Identifying and Understanding Pragmatic Trends in the Application of Technology to Improve Learning

ANALYSIS OF THE 2015 LEARNING IMPACT AWARD WINNERS

Executive Summary

Technology continues to evolve, transforming the education experience. This is a point of fact; it is not a question of whether or not this will occur. Indeed, Gartner, Inc. forecasts worldwide education sector technology spending to reach $67.8 billion in 2015.[1] The more important question is *how* technology impacts education—and more specifically, how it impacts each individual student's learning experience, outcomes, and their future success.

Learning technology paves the way for new personalized and more engaging learning approaches; where students work collaboratively on coursework, test new skills hands-on or virtually, and explore the world beyond the classroom walls. But creating effective and cohesive teaching and learning environments can be difficult, complex, and frustrating. This is where IMS Global Learning Consortium's (IMS Global) Learning Impact Awards (LIA) program helps. The LIA annual competition and this subsequent report provide a multi-faceted learning technology planning resource to help institutions and educational authorities determine if they have considered a broad range of potentially impactful technology innovation.

The competition's Learning Impact Trend Categories (Table 2) help define how to think about what each entry entails and to identify technology adoption trends. The categories continue to evolve each year as new technologies emerge or become obsolete, providing an evolutionary technology framework to guide future technology planning and investment. For example, IMS Global introduced three new Learning Impact Trend categories in 2015 to align with emerging trends:

- Integrated Digital Curriculum to Enable Student-Centered Learning underscores new ways to manage an array of curated digital content and tool alternatives;
- Assessment Enhancements with Digital Technology marks the growing proliferation of technology-based tools and applications to assess student performance and learning outcomes;
- Educational Accessibility and Personalization highlights technology's increasing ability to enhance all students' learning experiences, including those with physical and learning disabilities.

Distillation of 2015 LIA finalists' entries offer a series of pragmatic themes, practices and recommendations that align with LIA Learning Impact Trends; thereby helping others to launch their own learning technology initiatives. The year's implementation themes presented ways to:

- Integrate digital curriculum to tailor learning experiences;
- Improve student evaluation and outcome accountability through digital assessment;
- Facilitate digital course content adoption with streamlined creation and curation;
- Develop personalized and engaging student learning experiences;
- Equalize education access for all students.

Finally, the report offers planning recommendations to help facilitate successful learning technology implementation: incorporating a holistic planning approach, building a curriculum-learning technology investment connection to promote learning outcomes, and evaluating potential investments with a solution checklist to ensure instructors can focus on learning, not on how the technology works, or is supposed to work.

What is the Learning Impact Awards Program?

Created in 2007, IMS Global's annual Learning Impact Awards (LIA) recognizes outstanding, innovative applications of educational technology to address the most significant challenges facing education. The Learning Impact Award finalists' solutions inspire educational leaders to innovate locally in their regions, schools and institutions.

The LIAs are conducted on a global scale. Any product or service provider, educational institution, or training provider that meets the competition's eligibility requirements can enter the competition. Entries are categorized by level: New—Implemented within the last 12 months; Established—Deployed for at least 24 months; and Research—Prototypes not yet operationally deployed. Each entry can apply to up to three of the Learning Impact Trend categories, detailed in a subsequent section.

Regional winners, along with other finalists selected in January by LIA evaluators, all advance to the final round of competition, which is held in conjunction with the annual Learning Impact Leadership Institute that occurs in May. The finalists' entries consist of a four-minute video pitch, a one-page detailed project flyer, and discussions and demonstrations with attendees during the May Learning Impact event.

What distinguishes IMS Global's LIA awards is its pragmatic focus. Compared to other award programs in the education sector, a greater amount of work goes into the LIA evaluation process. Judges assess LIA entries based on the use of technology in an educational institution context, using eight learning impact criteria, as illustrated in Figure 1 and further detailed in Appendix B.

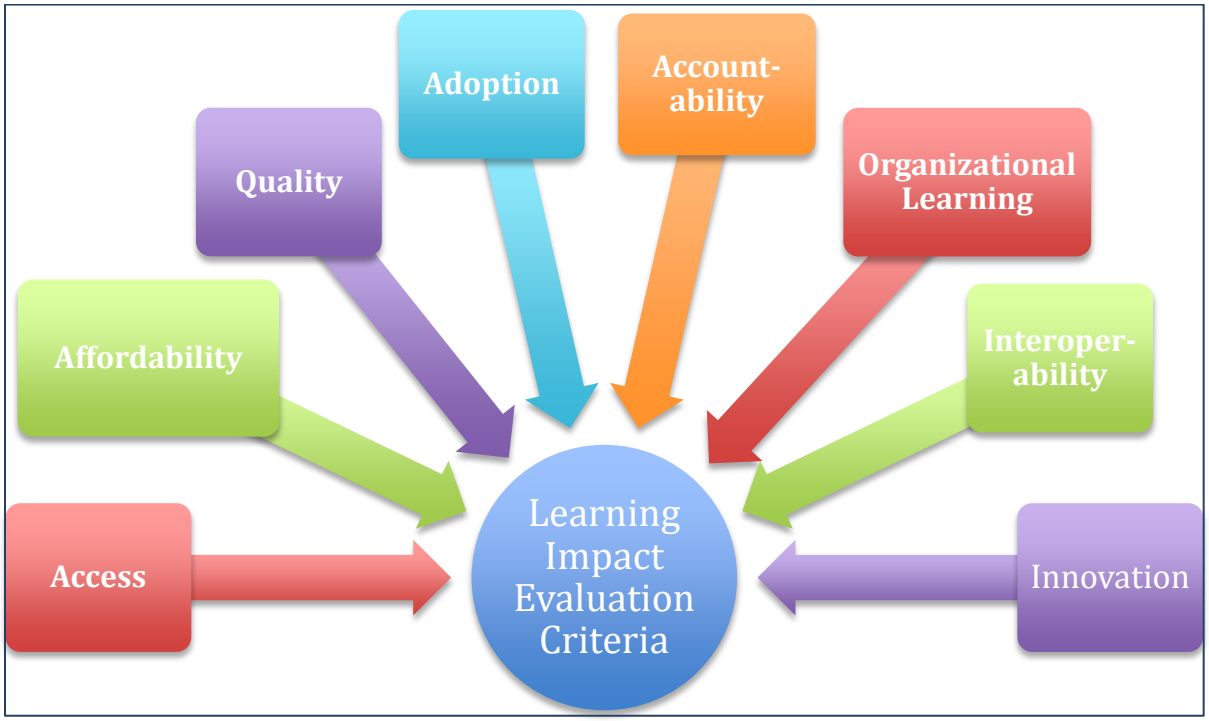

Figure 1--Learning Impact Award Evaluation Criteria

The winners—platinum, gold, silver, and bronze medalists—are announced at the conference. IMS Global announced the 2015 winners in May at the Learning Impact Leadership Institute, held in Atlanta, Georgia. Eight medalists were selected out of 16 innovative technology finalists. Medalists represent

countries from around the globe. (See Table 1). Profiles for each medalist and honorable mentions are contained in Appendix A.

	Bronze	Silver	Gold	Platinum	Total
USA	12	6	13	10	41
Australia	7	5	3	3	18
UK	3	2	2	6	13
European Union	1	6	4	2	13
Korea	2	4	0	4	10
Canada	0	2	1	2	5
Brazil	0	0	3	0	3
Singapore	1	1	0	0	2
New Zealand	0	1	0	0	1
Taiwan	0	1	0	0	1
China	1	0	0	0	1

Table 1--LIA Medal Winners by Country/Region

The 2016 Learning Impact Award entry process is underway; with medalists to be chosen at next year's Learning Impact Leadership Institute in May 2016 in San Antonio, Texas.

Learning Impact Trend Framework

IMS Global categorizes all Learning Impact Award entries by learning impact trends, as listed in Table 2, to help identify key trends in the application of technology to improve learning impact. A categorization of all winners since 2007 is contained in the summary table contained in Appendix C.

