be fast tracked,
 - standards in need of revision,
 - standards that should be withdrawn,
 - new liaison partners.
- Address multilingual/multicultural needs
- Strong dependence upon liaising with other JTC1 and ISO/IEC activities
- Active use of Livelink to integrate documents/resources

Strategy: Harmonization Of Activities

- Understanding stakeholders
 - 34 NBs have broad input
- Stakeholder priorities
- Leverage existing standards (e.g., profiles) consortia, fora, standards development orgs
- Incorporating publicly available standards and specifications
- Accessibility is of Importance
- Web Services are of Importance
- Increasing Importance in Mobile Learning
- Increasing Importance in Intelligent Systems
- ***Internal Cross Harmonization of SC36 Projects***



Strategy: Business Relevance

- SC36 has projects in every area that:
 - National Bodies find relevant
 - National Bodies are willing to participate
- Users/vendors/institutions are implementing SC36 standards
- ***The current industry's priorities are reflected in the current work programme of SC36***



Future Strategies (Next 2-4 Years)

- Increase participation in SC36:
 - Need more members from Southern Hemisphere/Middle East/Africa
 - Continued support for “Open Forums” (independent of SC36 plenary meetings)
- Stronger, closer collaboration with current and future liaisons
- Use/re-use existing standards/specifications work product (e.g., JTC1 standards)



Summary of Past Year Accomplishments

- Nine Projects published or in process of being published
- New Projects
 - Initiated a standard on Content Packaging; ISO/IEC CD 12785-1 Information Technology for Learning, Education, and Training -- ITLET -- Content Packaging (3 Parts)
 - ISO/IEC 19788-5 ITLET -- Metadata for Learning Resources (4 New Parts)
- Study Periods:
 - Metrics and Systems Architecture for Quality Assurance
 - Integration of Automated Processes for Supporting Collaborative Activities
 - e-portfolio Implementation
 - Semantic Information Models
- Assisted Member National Bodies in planning international forums run before or after Plenary meetings
- Participated in the Seoul Open Forum “International Conference on e-Learning and its future ”
- Participated in the Stuttgart Open Forum on “Automotive Training”

Future JTC1/SC36 Meeting Schedule

Plenary #19: 2009-03 New Zealand

Plenary #20: 2009-09 Dakar, Senegal (Provisional)

Plenary #21 2010-03 Japan (provisional)

Plenary #22 2010-09 Sweden (provisional)

Thank You!

Questions