IEEE Learning Technology Standards Committee (LTSC) Annual Status Report — 24 October 2017

Submitted by Avron Barr, Chair

Educational technology continues its rapid expansion in both innovative new products and market adoption. The LTSC anticipates that this transitional period will continue and result in disruption of many educational institutions and the industries that serve them. Nevertheless, as set of established new product categories is emerging and the market is just beginning to see the need for interoperability standards. The time is right, finally, for new standards, and our working groups and study groups are very active:

RAMLET WG - Resource Aggregation Models for Learning, Education and Training, P1484.13.1-4. This multi-part, long-term effort to explore the use of ontology technology to allow semantic interoperability across content packaging frameworks has been completed. The standard has been published by the IEEE. It is being considered for adoption as an international standard by ISO/IEC JTC 1/SC36. The working group chair, Ms. Kerry Blinco, was awarded the IEEE-SA Standards Medallion for 2016 for her work on RAMLET.

ARLEM WG - Augmented Reality Learning Experience Model, P1589. The ARLEM project balloted is first standard and plans to re-ballot the standard this year, after addressing several concerns from the ballot reviewers. The standard defines a model for describing “learning environments” in an augmented reality training system, so that devices and systems from different vendors can, to the extent possible, work off of one database. Without this level of interoperability, the costs of implementing AR solutions and the risks of getting locked into the wrong vendor will cripple industry growth in education and training.

TMPL WG - Task Model for Project-based Learning Opportunities, P1484.21. The TMPL working group submitted a PAR to develop a standard way of describing workplace projects suitable for student interns and others who seek to learn on the job. The effort anticipates a new product category: online aggregators and registries that will match students with appropriate real-world projects. A data model for ‘roles in an ad hoc team project’ is in draft and will be tested/validated over the next few months. A working registry is being incorporated into IEEE Collabratec, experience with which will inform the standard. The WG Chair, Jim Schoening, is presenting a paper at IEEE Global Humanitarian Technology Conference 2017 in San Jose.

Actionable Data Book (Industry Connections) and eReader Study Group - This exploratory project is looking at how the use of mobile tablets for delivering instruction will change educational publishing. The LTSC has been sponsoring an Industry Connections activity for three years, exploring the affordances and interoperability requirements of future
educational resources that will be designed for delivery on computing devices that have sensors, communications, and computation capabilities. The LTSC has launched a related 6-month study group to develop a PAR that addresses the functionality that an eReader must provide to support these advanced, interactive publications. We are evaluating industry interest in the proposed standard and exploring related efforts at the W3C and other organizations.

**CSDG WG - Child and Student Data Governance, P7004.** A PAR for a new standard on data governance was approved by NesCom in March, 2017. Intelligent learning systems will function best only if they have access to extensive data about learners’ histories and competencies. It is critical, therefore, that we find technical and procedural solutions to widespread concerns about student data privacy. The group is currently creating a classification of the relevant data types. The standard will address the types of data and data governance guidelines for each type.

**xAPI Technical Advisory Group.** The LTSC recently established a new Technical Advisory Group to deliberate about the future of the Experience API specification, developed by the US Advanced Distributed Learning Initiative. This spec is already used commercially and a group of over 100 industry and government participants have joined the TAG. The TAG is tasked with writing a report on the current state of xAPI (1.0.3) and will meanwhile be a natural forum to discuss ways to organize the community and support this emerging standard.