Learning Impact Trend Category	Definition	Last Year Medal Awarded
Adaptive Learning, Online Homework, and Formative Assessment	Providing students self-paced learning, feedback, and adaption while providing the teacher with information on individualized student progress.	2013
Assessment Enhancement With Digital Technology (New Trend Category)	Applications and tools to assess student performance and outcomes.	2015
Blended Learning Optimization	Evolving traditional educational delivery models featuring seamless technology environment for teachers and students to support effective combinations of online, classroom and in-context learning.	2011
Digital Learning Networks	Achieving scalable deployment of educational resources, tools and services toward specific and measurable access, affordability, and quality objectives.	2014
Digital Resource, e-Text, Learning App Innovation, and Analytics	Innovative learning resources, tools and applications aimed at improving access, affordability and quality of education, including data gathering to measure student engagement, progress towards desired outcomes, program effectiveness and usage of digital resources.	2014
e-Collaborative Learning	Providing students & faculty with applications and opportunities to participate in and improve achievement via effective collaborative learning activities that complement traditional forms of delivery.	2011
Educational Accessibility and Personalization (New Trend Category)	Technology-based solutions that ensure accessibility and personalization for all students, especially those with physical and learning disabilities.	2015
Educational Application, Content and Media Infrastructure	Technology infrastructure for enabling efficiencies in content development, searching, delivery, and mobile devices.	2012

Learning Impact Trend Category	Definition	Last Year Medal Awarded
Educational Pathways, Portfolios, and Learning Maps	Applications to help students navigate their educational experience to improve success and outcomes based workforce needs.	2014
Gaming, Simulation, and Immersive Learning	Applications that give students and teachers opportunities to participate in effective experiential learning that is better than traditional alternatives.	2015
Integrated Digital Curriculum to Enable Student-Centered Learning (New Trend Category)	Architectures, software platforms, and infrastructures that enable creation and selection from a wide range of curated digital content and tool alternatives by institutional users (faculty and students). This combines the capabilities of these categories: A) Learning Platform Innovations—and B) Educational Application, Content and Media Infrastructure.	2015
Learning Platform Innovations	Architectures and software platforms for managing the creation and delivery of learning experiences, including personalization, accessibility and mobility	2014
Scaling Pedagogical Knowledge and Practice	Providing efficient and effective support to teachers and faculty in significantly improving facilitation and delivery of learning experiences.	2009
Student Success and Outcomes-Based Learning Support Services	Applications and processes to enable teaching, learning, and placement tied to explicit outcomes and achievements.	2013

Table 2 -- Learning Impact Trend Categories

Clustering medal winners by learning impact trend and the last year each category earned a medal provides an added bonus—a timeline of emerging learning technology trends and adoption. Since the IMS Global community has consistently been 3-5 years ahead of the general EdTech marketplace in terms of adoption patterns, the categories serve as predictors of the future of mainstream adoption.

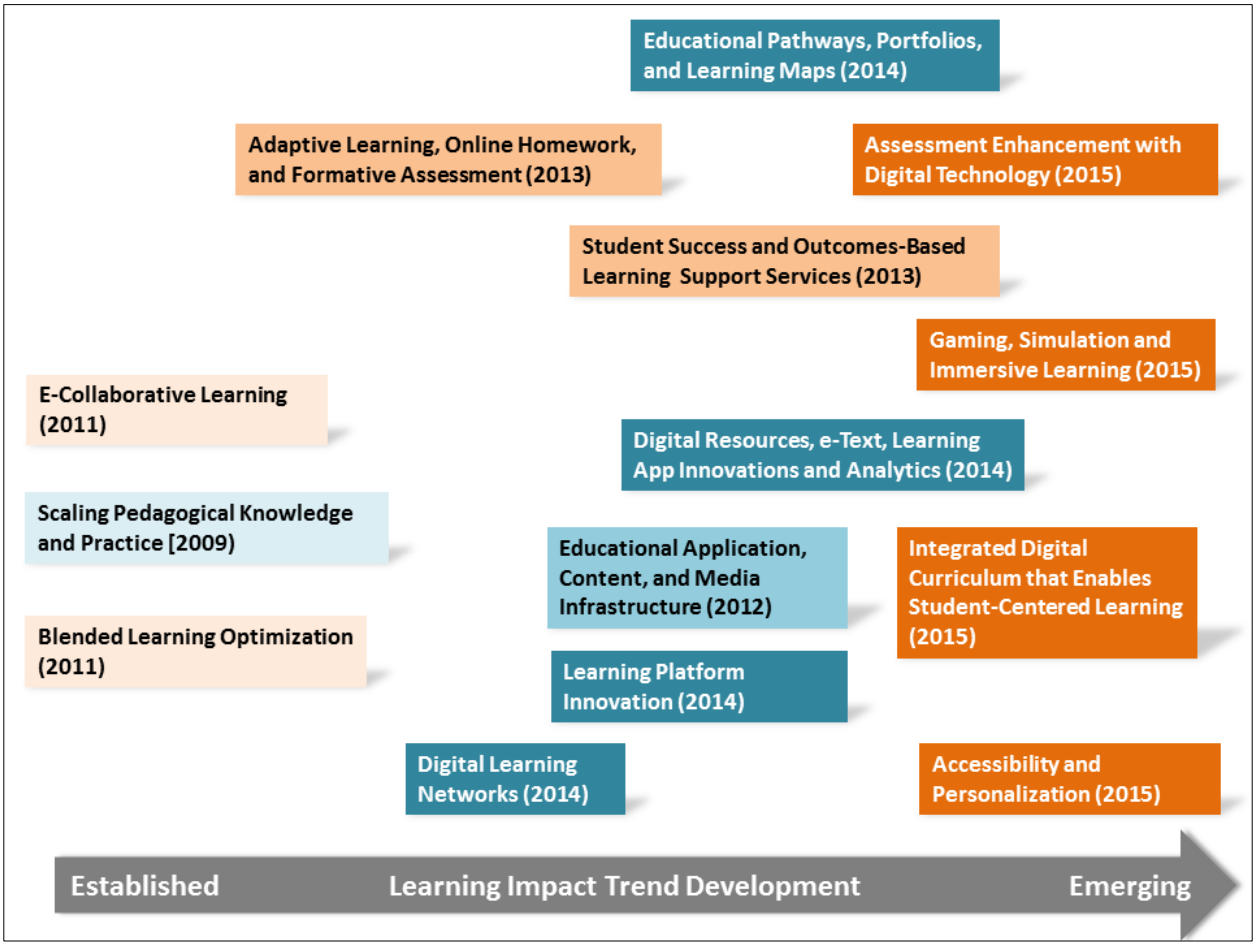

Figure 2--Learning Impact Trend Framework Evolution

As contestants incorporate newly available learning technology into their submissions, they develop more sophisticated entries over the years; which in turn, spawns new Learning Impact Trend categories. For example, analysis of these Learning Impact Trends reveals these evolutionary trajectories (note: capitalized and underlined phrases refer to Learning Impact Trends):

- Integrated Digital Curriculum to Enable Student Centered Learning: Technology can enhance students' learning experience, but all too often, technology investments result in a hodgepodge of disparate, unconnected technology components that can easily complicate—rather than facilitate—teaching and learning. The next step is to tie all these pieces together. For example, the EDUCAUSE Learning Initiative's report, The Next Generation Digital Learning Education (NGDLE) presents a vision of not a single, enterprise-level application, but rather a learning ecosystem where NGDLE-conforming components facilitate tailored learning environments that support educational requirements and goals. To do so requires a core suite of tools on which the rest of the system can be built; the linchpin is the capacity to easily integrate tools, exchange content, and collect learning data. In other words, interoperability enables everything else.[2]

Over time, LIA entries mirrored this trend. Initial efforts like Scale New Pedagogies and Practices and Blended Learning Optimization gradually expanded over the years to incorporate new content creation, delivery, and management capabilities—e.g., Digital Learning Networks; Educational Application, Content, Media Infrastructures; and Learning Platforms. New technological developments like IMS Global's open standards, enhanced networking, and the Internet enable the combination of these discrete components into Integrated Digital Curriculum to Enable Student-Center Learning - a new Learning Impact Trend.

