Teach Globally, Accredit Locally: An Interview with George Siemens

Alan Mandell and Nan L. Travers, SUNY Empire State College, New York, USA

George Siemens is a professor, researcher and the associate director of the Technology Enhanced Knowledge Research Institute at Athabasca University in Alberta, Canada. His many publications and presentations on online learning and his theory of "connectivism" have been central to discussions of learning around the world today. Siemens is the author of the important 2005 essay, "Connectivism: A Learning Theory for the Digital Age (International Journal of Instructional Technology and Distance Learning) *and of the book,* Knowing Knowledge *(2006, eLearnspace.org), in which he examines a contemporary ecology of knowledge and describes the ways in which the creation, dissemination, communication and personalization of knowledge affects how ideas are shaped and reshaped today. We spoke with George Siemens on 30 January 2013. What follows is an edited version of that discussion.*

Alan Mandell: These days, while there is a call for accountability and standardization in assessment, you've previously noted that there also is a trend toward assessment being decentralized. What is an example of that process?

George Siemens: I wouldn't necessarily say that it's prominent everywhere, but let's look at just one example from Athabasca University. One phrase I would use to explain it is "teach globally, accredit locally." In one of our master's programs, I ran a course in 2011 with Stephen Downes that was basically a 36-week online course where we had a guest speaker come in each week. The guest would provide the readings, resources and activities, so the teaching process was done with us at Athabasca. Georgia Tech had several master's students who did that course with us, but received credit with their institution. The ways in which we're teaching and learning are becoming more and more fragmented – we're using TED talks, we're using Wikipedia, we might be taking part in an online course or we're just looking through MIT's OpenCourseWare or Carnegie Mellon's, or whatever else. That's a significant challenge for assessment. In this example, what both Athabasca and Georgia Tech had done was to add an assessment layer to learning materials. They weren't necessarily worried about *where* you are learning or *how* you are learning, but they negotiated with students about what they would need to produce to confirm that they had learned something that would qualify as a master's-level course. There are various ways that these students could have done that: it could have been in the form of a project they generated; it could have been in the form of a paper that they produced at the end of the study; the list goes on.

A.M.: Within the context of the Athabasca expectations, where students had to write papers, did you and Stephen evaluate student work based on criteria that you set up with students beforehand? That is, did you say to students: "In order to get x number of credits or to fulfill the expectations of this course, you need to do a paper that includes y or z"?

G.S.: The writing of a paper is just one option; there is a variety of different approaches students could take. Part of the challenge here, especially as we do more and more informal learning that might have the potential for formal credit, is that there needs to be easier collection processes available or ways to track our digital trails. Let's say a student is involved in a course in which she spends time in discussion forums. There needs to

be a way in which she can export, for example, an image of her interactions with others so we can have a map of how central she was to the discussions. There could be an easy way. Students could simply export their own contributions and send them directly to their electronic portfolio. I think that has to become a growing reality; if you want to broaden assessment techniques from various sources, you need to start looking at those approaches.

Nan Travers: Developing some kind of "analytics" gives us the ability to see knowledge that is growing in the community and to begin to do some comparisons of student knowledge with that community knowledge. With open learning, we really have the possibility of acknowledging how knowledge can grow, which is in great contrast to a very structured assessment model, which basically is saying that we already know what knowledge the student should have; that is, that knowledge has already been defined and we can tag it. In this spirit, we are playing around with concept maps and looking at master maps and student maps so we can look at linkages and the different ways that students are putting ideas together. Do you think this kind of mapping is able to capture this so-called community knowledge, to be able to define what knowledge is in a different way and look at different kind of assessment strategies?

G.S.: There are two things here: Concept mapping is increasingly being used by folks in the humanities or social sciences to grasp how concepts are being developed and connected by learners. In many cases, concept mapping is used as a creative exercise. But interestingly, a lot of the analytics work or the research around concept maps came from physics, which is very much a structured field where you can draw out a series of key ideas or concepts and see how they flow and develop. If the knowledge domain has structure to it, and if you can map that structure, then, in theory, you also can automatically track as students start to achieve those competencies. What gets more difficult is exactly what you are noting – the ways in which information starts to be shared within a social network and how an idea becomes innovative or how a new concept becomes developed in those networks. This is harder to map because you don't have a "cheat sheet" to which you can compare it. Essentially, if you say, "OK, this is the semantic structure of knowledge in this particular module and this is what the student has demonstrated for competence based on the profile that the system has of them," then it is a simple comparison task. But we are always creating new things, which is typically what happens to social systems. Then you aren't able to map. What you can do that is particularly valuable is to profile what creativity looks like in terms of activity. That is, while you might not be able to compare it against a pre-existing knowledge domain, you can compare it to creativity practices and activities. For example, a student posts an idea and says: "Hey what about this?" You can track it, and somebody else might come by and bring in, let's say, a new source or citation that attracts a third person to drop into that forum, who starts to add additional comments on those conversations and provides yet another reference. What you start to see is that people are connecting pieces of knowledge, which you're not mapping against anything because what they are creating is original to that group. Still, you could observe the connecting practices and begin to evaluate whether this is active creativity or not.

