



IMS GLOBALTM
Learning Consortium

Article Series on Learning Impact

Turning Data into Personalized Learning Experiences

In the beginning was the word, and the word was shared easily during the early days of the Internet. But with time, the Internet expanded to include many forms of multimedia like video, voice, animation and interactivity. Unfortunately, education is not taking full advantage of these available technologies.

“The experience of teaching and learning in online settings is still not being altered by the attributes of the Internet as a whole,” said George Siemens, associate director of the [Technology Enhanced Knowledge Research Institute](#) at [Athabasca University](#). “What I mean specifically is we’re not yet seeing the impact of the Internet as transforming the learning experience. Instead, what we’re seeing is duplicating what people have done in the past in the classroom. We’re merely showing video instead of more collaborative learning experiences. Or we empathize the way in which students connect with each other through course materials still being organized by the faculty member instead of student self-organizing. We’re still teaching in courses instead of teaching in competencies. We’re still in legacy-thinking mode. We are just following the legacy model but importing it into higher education.”

Siemens, who also teaches in Athabasca’s Centre for Distance Education, will be presenting at IMS Global Learning Consortium’s [Learning Impact 2013](#) in San Diego next month on the topic of: “Turning Data into Personalized Learning Experiences: Methods and Tools of Learning Analytics.”

One area of technology that offers great potential, Siemens said, is the ability to analyze data to get a better understanding of what students know and comprehend. “That’s still at the hyped stage of reality. There are organizations out there like [DreamBox](#) and [Knewton Learning](#) that are already actively involved

in this area. But in terms of broad deployment, in a way of reflecting changing teaching practices in education, that hasn't quite materialized yet."

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Instrumental in the development of massive open online courses (MOOCs), Siemens says their impact on the evolution of education is still uncertain although their emergence has affected the conversation. "I'm not sure what the impact will be long term, but MOOCs have definitely driven interest in online learning broadly. There is still some negative connotation around it, but when you have elite universities like MIT and Harvard teaching online, I think it eliminates that

last argument about online learning not being as good as classroom instruction. What likely will happen, and is starting to happen, is that lectures will become more like textbooks. What I mean by that is that just like most teachers don't write their own textbooks for their courses, they just adopt what experts of some of their peers have written. We may see that teachers don't do as much lecturing in the classroom as perhaps they have done in the past. Instead, they will have students 'listen to this lecture from professor so-and-so from MIT' and then will spend in-class time discussing that."

Siemens said the days when IT departments drove technology trends on their campuses are over. "You add in mobile devices, you add in people who bring their own computing software to the university setting, and suddenly you end up with a very different kind of need for tech support. It's no longer about do you have the tools and the resources you think your faculty, staff or students will need. It's more about: can you provide an infrastructure that provides support for what these individuals are bringing into your campus setting?"

With a plethora of hardware and software applications available today, the need for standards that drive interoperability is critical, he said. "Today, with the Internet,

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you can learn anywhere and everywhere. You might watch a video on TED talk, for example, and a partial course through [Coursera](#), and another one through [EdX](#). The learning experience is being scattered and fragmented across the net. When that happens, it produces a challenge for universities to find a way to get a sense of what's happening with students so they can evaluate and provide better teaching and learning support. In order to bring those various data sets together, standards play an increasingly important role. If you can't get at certain learner data, then you can't use that to support your learners."

Siemens believes the IMS Global Learning Consortium plays an extremely valuable role in helping both institutions and content providers think about the long-range needs for interoperability. “While faculty are more likely thinking in terms of semesters, IMS is an organization that is focused in terms of years down the road.”

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In the future, multimedia will play an increasingly important role in higher education as well as participatory pedagogies and self-organizing approaches to learning where students are more in control of forming groups and connecting with one another, Siemens said. “There will be the increased granulation of learning and it will impact the credit hour, it will impact the structured courses that we use, and that will be driven by personalization and adaptive learning.

I think we’re going to start to see learning that is more broadly focused where you don’t just learn natively with your institution, but you’re learning from a variety of spaces and in a variety of ways. And the university itself will play a greater role in validating that kind of learning. We’ll see significant advancement around the importance of artificial intelligence in assessing student competence. And secondly, advancement in the ways we can collect evidence of students learning.”

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 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@imglobal.org.

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