- Assessment Enhancement with Digital Technology: Digital assessment—one of Gartner's Top 2015 Strategic Technologies Impacting Education[3]—continues to garner more attention in education, especially in regards to measurement of student learning outcomes against mandated standards, like Common Core State Standards in U.S. K-12 schools.

  Technology continues to offer new appraisal methods and more sophisticated analysis, improving assessment of Student Success and Outcome-Based Learning; Adaptive Learning and Online Homework's self-pace learning feedback and teacher response to individual student progress. Assessment Enhancement with Digital Technology, a new Learning Impact Trend, underscores this development.

- New Learning Technology Tools: Technology continues to provide new ways and means for students to learn. For example, collaborative learning models provide more peer-to-peer and group activities. An added dimension to this trend is an increasing focus on online global collaboration where contemporary digital tools engage students with others around the world to support curricular objectives and intercultural understanding.[4] In addition, technology provides a means for learners to explore subject matter through the act of creation rather than the consumption of content. For example, mobile technologies encourage students' production of media coursework; hands-on learning experiences support STEM- related pedagogy.[5] Finally, project-based learning, problem-based learning, inquiry-based learning, and similar methods foster more active learning experiences, both inside and outside the classroom. As schools adopt tablets, smartphones, and other devices more readily, educators connect curriculum more easily with real life applications. [6]

  Earlier LIA entries incorporated E-Collaboration Learning, but over time, contestants' solutions are just as likely to utilize emerging learning technologies—e.g., Digital Resources, Learning App Innovations, and now Gaming, Simulation, and Immersive Learning—to create new student learning experiences.

In addition, IMS Global creates new Learning Impact Trends to align with emerging technological directions. For example, content and curricula can be truly "born digital" rather than "born for paper delivery", and they can now be "born accessible", too."[7] Technology enhancements—like the delivery of accessible digital content, 24/7 access of services and systems on mobile devices, support of learning aids like screen readers—all reduce factors that may limit success and impede equitable participation,[8] Government and institutional mandates encourage this trend, and this year submissions' use of technology to promote equal education accessibility for all students spurred the creation of a new Learning Impact Trend, Educational Accessibility and Personalization.

2015 LIA Medalist Solutions Offer Implementation Guidance

Learning Impact Trends offer learning technology-related planning guidance. Synthesis of contest entries provides implementation guidance; illustrating real-life examples of a Learning Impact Trend and each solution's subsequent, impactful results. The 2015 LIA entries fall into these five implementation themes:

1. Integrated Digital Curriculum Provides a Comprehensive Way to Tailor Learning Experiences

As these 2015 LIA entries show, Integrated Digital Curriculum solutions tie together the necessary architectures, software platforms, and infrastructures that allow users to engage with the content in a variety of ways and pull specific material together for individual students and may even be customized for teachers and parents. Together, with embedded digital assessment and analytics capabilities, Integrated Digital Curriculum Solutions can evaluate student proficiencies and pre-defined goals, update administrators, teachers, and students on progress, and recommend curricular adjustments as needed.

Escambia County School District and Pearson (Gold Medal)

Learning Impact Trend: Integrated Digital Curriculum to Enable Student-Centered Learning

Issue: Escambia County School District believes that effective teachers and leaders make a difference in student achievement, and wanted to integrate its learning management system with synchronized user access to content, assessments, and data regardless of publisher or vendor.

Solution: In spring 2012, Escambia County School District implemented Pearson's Schoolnet Instructional Management Suite in approximately 50 elementary, middle, and high schools. The new web-based system links instruction and assessment, creating a new personalized learning environment. Assessments are aligned to curriculum standards and reflective of grade levels and contents. Teachers' use Schoolnet's reporting features to analyze assessment results by curriculum standards and skills to direct instructional planning; and then access and schedule appropriate content into their lesson planners. Schoolnet leverages industry e-assessment standard content formats such as QTI® and LTI® to utilize multiple assessments and content sources, and integrate with any student information system.

Learning Impact: Since implementing Schoolnet, Escambia's student achievement in high school mathematics and science exceeded the state average in 2013-2014, the first time this ever occurred.

"The Schoolnet solution helps us connect the dots between data, content, and achievement, thus enabling true personalized learning and measurable student performance. Essentially, Schoolnet provides our students and educators with a more convenient, enhanced learning environment through a web-based application that provides online assessment capabilities, user-friendly portals, integrated district content, and consolidated data." -- *Escambia County School District and Pearson 2015 LIA Submission*

Itslearning "HUB" at Houston Independent School District (HISD) (Silver Medal)

Learning Impact Trend: Integrated Digital Curriculum to Enable Student-Centered Learning

Issue: Over the years HISD found itself managing a growing patchwork of learning resources. Students and teachers completed online collaboration, content, assignments, searches, and assessments in several digital locations, resulting in dozens of third-party cloud services and services and multiple hosting of HISD's student usage data, assessment results, and analytics. In addition, hardcopy textbooks' rapid obsolesce limited their teaching resource value for the school district.

Solution: HISD's new itslearning HUB learning platform consolidates these resources into one web-based, single sign-on, resource. Its content-agnostic, open sourced platform enables HISD to host a wide range of 3rd party digital content and different file format types that support active learning, flipped classrooms, project-based learning, and other forms of learner-centered instruction. The HUB supports IMS open standards to eliminate the need for customized integration of various platforms.

Learning Impact: Currently teachers at 48 HISD K-12 schools are piloting the HUB. When fully implemented, the HUB will become the center of curriculum, instruction, personalization, collaboration, and communication for HISD staff, students, and parents. The HUB has improved HISD's ability to provide an authentic and personalized teaching and learning environment as well as helping HISD switch to digital resources.

"The HUB has improved HISD's ability to provide an authentic and personalized teaching and learning environment by simplifying access to resources and providing multiple content sources for each lesson or standards." - *HISD 2015 LIA Flyer*

SAFARI Montage and Orange County Public Schools (OCPS) (Bronze Medal)

Learning Impact Trend: Integrated Digital Curriculum to Enable Student-Centered Learning

Issue: The State of Florida mandated that all instructional material in K-12 public schools be provided in electronic or digital format beginning in the 2015-2016 school year. In response, OCPS implemented the SAFARI Montage Digital Learning Platform (DLP) while also licensing digital curriculum content from multiple publishers, including Houghton Mifflin Harcourt (HMH) and Encyclopedia Britannica. Consequently OCPS needed seamless access to all of these resources within a single platform.

Solution: The SAFARI Montage's LTI and Common Cartridge™ compliant platform provides teachers with a single interface to search and access to all its licensed and locally developed learning resources. DLP's stored learning objects contain metadata, like standards correlations and grade ranges, to identify relevant content more easily. The result is more personalized and effective instruction; instructors can pick-and-chose content material according to student needs and learning outcome goals. DLP's capabilities extend to the classroom, where it provides standards-based interoperability with school district systems and classroom devices, classroom lesson development and presentation tools, and a mobile device student response system.

Learning Impact: OCPS manages their entire district-wide curriculum in a single platform. All 12,000+ OCPS teachers can access the DLP and have created over 30,000 digital lessons.

"When you have students who are working on a digital lesson, it is extremely important to have content in one place. Having access to multiple learning tools with one login is the holy grail." --*Maurice Draggon, Administrator of Instructional Design and Tech, Orange County Public Schools – 2015 LIA Video*

2. Assessment Enhancement with Digital Technology Improve Student Evaluation and Outcome Accountability

Assessment Enhancement with Digital Technology opens the door to new types of assessment, more timely results, and more sophisticated analytics. It fosters faster and more effective intervention with struggling students, while providing updated government standards progress to local school districts and teachers, as illustrated by these 2015 LIA entries.