A.M.: I think this is fascinating. I don't know if this is the right word, but, to me, it's something like meta-assessment, meaning it's not focused on the assessment of concreteness of specific pieces of knowledge, but rather on a meta-level of competencies like creativity that can be displayed in various ways.

G.S.: Right. Things are being produced that we can't anticipate, so there's no way that we can say: "Oh, you created what I wanted you to create." In a sense, that would be redundant; it would be impractical. But we could say that the act of being creative has certain attributes that can be mirrored by a system and then observed.

A.M.: I'm thinking about the evaluator and about the kind of training, the kind of learning, an evaluator has to gain in order to be attentive to a level of knowledge that is not predefined, but is much deeper. This seems quite different from what most evaluators would typically rely upon.

G.S.: I agree. This is a key challenge. I remember back in early 2000s, I was teaching courses in adult education theory and we spent time looking at things like "critical thinking" or different ways in which people can approach a subject or ask questions about it. To somewhat play off that famous judge's view of pornography, we know what creativity looks like when we see it! But it's very difficult to actually describe in the absence of an *example* of creativity. If you're looking at an individual who is responsible for assessing learner competence, I think what's important is that the assessment model or the assessment techniques themselves explicitly account for those levels of creativity, or those levels of generating something new, that go beyond mapping just to the knowledge in that domain. Part of what you want to do with any effective system is to remove subjectivity. If a student generates a paper and three different faculty members evaluate that paper, we would like to think that the marks would be similar; that is, one faculty member wouldn't give the paper 100 percent and someone else would give it a failing grade. So, in a similar sense, the assessment system for some of these "softer" attributes, such as creativity, needs to be structured in such a manner that attention is being brought to the assessor around the attributes that would be defined not necessarily as specific knowledge attributes, but probably closer to your term, "meta" attributes of that knowledge.

N.T.: In many ways, the specific knowledge pieces that one has about a topic become irrelevant because whether you have the knowledge, or you can go find it, doesn't really matter. But it's really when you talk about these meta-attributes; it's really about how you handle information, link it, come to it from a creative stance and really know how to connect to others with it. In this sense, it's all about the relational aspects, not the grander knowledge bits.

G.S.: Exactly. You may recall a video that Annenberg did in the late 1980s called *A Private Universe*. The film looked at a group of undergrads who had finished their degrees. I think it was 21 out of 23 couldn't answer a question such as "Why do we have changing seasons?" They passed these advanced statistic and science courses, and yet they did not understand this fundamental concept. And this gets back to my own research and writing: For over a decade, I have been interested in understanding the world of learning through a lens of connectivity. This is similar to what some artificial intelligence writers have focused on – the basic understanding that the knowledge is in the connections. We need to understand how a student sees a topic. This is why concept maps can be so valuable when they are done right. It's because they force students to surface how they see different pieces of information or how they relate a concept element to other concept elements. This is not just a random connection. A proper concept map requires an explanation of the nature of that connection. Not surprisingly, this has a strong presence in Tim Berners-Lee's view of the "semantic web," which is all about emphasizing not just that two things are connected but *why* are they and the very nature of that connection. So, in the learning process, we're moving away from rote learning – such as what can you repeat back – and toward a kind of learning that emphasizes a learner's ability to understand how entities are connected across a complex space.

A.M.: Our PLA focus is typically on *past* learning, but your focus seems to be on helping us think differently about *any* kind of learning. It's about teaching and learning in the present, as much as it's about recognizing what somebody claims he or she already knows.

