## Interoperability Standards Helping to Transform the Digital Curriculum

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Digital learning continues to reshape K-12 education as new technologies and new products enter the market and public school districts embrace the possibilities of personalized instruction. Integrating those digital resources in an easy and cost-effective way has been a hurdle for many school districts, but with the release this year of the IMS Global Thin Common Cartridge™ specification, accessing quality content from digital curriculum providers will be much simpler.

"K-12 customers regularly access a variety of content with ease as they personally surf the web," explained Michael Cesarano, digital product marketing manager at Houghton Mifflin Harcourt (HMH), an early partner in creating the Thin CC standard. "Those same customers desire instructional content that is equally accessible regardless of their technology environment."

IMS Global's Common Cartridge and Learning Tools Interoperability® (LTI®) standards represented a well-structured format for thinking about ways to improve interoperability and access to content. But the standards still posed challenges for providers, who had concerns about intellectual property rights, and their customers, who didn't necessarily have the resources to manage content directly on their servers.

Thin CC "was a brilliant solution," said Beatriz Arnillas, director, IT—education, at Houston Independent School District (HISD), the largest public school system in Texas and one of the first districts in the country to mandate that their publishers adhere to Thin CC standards. "It allows us to search for the content we need and access chunks of content easily from a single library even though that content doesn't reside on our servers."

Thin CC, which embeds LTI and web links that serve as entry points to a body of content hosted on a secure server, is having a transformative effect on both publishers and school districts.

"Standards developed with IMS Global gave us a way to solve the problem of how to unify our own solutions and make them work together

on different platforms," said Andrew Kuritzky, product management director at HMH. The shift from developing content on a proprietary platform to an open one required building a stable, scalable approach to content delivery that, today, is embedded as a central tenet of HMH's product strategy.

Today, HMH is in the process of certifying over 200 cartridges produced using a thin approach. This will include certification using the Thin CC v1.3 specification as more and more LMS providers adopt it. IMS certification is now a standardized part of HMH's Common Cartridge development process.

## Useful IMS Global Resources

### IMS Conformance Chart
www.imscert.org
This is the official list of products that have obtained IMS conformance certification. Conformance Certification provides a level of assurance to end-users that the product has implemented the standard correctly.

### IMS LTI and Common Cartridge Best Practices
www.imsglobal.org/articles/
IMSLTI-CC-IdentityBestPracticesVer1.pdf
Document examines a number of pain points currently experienced by District and School Management as it relates to the integration of content providers with District and School systems and offers various scenarios that can facilitate that integration.

### Continuous Instructional Improvement, Innovation, and Personalized Education Resources
www.imsglobal.org/iipe.html
Additional resources, including RFP language and checklists, to help districts put in place an open architecture to support personalized learning.

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For HISD, Thin CC has helped speed adoption of the district's one-to-one technology initiative. "A successful digital curriculum project has to be a collaboration between instructional departments and IT," Arnillas explained. "Building relationships and establishing trust is key. My department was able to show instructional folks that we could create a much simpler ecosystem using interoperability standards from IMS Global. And we could assure IT that what we were proposing has a robust technical foundation. We weren't hurling anyone into the abyss."

Also key to their success, Arnillas explains, was the district's tiered approach to adoption. They focused on 11 schools initially, and targeted about 10-20% of teachers who were willing to be early adopters. "We didn't expect transformation right away," said Arnillas. The first year was dedicated to getting those instructors to use some technology in their classrooms. "Every day but not all the time," was our mantra, Arnillas said. In that first year, instructors became familiar with the technology, developed lesson plans, and prepared to focus on broader, deeper adoption of technology in the following year.

"Communication and support are key," Arnillas advises. Her team is busy documenting policy and translating interoperability standards into terms that laypeople can understand, and sharing these documents with IMS Global, who will make them available to other districts interested in embarking on their own technology journeys.

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Today, 32 schools at HISD are working in the one-to-one environment and the district will be adding the last 13 schools over the coming year, bringing new learning tools to almost 60,000 students.

While the larger school districts have been key partners in operationalizing Thin CC standards, the real beneficiaries will be smaller districts who don't always have the time or resources needed for innovative work. "Everyone has been so generous sharing knowledge and working hard to make this initiative successful," said Arnillas. "I think what we can do is produce enough good documentation to make it easier for other people to do this too."

## About IMS Global Learning Consortium (IMS Global)

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 Learning Impact: A global awards program and conference to recognize the impact of innovative technology on educational access, affordability, and quality. For more information visit www.imsglobal.org or contact info@imsglobal.org.

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