TAO, Open Source, QTI-Compliant Assessment Platform, OAT (Platinum Medal)

Learning Impact Trend: Assessment Enhancement with Digital Technology

Issue: Digital assessment continues to gain popularity to support the growing use of learning technology solutions and to measure learning outcomes against government standards. But available digital assessment solutions can be expensive, proprietary, and hard to customize.

Solution: TAO is a free, comprehensive, web-based, open-source assessment platform that enables test content to be entirely portable. It's robust, offering functionality throughout the entire assessment cycle: item authoring, test scheduling and delivery, automatic scoring, test-taker management. It is LTI conformance certified for seamless LMS and applications integration, and QTI compatible for proprietary-free authoring and test delivery.

Learning Impact: TAO offers a free, web-based, standards-based digital assessment alternative, and has been used by approximately 50 million test takers in small as well as large-scale, multilingual deployments in over 70 countries.

"Open Source was not the only factor in the RFP process. The degree of customization of the proposed solution with TAO was viewed as very beneficial to our project. In addition, it has a demonstrated history of success in other large-scale implementations."-- *Chris Domaleski, Senior Associate at the National Center for the Improvement of Educational Assessment, OAT - 2015 LIA Submission*

Present@ at Universitat Oberta de Catalunya (UOC) (Gold Medal)

Learning Impact Trend: Assessment Enhancement with Digital Technology

Issue: In some degrees, students defend their final projects to an in-person panel that assesses their subject matter and transversal competencies. However, UOC is a 100% virtual university, meaning its students and lecturers live around the world, which makes in-person assessments unfeasible. So the University wanted to create a virtual alternative to the face-to-face panel experience.

Solution: Present@ provides a technology-based solution. Students prepare and upload a video about their final degree projects to Present@. Tribunal members address their questions as comments in the video—even in specific points of the video—in text, audio or video formats; the student responds

accordingly. Present@ is based on common applications: 1) WordPress, one of the world's most popular blogging platforms: Its themes, plug-ins, hooks, and APIs enable UOC to fully personalize Present@'s screen and functionality on top of the WordPress platform. 2) Wowza Media Systems, the world's leading streaming technology: Its platform-agnostic solution supports multi-format, and multi-screen implementations. UOC integrated Present@ with its LMS via a WordPress LTI.

Learning Impact: Present@ is so successful that UOC explored other uses for the solution. It evolved into a virtual discussion/collaboration tool, used in hundreds of UOC virtual classrooms. Teachers create a video; students embed comments and questions within a single point in the video. Teachers can respond with comments or other multimedia formats.

"Present@ allows acqui[sition] and assess[ment of] several competences in virtual environments that before could only be acquired in face-to-face environments"--*Universitat Oberta de Catalunya - 2015 LIA Submission*

Accessible Assessment Items for ELPA21 Consortium (Silver Medalist)

Learning Impact Trend: Assessment Enhancements with Digital Technology

Issue: The English Language Proficiency for the 21st Century (ELPA21) consortium works to ensure that English Language Learners (ELLs) leave high school prepared for college and career success. They wanted to develop a cost-efficient and scalable assessment system that accommodated all students' needs, including those with disabilities, to measure ELLs' achievement of English Language proficiency standards.

Solution: Educational Testing Services (ETS) developed a system using the IMS Global APIP® standard to create and edit accessible content within the exact same existing authoring interface already in place for developing default item content. The result is seamless integration between default content and adapted accessible content development.

Learning Impact: Members of the multi-state ELPA21 consortium, which comprises hundreds of thousands of ELLs, use the system currently. Combining all default and adapted item content within a single item streamlines the assessment administration process because separate test forms do not have to be created for learners requiring adaptations.

"The item styles developed at ETS are more interactive, especially for speaking and listening tests. They also reduce turnaround time on reporting results and provide support to diverse ELLs populations in our states in a cost effective manner. The more engaging, interactive items that we developed will allow students responses to be more reflective of what they know and can do."--*ELPA21 LIA video*

Two honorable mention winners used digital technology to enhance their assessment solutions, too:

- The University of Michigan (UM) and Qualtrics LTI Integration expanded the Qualtrics online assessment tool to its learning environment through a LTI integration with its primary LMS, Sakai. Now instructors can assess students in new ways, using questions types and assessment capabilities not found in traditional assessments systems—e.g., heat maps, rank order, gap analysis—and can

more accurately assess desired learning outcomes and map to specific competencies or learning objectives.

- The LAMP Consortium's VeriCite, provides another type of assessment: plagiarism in coursework. LTI-certified VeriCite integrates seamlessly into various LMSs like Sakai and Moodle, and provides plagiarism detection services to any LTI-supported application. In addition, VeriCite's seamless integration provides better document tracking and near-instant feedback to faculty and—if enabled—to students. Today, 12,000 active users, spanning a dozen Midwest U.S. colleges, use VeriCite via a shared Sakai deployment. VeriCite achieved a 65% savings over its former commercial product.

While not the primary focus, these 2015 LIA entries embedded interesting digital assessment methods and tools into their solutions:

- Language Learning Space, Education Services Australia assessed students' learning outcomes by tagging each challenge with a set of "I Can" statements.

- Texas State Technical College Partners with Hawkes Learning provides automatic grading of student coursework, allows institutions to serve increased numbers of learners by reducing instructor workload and ensuring consistency across course sections.

- Safari Montage and Orange County Public Schools (OCPS)'s Digital Learning Platform comes equipped with a virtual student response system called "Get it?" provides for interactive, lesson-specific assessment. Students answer specific questions via a mobile device to give teachers real-time feedback about students' comprehensive and need for additional resources.

- Escambia County School District and Pearson Schoolnet's delivers online assessments at all levels in an efficient manner with real-time reports for the teacher, school, or district.

3. Education Application, Content, and Media Infrastructures Facilitate Digital Course Content Creation and Curation Facilitate Adoption

Technology continues to transform school content material, evolving from information published in expensive, proprietary textbooks to assessable, mix-and-match digital learning objects and online information resources.[9] Digital content also transforms teachers from content synthesizers to active, content creators and curators to provide interesting ways for students to consume, practice, or present content. These two LIA entries illustrate how the Learning Impact Trend, Educational Application, Content, and Media Infrastructure, can enhance digital content creation and curation.

For institutions wishing to develop digital course content internally, honorable mention contender DeVry University's Learning Object Infrastructure with EQUELLA, CourseWriter, and Sidebar implemented an easy-to-use, efficient, and collaborative system to support its creation of 50 master courses during a 16-week production cycle. Components include 1) EQUELLA is a content management system that extricates the content and relinks them into DeVry's LMS. 2) CourseWriter is an intuitive authoring frontend that looks and feels just like the LMS but produces well-formed HTML that publishes directly to EQUELLA. Its workflow capability encourages collaboration and transparency throughout the process. 3) Sidebar is a pop-up application that sits within the LMS. It fosters a community of practice; faculty use Sidebar to report creation issues and discuss effective teaching practices for each course.

Another digital content strategy is open educational resources (OER), which continues to grow in subject breadth, content quality, and worldwide usage.[10] The New Jersey Center for Teaching and Learning (CTL) Progressive Mathematics Initiative® (PMI) and Progressive Science Initiative® (PSI) exemplifies this trend. CTL developed free, web-accessible, K-12, national standards-aligned mathematics and science course content and pedagogies to prepare students for STEM-related careers. PSI-PMI's 100,000+ SMART Notebook slides and thousands of supporting documents such as homework assignments, labs, and assessments can replace the need for textbooks. Teachers and students view the material in SMART Notebook or PDF formats; or it can be exported to IMS Global's Common File Format and APIP format for accessibility with interactive whiteboards or assessment systems. CLT reports over 1.5 million PSI-PMI file downloads and 4.2 million page views by 210,000 unique visitors from all 50 states and 180 countries over the last year; and Newark NJ students exhibited significant gains on a state algebra assessment after taking PSI algebra-based physics.