G.S.: I would agree, and I think that's part of the challenge. We want to determine whether someone knows something. Let's say you take a textbook; a textbook has a modeled or structured approach to a topic, which means we expect the author – the expert – will have selected and distilled what's important and ignored what's inconsequential, trendy or faddish. So, if we take students through the experience of a textbook, we assume that they are going to encounter all the big ideas within that particular topic or discipline. On the other hand, when we move to greater use of OERs [open educational resources] or MOOCs [massive open online courses], students start to have fragmentary interactions with the discipline, so it's difficult for us to validate whether they encounter the big ideas that would qualify them to be competent or to be familiar with the range of different topics that they need to know in that subject area. It's as if we had stripped away the guided structure of a

textbook and gave them a network structure. But it's hard to control how people act in networks, so we could have 30 students and they would find different links and encounter different resources and take up different topics. In the end, what "assessment" is intended to do is to provide us with an indication as to whether someone did master what was critical or what's important based on what experts perceive to be relevant in that domain. So, here's the big challenge: if you fragment those interactions, then you need to rethink the assessment model so that you find a way for students to surface the connections they developed. If we're taking a statistics course – I might have poked around. Maybe I have spent some time on iTunes looking at the stat 101 probability course; maybe I spent a bit of time at the Carnegie Mellon site looking at the different materials available there. You may have taken a totally different path: maybe you preferred traditional textbooks or maybe you have a brother-in-law or family member who is a statistician and so your resources and your learning are very different. But at the end of the day, how will the educational institution give both of us a stamp of approval that indicates we both have mastered the vital concepts? And if we have gaps, how is that institution going to surface those gaps and then address them?

N.T.: The other thing that shifts is the role of the faculty. If you look at the traditional mode, faculty are very much responsible for being the "experts" – for handling the information, assessing learning of that information, and validating that the student has gained it. But what opens up now is the whole peer review process and crowd sourcing, and, more generally, acknowledging that there are others in that assessment process. How are you seeing that tension with faculty in terms of redefining who they are and their role in a more "open" learning world?

G.S.: I think that some are eagerly embracing a new faculty role, while others are dismissing it outright. I've had numerous conversations with different faculty groups where that sort of distinction is becoming increasingly more pronounced than what I recall it being in the past. I don't know why that distinction has to be there, but it's broader than just about assessment because as you have pointed out, the information resources are available online. I believe many faculty are getting to the point where they're uncertain about their role. If you were a traditional student, you have a specific view of the professorial position in higher education – you have been acculturated into a particular discipline of structure. You will go through a multi-year process and it's all very rigid and very structured, and then all of a sudden you hit a point when someone says: "Well, actually we're going to do away with all the walls and constraints and we're going to get people not to function by hierarchy and structure but instead to function by network peer-driven learning." I wouldn't say such a new environment calls expertise into question, but it certainly distributes expertise in a different way than what faculty members are used to doing. I think that's why there are some really strong pushbacks from faculty, or even worse than pushbacks, outright apathy because the changing patterns are intimidating. So, rather than even attempt to engage in them or even critique them, it's just "head in the sand" and pretend these changes are not happening.

A.M.: With all these resources flying around and people using them whether as full courses or smaller fragments, do you feel optimistic that, over time, we will have a whole different notion of an institution that will really take seriously those resources and the learning gained from them? I mean, what do you imagine a university, if there will be a university, will look like?

G.S.: One of the arguments I've been trying to make lately to different groups I interact with is to begin to treat the digital online space on a level similar to physical space learning. Rather than say, "OK, we learn face-to-face, that's our best way to learn and then a secondary and more inferior way to learn is online," what if we emphasized that these are both unique approaches to learning and there are attributes of each that need to be considered and understood? What I essentially mean by that is that in this digital online space, there are things that we can do – different types of learning and different types of approaches in which we can assist learners. We can teach them how to think and process information through network structures. But we also must say that there is still value in physical presence. There are different dimensions and different types of learning that

happen in that physical space that the online medium won't replicate. Still, there are things that happen online that the physical space can't replicate either. I am a strong believer that there is significant value in continuing to have physical presence to some dimensions of learning, whether that is in one's formative years or when you are an undergraduate. As faculty members, why do we still go to conferences? We can get terrific learning experiences online, but if we have the opportunity to attend a conference – sometimes it's because it's in Greece or in Mexico – but beyond the beauty of the place, we do value physical space in our own learning and I don't see any reason why students would be any different – why they would suddenly become only online learners. If there is anything like a perfect world for the future of higher education, it will be something that is far more blended and that will incorporate the best of both spaces.

(Thanks to Helen Hall for her help in preparing this transcript.)