4. Technology Solutions Makes Learning Up Close and Personal

This theme focuses more directly on the student experience, showcasing ways that 2015 LIA entrants incorporated various Learning Impact Trends to create new learning pathways for students to see, hear, and interact directly with course material.

Language Learning Space (LLS), Education Services Australia (Platinum Medal)

Learning Impact Trend: Gaming, Simulation, and Immersive Learning

Issue: Learning a second language in Australia is challenging. It can be hard to start programs, as qualified and effective teachers are scarce, especially in rural areas. It can be difficult to schedule adequate classroom study and practice time, especially for character-based languages that rely heavily on textbooks. And students may find language study boring.

Solution: The Language Learning Space creates exciting and engaging Chinese, Japanese, and Indonesian web-accessible language study programs, using an interactive world of challenges in an immersive "graphic novel" environment to practice language skills in context. Available to all Australian schools at no cost; LLS is aligned with the Australian Curriculum. It combines resources and services into one site. Students navigate through assigned challenges, test their skills, and practice language at school or home; and LLS offers free Skype tutorial service for students to practice with native speakers. The LLS works as a CMS and a LMS, and can be used alongside existing products, and the Language Learning Space Resource Banks are organized around IMS learning object metadata, helping teachers to personalize learning programs. LLS offers single sign-on and is accessible from iPads and mobile phones as well as laptops.

Learning Impact: The Australian Federation of Modern Language Teachers Associations (AFMLTA)'s review of LLS in 2013 was overwhelmingly positive. LLS had over 25,000 registered users as of the beginning of March 2015. The rate of uptake over a year for the Chinese site is 146%; the Indonesian site experienced an183% increase in users. Growth of the Japanese site is comparable.

"Teachers involved in the AFMLTA review of the LLS Chinese [site] found it easy to use and navigate. Their students appreciate the engaging and interactive nature of the site." -- *Language Learning Space 2015 LIA Submission*

Makers Empire (Bronze Medal)

Learning Impact Trend: Gaming, Simulation, and Immersive Learning

Issue: The U.S. Department of Education reports higher growth in STEM-related jobs than all other occupations through 2020,[11] but promoting difficult STEM subjects to students can be challenging. 3D printing offers a new, innovative way to support STEM curriculums, but it can be complicated to implement.

Solution: Makers Empire's solution facilitates classroom adoption of 3D printing. The easy-to-use software and program are designed for all students from the age of 5+. At a very basic level, students can view or print out a fossil or historical monument in 3D; at a more complex level, students can generate theoretical concepts and simulate them in 3 dimensions. Lesson plans aligned to numerous subjects like English, Math, and Science; and Makers Empire provide training resources to help teachers to incorporate 3D printing in their instruction and to understand the learning outcomes. Makers Empire uses standard 3D printing file formats and integrates with two leading 3D printing companies.

Learning Impact: Schools from all round the world have adopted Makers Empire. Students in early adopter schools demonstrate 3D printing's learning impact, developing complex design solutions that would normally have been the domain of much older students.

"The learning outcomes, engagement and excitement generated within the school community in their first few classes is both impressive and infectious and educators can immediately see the significant benefits of their investment." - *Makers Empire 2015 LIA Flyer*

Honorable mention entry, SMART amp at Marietta City Schools, exemplifies LIA's e-Collaboration Learning Impact Trend, helping students to develop soft skills including collaboration, cooperation, creativity and critical thinking. Students discover digital content, answer questions, collaborate on projects, and share ideas via their computing devices. Teachers can customize lesson plans to allow students varying degrees of collaborative access, and monitor their progress continuously. SMART amp is web browser and HTML5 based, requiring no installation or ongoing maintenance, while enabling anywhere/anytime access on virtually any device with a browser. Marietta City Schools piloted SMART amp at one of its schools and is currently evaluating district-wide adoption.

Honorable mention contenders, University of Wisconsin-Milwaukee's U-Pace Program and Texas State Technical College (TSTC) Waco's Co-requisite Success Program with Hawkes Learning showcase the Adaptive Learning, Online Homework, and Formative Assessment Learning Impact Trend through their use of mastery learning to increase student learning outcomes. U-Pace helps raise academically unprepared college students' degree completion rates by building a link between their efforts and positive outcomes. Students progress to new content only after they have mastered the concepts in a module, as evidenced by achieving at least a 90 percent on a corresponding multiple-choice quiz. Over time, students gain a sense of control over their learning, and numerous studies show U-Pace courses support significantly greater academic success. TSTC Waco's Co-requisite College Algebra/Intermediate Algebra course accelerates the developmental math sequence by condensing two levels of math study in one semester. The program integrates qualified students into credit-bearing courses alongside college ready students; Hawkes' use of algorithmically generated questions and mastery-based learning enables the students to be accountable for successfully completing their own work. Since implementation, TSTC Waco has seen a 15% increase in retention rates.

5. Technology Enables Accessible Education for All Students

Several LIA contestant submissions align with the Educational Accessibility and Personalization Learning Impact Trend. For example, bimodal content presentation helped honorable mention contender ReadSpeaker's Text to Speech and the Virtual High School (VHS) make its extensive catalog of online courses multimedia-rich and suitable for all of its 10,000+ students, including struggling readers and those with visual impairments. It gives students the ability to listen to audio version of any written content, while following along with the highlighted text. ReadSpeaker is easy to implement. IMS's LTI specification makes ReadSpeaker Enterprise Highlighting available in learning management systems. Its Software as a Service (SaaS) model simplifies school implementation. ReadSpeaker's speech-enabled content is listened to dozens of millions of times each month in over 50 countries, and in more than 40+ languages. As noted earlier, Accessible Assessment Items enable the ELPA21 Consortium to assess all their learners similarly, and other contestants document their solution's ways to provide access for all students—e.g., screen reader integration.

Technology Planning Recommendations

All of the 2015 LIA contenders present interesting and innovative technology solutions, whether to enhance the learning technology environment or students' learning experiences. These recommendations provide additional pondering points if considering similar implementations:

1. Building a Learning Ecosystem Involves More than Technology

It can be so easy to purchase technology for its own sake; new hardware, software, and services are so seductive. But a tech-first approach can lead to all sorts of problems like under-utilized technology, unmet learning goals, or negative feelings about technology in the classroom.[12]

Technology planning must become holistic, involving curriculum framework, learning resources, technology infrastructure, and instructional support.[13] Technology selection should be the outcome of broader considerations: What are the learning challenges? What are desired outcomes? And the answers to these questions require the input of all parties: school administrators, teachers, parents, and students.

As the broader issues become resolved, the next essential step is to understand when and how to use and integrate the right tool in the current learning technology environment.[14] A straightforward checklist includes:

- What resources for which students?
- What teacher supports are needed?
- How do we mitigate the risks that come with these products?
- How does all this work together?[15]

The final question highlights the importance of interoperability standards: to build cohesive solutions to meet broader educational goals. Without interoperability, the chances of regressing to situations of technology under-utilization, unmet learning goals, or negative technology feelings are likely to increase. 2015 LIA contenders like Escambia County School District and Pearson and Houston Independent School District's Itslearning "HUB" demonstrated how interoperability helped them meet their broader learning goals.

2. Strengthen the Curriculum-Learning Technology Connection to Promote Learning Outcomes

As 2015 LIA entries showed, learning technology can provide engaging and stimulating class experiences. But the tie between curriculum and learning technology is critical, so they work together to support educational goals and student outcomes, as opposed to devoting precious class time in a fun, but unproductive learning activity. 2015 LIA entries offered different ways to strengthen these ties.

- Standards Aligned Solutions: Solutions like Education Services Australia's Language Learning Space's alignment with the Australian Curriculum and The New Jersey Center for Teaching and Learning' s Progressive Mathematics Initiative® (PMI) and Progressive Science Initiative® (PSI) alignment with U.S. Common Core State Standards can help attainment of broader educational goals.

- Curriculum Creation and Calibration: Some entries help districts, schools, and teachers map digital content, lessons, and curriculum to education goals. SAFARI Montage's digital learning objects include metadata such as standards correlations and grade ranges to help identify relevant content to meet course goals School districts can create standards-aligned courses and underlying lessons; reports help administrators evaluate and refine digital curriculum. Escambia County School District's Schoolnet offers similar capabilities; teachers use historical, current formative and summative data to identify how to best deliver specific targeted classroom instruction and remediation. Teachers schedule the appropriate district available resources into their lesson planners.

3. Backend Considerations Facilitate Frontend Usage

Synthesizing the 2015 LIA contenders creates a solution selection checklist to ensure instructors and learners can focus on learning, not on how the technology works, or is supposed to work. [16]

- Interoperability: The core of the 2015 LIA entries, interoperability illustrates how IMS standards enabled the direct integration of digital assessment, digital content, and other learning tools with learning management systems and/or student information systems. A standards-based approach not only facilitates implementation, but also promotes synergistic benefits.

- Ease of Deployment and Access: Cloud-based services and web-access lends itself more easily to deployments across the classroom or around the world. Several 2015 LIA projects, SMART amp at Marietta City Schools or the TAO, Open Source, QTI-Compliant Assessment Platform can be used on any device or operating system, anywhere/anytime there is an Internet connection, with no installation or ongoing maintenance. Several entries like Education Services Australia's Language Learning Space and Texas State Technical College's Co-requisite Success with Hawkes Learning use sign single-on to facilitate user access.

- Ease-of-Use: Tools that do not require extensive training help to promote adoption and usage. For example, Makers Empire designed its 3D printing solution with an easy-to-implement and easy-to-use mindset to jumpstart 3D printing adoption in schools. DeVry University's Learning Object Infrastructure's responsive templates ensure that faculty don't have to master the content presentation's underlying technology. To encourage usage, ReadSpeaker requires no training, downloads, or specific plugins to listen to online course material; students just "Click & Listen". The same is true for VeriCite'; faculty users just check the "Use VeriCite" box when they create an assignment to activate coursework plagiarism scans.

The 2015 Learning Impact Award Program Evaluators

Kris Bickell
University of Bridgeport
United States

Leo Brehm
Newton Public Schools
United States

Stacy Cohen
Framingham State University
United States

Gary Driscoll
Educational Testing Services
United States

Justin Lauzon
Framingham State University
United States

Lisa Mattson
IMS Global Learning Consortium
United States

Carie Ann Potenza
Ellucian
United States

Mindy Ramon
Fulton County Schools
United States

Colin Smythe
IMS Global Learning Consortium
England

Karen Vignare
University of Maryland University College
United States

Stavros Xanthopoylos
Fundacao Getulio Vargas
Brazil

Tsuneo Yamada
Open University of Japan
Japan

Appendix A: 2015 LIA Medalist and Honorable Mention Profiles

TAO - Open Source, QTI-Compliant Assessment Platform, OAT

Level: Established
Organization: Open Assessment Technologies S.A. (OAT)
Solution: TAO
Description: TAO is an Open Source assessment platform that enables test content to be entirely portable, which is crucial as users embrace technology-centric education models.
Learning Impact Trend Categories: 1) Assessment Enhancement with Digital Technology; 2) Adaptive Learning, Online Homework, and Formative Assessment
Additional Resources: Web Site, Video

Language Learning Space, Education Services Australia

Level: New
Organization: Education Services Australia
Solution: Language Learning Space
Description: Education Services Australia have customized their Language Learning Space to provide students an exciting world of challenges in an immersive "graphic novel" environment to practice Indonesian and Chinese language skills in context.
Learning Impact Trend Categories: 1) Gaming, Simulation, and Immersive Learning; 2) Assessment Enhancements with Digital Technology
Additional Resources: Web Site, Video

Escambia LMS & Content Solution Platform

Level: Established
Organization: Pearson
Solution: Escambia County School District's Implementation of Schoolnet Instructional Management Suite
Description: Escambia County School District selected Pearson's Schoolnet system in spring 2012 to replace inefficient assessment systems and provide synchronized user access, content, and data across the District to support personalized learning.
Learning Impact Trend Categories: 1) Integrated Digital Curriculum to Enable Student-Centered Learning; 2) Assessment Enhancements with Digital Technology; 3) Digital Resource, e-Text, Learning App Innovation, and Analytics;
Additional Resources: Escambia Web Site, Pearson Web Site, Video

Present@ at Universitat Oberta de Catalunya

Level: New
Organization: Universitat Oberta de Catalunya
Solution: Present@
Description: The Present@ platform at the Universitat Oberta de Catalunya makes possible the presentation and debate of final degree projects in a virtual learning environment.
Learning Impact Project Categories: 1) Assessment Enhancement with Digital Technology 2) Learning Platform Innovation
Additional Resources: Website, Video

Accessible Assessment Items for ELPA21 Consortium

Level: Established
Organization: Educational Testing Service (ETS)
Solution: English Language Proficiency Assessment for the 21st Century (ELPA21)
Description: ETS developed new content authoring tools within an existing item bank, including accessible content structured within assessment items for ELPA21.
Learning Impact Trend Categories: 1) Assessment Enhancement with Digital Technology; 2) Education Accessibility and Personalization
Additional Resources: Web Site, Video

itslearning/"HUB" at Houston Independent School District

Level: New
Organization: itslearning
Solution: Houston Independent School District Implementation of the itslearning learning platform.
Description: Houston ISD implemented a digital teaching and learning platform, the "HUB", to enable the delivery of digital content aligned to standards and assessment of student learning.
Learning Impact Trend Categories: 1) Integrated Digital Curriculum to Enable Student-Centered Learning; 2) Learning Platform Innovation
Additional Resources: Web Site, Video

An Effective K-12 Digital Learning System Supported by Interoperability Standards

Level: Established
Organization: SAFARI Montage
Solution: Orange County Public Schools' implementation of SAFARI Digital Learning Platform
Description: The SAFARI Montage Digital Learning Platform (DCP) allows OCPS teachers to perform a federated search of a wide array of learning materials to support personalized instruction.
Learning Impact Trend Categories: 1) Integrated Digital Curriculum to Enable Student-Centered Learning; 2) Assessment Enhancements w/ Digital Technology
Additional Resources: Web Site, Video

Makers Empire - Bringing 3D Printing to Primary Schools Around the World

Level: New
Organization: Makers Empire
Solution: Makers Empire
Description: The Makers Empire Learning Program provides teachers everything needed to start 3D printing with students as young as age 5.
Learning Impact Trend Category: 1) Gaming, Simulation and Immersive Learning
Additional Resources: Web Site, Video

Honorable Mentions

The following projects were submitted and selected as finalists in the 2015 LIA competition.

Adaptive Learning, Online Homework and Formative Assessment

- University of Wisconsin-Milwaukee's U-Pace Program: Greater Academic Success for All - Video
- Texas State Technical College Partners with Hawkes Learning for Co-requisite Success - Video

Assessment Enhancements with Digital Technology

- VeriCite Helps LAMP Consortium Identify Plagiarized Text - Video

The University e-Collaboration Learning

- SMART amp at Marietta City Schools is the 'Glue' that Connects Classroom Devices - Video

Education Accessibility and Personalization

- ReadSpeaker's Text to Speech and the Virtual High School - Video
- of Michigan and Qualtrics LTI Integration Support Rich Academic Assessment - Video

Educational Application, Content, and Media Infrastructure

- DeVry's Learning Object Infrastructure with EQUELLA, CourseWriter, and Sidebar - Video
- The New Jersey Center for Teaching and Learning Progressive Mathematics Initiative® and Progressive Science Initiative® - Video

Appendix B: Detail Learning Impact Criteria and Rubrics

Access	• Provides greater access to proven quality learning approaches • Enables serving significantly more learners from currently served populations • Enables serving new populations of learners • Provides greater convenience • Enables lifelong learning
Adoption	• Has achieved mainstream instructor use • Provides large-scale mission critical 24/7 support • Supports institution-wide usage • Supports statewide, countrywide, or global usage • One of the largest deployments of its kind in terms of learners served
Accountability	• Clarifies or helps develop the specifics of accountability • Achieves significant cost savings versus prior solution • Achieves improvement in retention or graduation rates • Provides analytics to understand program and/or institutional performance • Enables comparison across institutions/organizations
Affordability	• Enables improved learner efficiency • Enables improved instructor efficiency • Achieves cost reduction that is passed on to learners • Provides education to significant number of disadvantaged learners • Saves substantial travel time and cost
Quality	• Enables clarity of learning outcomes • Improves results in mastery of subject as measured by assessments • Enhance effectiveness of pedagogy or learner engagement • Enhances self-directed learning, critical thinking or metacognitive skills • Enables integrated assessment or better assessment of student learning
Organizational Learning	• Supports development of key competencies • Supports assessment of key competencies • Enables planning or management of competency development • Enables more efficient sharing of best practices • Provides a distinctive organizational learning advantage
Interoperability	• Utilizes open standards for data, content, or services • Shares data, content, or services seamlessly with other applications at minimal cost • Combines products from multiple vendors that share data, content, or services • Enabled and caused feedback into the standards process to improve future standards • Has been included in IMS Global test fest events
Innovation	• Shares data, content, or services seamlessly with other applications at minimal cost • Achieves a superior realization of other prior products or services of its kind • Clear potential to establish a new category of learning application • Incorporates a scientific breakthrough promising enhanced learning • Represents a radical improvement in access, affordability, or quality of education • Provides seamless way to include new functionality, requiring little or no training

Appendix C – Learning Impact Medal Winners by Project Categories from 2007 – 2015

Technology Project Categories	Established Technology Initiatives With Proven Learning Impact	Emerging Technology Initiatives with Learning Impact Potential
Digital Resource, e-Text, Learning App Innovation, and Analytics Innovative learning resources, tools and applications aimed at improving access, affordability and quality of education, including data gathering to measure student engagement, progress towards desired outcomes, program effectiveness and usage of digital resources.	**Digital Content for Digital Textbook and Viewer** 2013 Platinum - Info **Improving Access, Affordability and Quality of Student Course Materials at Indiana University** 2013 Gold - Info **The Progress Science and Mathematics Initiatives at the New Jersey Center for Teaching and Learning** 2011 Gold - Info **SigonMedia and i-Scream Digital e-Curriculum Library for Educators in Korea** 2010 Platinum - Info	**SpeakApps at the Universitat Oberta de Catalunya** 2014 Silver - Info **Using Data to Transform Teaching, Learning and Institutional Accountability** 2013 Platinum - Info **Cengage Learning MindLinks** 2012 Gold - Info **APUS Online Course Guides Initiative: A University Alternative to Textbooks** 2012 Gold - Info **Open Learning for Science Education - The Richness of European Science Centres and Museums Connected to Users and Learners Worldwide** 2011 Silver- Info
Educational Application, Content, and Media Infrastructure Technology infrastructure for enabling efficiencies in content development, searching, delivery and mobile devices.	**Digital Media Services in Chicago Public Schools** 2012 Gold - Info **Turbocharging Florida Virtual School's Content with Octane(TM) from Ucompass.com, Inc.** 2011 Platinum - Info **Using eXact LCMS at the UKS NHS** 2011 Platinum - Info **Building Cegos Management Skills Catalogue using Giunti Labs' Learn eXact LCMS** 2009 Gold - Info **TELOS Learning Design Visual Scenario Editor and Play** 2009 Silver - Info **Learn eXact at Volkswagen Group** 2008 Platinum - Info **HarvestRoad Hive and the Resource List Management System at the**	**Xerte Online Toolkit for Developing eLearning Materials at the University of Nottingham** 2010 Platinum - Info **I(4) Excellence (Independence, Instructional Integrity & Interoperability) Content Authoring System - DeVry University, The Learning Edge North America (TLENA) and Pearson** 2010 Gold – Info **eLesson Mark-up Language (ELML): Understanding the eLearning Content Creation Tool of the University of Zurich** 2010 Gold - Info

Technology Project Categories	Established Technology Initiatives With Proven Learning Impact	Emerging Technology Initiatives with Learning Impact Potential
	University of Western Australia 2007 Gold - Info **Using Giunti Labs learn eXact LCMS at the UK NHS and Royal College of Radiologists R-ITI Project** 2007 Silver - Info **Wimba's Course Genie: An Authoring Tool for Common Cartridge at Langside College** 2007 Bronze - Info **Articulate at Jefferson County Public Schools** 2007 Bronze - Info	
Adaptive Learning, Online Homework, and Formative Assessment Providing students self-paced learning, feedback, and adaption while providing the teacher with information on individualized student progress.	**Math Students Find Success with Hawkes Mastery- Based Software** 2013 Gold - Info **Fairfax County Public Schools Electronic Curriculum, Assessment, Resource Tool (eCART)** 2010 Gold - Info **Mobile Assessment and Online Recognition using QTI solutions at Tasmanian Polytechnic and Skills Institute** - 2010 Gold - Info **MyMathLab at University of Alabama** Platinum 2009 - Info **ETS Criterion Online Writing Evaluation Services at Farragut High School** Platinum 2007 - Info **Respondus 3.5 and University of Alberta** - 2007 Silver - Demo	**Adaptive eLearning Platform by Smart Sparrow and University of New South Wales** 2013 Silver – Info
Gaming, Simulation, and Immersive Learning Applications that give students and teachers opportunities to participate in effective experiential learning that is better than traditional alternatives.	**Jericho: Breaking Down the Barriers of Vocational Career Choices and Workplace Assessment** 2011 Bronze - Info	**Language Learning Space, Education Australia** 2015 Platinum - Info **Makers Empire – Bringing 3D Printing to Primary Schools Around the World** 2015 Bronze – Info **Broadband-Enabled Traineeships in Interactive Design** 2014 Silver - Info

Technology Project Categories	Established Technology Initiatives With Proven Learning Impact	Emerging Technology Initiatives with Learning Impact Potential
		Victoria University Serious Games for Training 2013 Gold - Info **Diving Supervisor and Chamber Supervisor Training Simulator** 2011 Platinum - Info **Game-Based Learning for Core Academics at Florida Virtual School** 2010 Gold - Info **GetsmART in Ngee Ann Secondary School - Ngee Ann Secondary School** 2010 Bronze - Info
Learning Platform Innovation Innovative architectures and software platforms for managing the creation and delivery of learning experiences, including personalization, accessibility and mobility.	**FASTEL (For All Students & Teachers in the E- Learning space)** 2011 Bronze - Info **LAMS** 2009 Gold - Info **MyWay: Usable and Accessible Made to Measure Learning Materials** 2008 Gold - Info **A Tutor: Accessible, Adaptive, Online Learning -** 2008 Gold - Info **Open Source Virtual Learning Environment and eLearning Network** 2008 Silver - Info **Learning Environment by Network Services** 2008 Silver – Info	**McGraw-Hill Education / Blackboard Building Block v2.2 at Southern New Hampshire University** 2014 Gold – Info **Improving Teacher Efficacy and Student Learning One Camera at a Time** 2014 Gold - Info **Learning Cell Knowledge Community** 2014 Bronze - Info **GoClass Extended Classroom Teaching Platform for Connected Learners** 2012 Platinum – Info **Integrating AccessForAll with Common Cartridge** 2012 Platinum - Info **Seoul Cyber University's Learning WAVE** –2011 Silver - Info
e-Collaborative Learning Providing students & faculty with applications and opportunities to participate in and improve achievement via effective collaborative learning activities that complement traditional forms of delivery.	**Wimba @ Work: Improving Access for High Needs Career Education at Bloomberg University** 2011 Platinum - Info **WebPA at Loughborough** Bronze 2008 - Info **Microsoft Research ConferenceXP at Australian School of Air**	**Creating a Personal / Professional Learning Network with Fused for the Education.au Limited in Australia** 2010 Bronze - Info

Technology Project Categories	Established Technology Initiatives With Proven Learning Impact	Emerging Technology Initiatives with Learning Impact Potential
	Silver 2007 – Info	
Digital Learning Networks Achieving scalable deployment of educational resources, tools and services toward specific and measurable access, affordability, and quality objectives.	**Content Automation Tool at Florida Virtual Schools** 2014 Platinum - Info **Desire2Learn in the Big Apple** 2012 Platinum - Info **E-learning for Children on the Border of the Brazilian Amazon** 2012 Gold – Info **e-Learning Service for Public Officials at the Central Officials Training Institute** 2010 Silver - Info **Glow – Scotland's National Intranet** 2009 Platinum - Info **SEDUC – AMAZON** 2009 Gold - Info **Agrega: Federated Access to Content in Spain Education Community** 2009 Silver - Info **iSHARE: Inter-cluster Sharing of Presentation** 2009 Silver - Info **Scootle – Schools Online Teaching and Learning Environment** 2009 Bronze – Info **Tennessee Board of Regents (TBR) Online Campus Collaborative** 2008 Platinum - Info **Schools Online Curriculum Services** 2008 Gold – Info **Cyber Home Learning System of Korea** 2007 Platinum - Info	
Student Success and Outcomes-Based Learning Support Services Applications and processes to enable teaching, learning, and placement tied to explicit outcomes	**Lone Star College Online: Student Support Services Drives Student Success** 2013 Bronze - Info	

Technology Project Categories	Established Technology Initiatives With Proven Learning Impact	Emerging Technology Initiatives with Learning Impact Potential
and achievements.	**Learning & Career Outcomes Infrastructure at Capella University** 2009 Platinum - Info **Online Learning Environment at University of Wollongong supported by the Learning Edge** 2008 Platinum - Info	
Education Pathways, Portfolios, and Learning Maps Applications to help students navigate their educational experience to improve success and outcomes based workforce needs.	**Using Predictive Analytics to Personalize Course Selection, Guide Student Success, Improve Retention and Close the Attainment Gap** 2014 Platinum - Info **On-line Career Development Center Dream-wings** 2012 Platinum - Info **Degree Compass - The Netflix Effect for Students** 2012 Bronze - Info **Campus Pack and Baldwin-Wallace College: Encouraging Student Educational Goal Planning and Life-long Learning** 2011 Silver - Info	**DegreeMap at Austin Community College** 2014 Bronze - Info **Promoting the Concept of Competency Maps and Inter-Professional Assessments Linked to e-Portfolios to Enhance the Student Learning Experience in Preparation for Work Based Learning, Employability and Life Long Learning.** 2011 Gold - Info
Scaling Pedagogical Knowledge and Practice Providing efficient and effective support to teachers and faculty in significantly improving facilitation and delivery of learning experiences	**Online Faculty Orientation for Online Teaching at Lone Star College** 2009 Bronze - Info **DE Oracle @UMUC** 2009 Bronze - Info **eTwinning Action by European Schoolnet** - 2007 Gold - Info	
Blended Learning Optimization Evolving traditional educational delivery models featuring seamless technology	**Faster English Language Learning** 2011 Gold - Info **Leveraging Interoperability Specifications for the Collaborative**	

Technology Project Categories	Established Technology Initiatives With Proven Learning Impact	Emerging Technology Initiatives with Learning Impact Potential
environment for teachers and students to support effective combinations of online, classroom and in-context learning.	**Development of an Online Research Skills Training Program at Durham University** 2010 Gold - Info **Overcoming the Challenges of e-Learning in the Amazon** 2010 Gold - Info **Tegrity Mini Solutions at University of Central Florida** 2008 Bronze - Info **Tegrity Campus 2.0 at Saint Mary's University** 2007 Bronze - Info	
Educational Accessibility and Personalization Technology-based solutions that ensure accessibility and personalization for all students, especially those with physical and learning disabilities.		
Assessment Enhancement with Digital Technology Applications and tools to assess student performance and outcomes.	**TAO – Open Source, QTI-Compliant Assessment Platform** 2015 Platinum - Info **Accessible Assessment Items for ELPA21 Consortium** 2015 Silver - Info	**Present@ Universitat Oberta de Catalunya** 2015 Gold – Info
Integrated Digital Curriculum to Enable Student-Centered Learning Architectures, platforms, and infrastructures that enable creation and selection from a wide range of curated digital content and tool alternatives by faculty and students.	**Escambia LMS & Content Solution Platform** 2015 Gold - Info **An Effective K-12 Digital Learning System Support by Interoperability Standards** 2015 Bronze - Info	**Itslearning / "HUB" at Houston Independent School District** 2015 Silver - Info

Endnotes

[1] Gartner, Inc., "Gartner Highlights, the Top Ten Strategic Technologies Impacting Education in 2015," February 27, 2015.
[2] Malcolm Brown, "The LMS of the Future: Exploring the Next Generation Digital Learning Environment," EDUCAUSE Review Online blog, June 3, 2015,.
[3] Gartner, Inc.
[4] Johnson, L., Adams Becker, S., Estrada, V., and Freeman, A. (2015). "NMC Horizon Report: 2015 K-12 Edition". Austin, Texas: The New Media Consortium. 12.
[5] Johnson, L., Adams Becker, S., Estrada, V., and Freeman, A. 2015). "NMC Horizon Report: 2015 K-12 Edition". Austin, Texas: The New Media Consortium.14.
[6] Johnson, L., Adams Becker, S., Estrada, V., and Freeman, A. (2015). "NMC Horizon Report: 2015 K-12" Edition. Austin, Texas: The New Media Consortium. 10.
[7] Betsy Beaumon, "EdTech and the Promise of Quality Education for All: On the Americans with Disabilities Act at Twenty-Five," Benetech, July 31, 2015,.
[8] Tim Clark, The Components of the Digital Age Learning Ecosystem," BYOT Network.
[9] Hanover Research, "Emerging and Future Trends in K-12 Education," October 2014, 9.
[10] Johnson, L., Adams Becker, S., Estrada, V., and Freeman, A. (2014). "NMC Horizon Report: 2014 K-12 Edition". Austin, Texas: The New Media Consortium. 10
[11] "Science, Technology, Engineering, and Math: Education for Global Leadership," U.S. Department of Education.
[12] Judith A. Pirani, "Get More Tech from Your Learning Technologies," NGLC, February 10, 2015.
[13] Susan Aldermann, "A 'Learning Ecosystem' Approach to Ed-Tech Acquisition," Digital Promise.
[14] Tim Clark, The Components of the Digital Age Learning Ecosystem," BYOT Network.
[15] Susan Aldermann, "A 'Learning Ecosystem' Approach to Ed-Tech Acquisition," Digital Promise,.
[16] VeriCite LIA 2015 Submission

Citation

Pirani, Judith A. (2015). IMS Global's 2015 Learning Impact Report of Effective and Sustainable Technology Innovations. November 2015 from www.imsglobal.org/XXXX

About IMS Global Learning Consortium

IMS Global is a nonprofit organization that advances technology that can affordably scale and improve educational participation and attainment. IMS members are leading suppliers, institutions and government organizations that are enabling the future of education by collaborating on interoperability and adoption initiatives. IMS sponsors the Learning Impact Leadership Institute, a global program focused on recognizing the impact of innovative technology on educational access, affordability, and quality while developing the people and ideas that are going to help shape the future of educational technology.

www.imsglobal.org

801 International Parkway
5th Floor, PMB #112
Lake Mary, FL 32746
General Inquiries: 407-362-7783

Learning Impact
LEADERSHIP INSTITUTE

May 23 – 26, 2016
San Antonio, Texas

https://www.imsglobal.org/event/2016-learning-impact-leadership-institute